Museum

Vol XXXII, n° 1/2, 1980

Museums and interdisciplinarity

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Museum, successor to *Mouseion,* is published by the United Nations Educational, Scientific and Cultural Organization in Paris. *Museum* serves as a quarterly survey of activities and means of research in the field of museography.
Opinions expressed by individual contributors are not necessarily those of Unesco.

Each issue: 24 F. Subscription rates (4 issues or corresponding double issues per year): 72 F (1 year); 120 F (2 years).

Editorial and publishing offices:
United Nations Educational, Scientific and Cultural Organization,
7 place de Fontenoy, 75700 Paris, France

Printed in Switzerland
Imprimeries Populaires de Genève

Museums and interdisciplinarity

ISSN 0027-3996 *Museum* (Unesco, Paris), Vol. XXXII, No. 1/2, 1980

Editorial

Georges Henri Rivière

'The historical process is an interpretation of the history of nature and of men.' Karl Marx and Friedrich Engels.

'In place of special subjects, each with its own assumptions, methodology and technical jargon, we must envisage networks of co-operative investigation, with common methods and terminology, all eventually linked up in a comprehensive process of inquiring.' Sir Julian Huxley (in *Man*, Journal of the Royal Anthropological Society, Vol. 10, No. 2, London, June 1975).

This issue has a practical objective: to show by means of ten museums or closely related institutions of quality how experts in different branches of learning have pooled their knowledge in order to find concrete solutions.

In presenting such activities we had to choose a main theme, a sign, a term, which would express as clearly as possible the characteristics they have in common, in spite of differences in environment, outlook or country.

We realize in advance the ambiguities of our choice, which is at the limits of transdisciplinarity and pluridisciplinarity. But after all, what does it matter, if the term we adopt, by its very nature, evokes this need to meet one another, to understand one another, to enrich our lives through contact with others? Examples of this need are increasing in all regions of the world among museums of all disciplines:

Art museums, to reveal the artist through his work, which is placed in a technical and social environment.

History museums, to extend their field beyond events and personalities, with a view to depicting society as a whole under its everyday aspects, showing side by side economic development and the changes it causes in the natural environment, inspiring mutual understanding and respect for historical and contemporary cultures, and assessing today's and tomorrow's problems.

Earth science museums, to work towards a policy of increasingly stricter protection and more restrained exploitation of natural resources.

Natural science museums, to take greater account of the branches of applied knowledge.

Museums of advanced techniques, to relate more closely to the disciplines of fundamental research on the one hand and, on the other, to the problems raised by the industrial revolution as regards safety at work both in the field and at the factory, or living conditions of the worker, who produces and transforms.

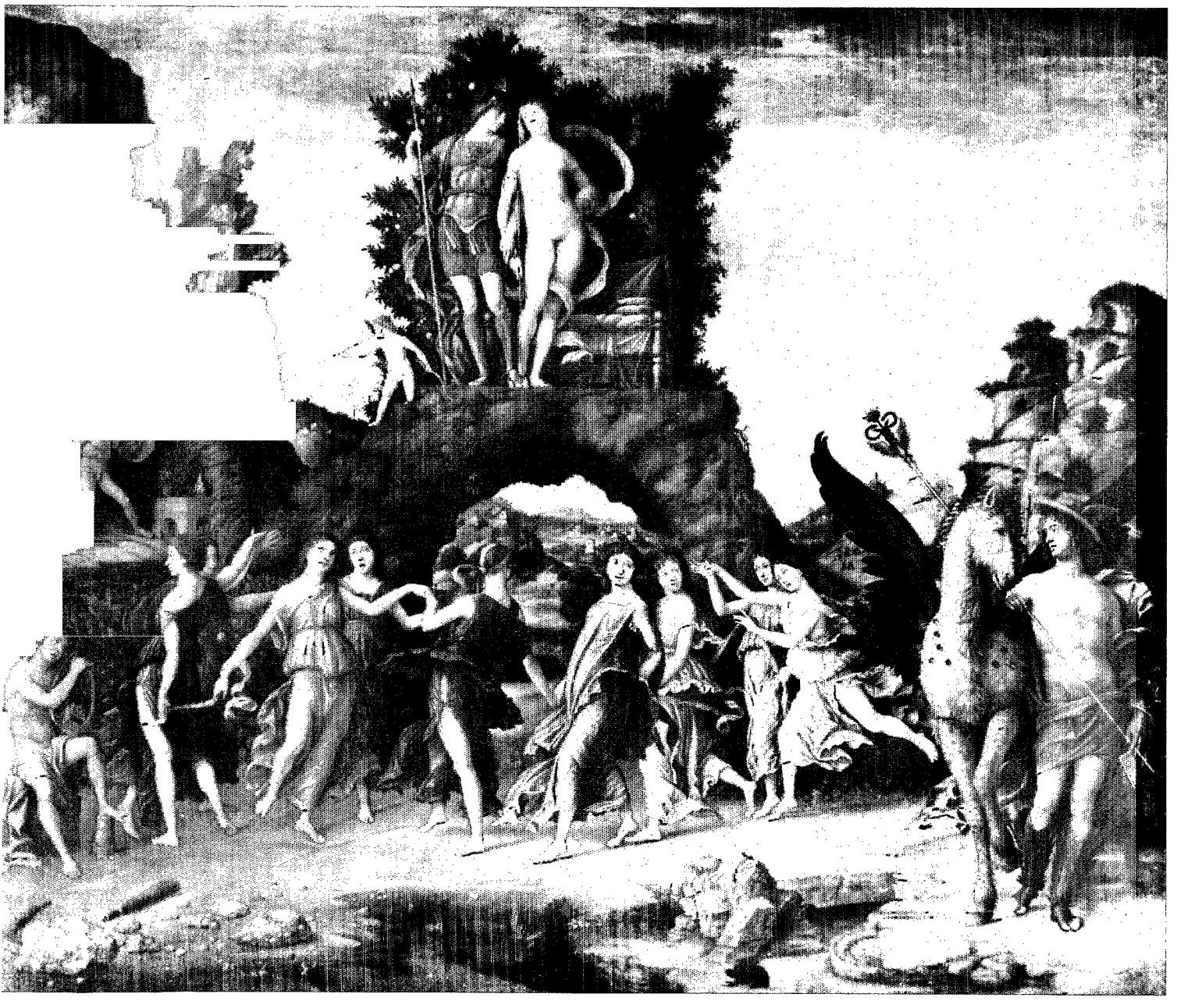
Museums of human sciences and of nature, to hold out a hand to natural, archaeological and historical parks in moving towards common horizons.

In fact, are such experiments completely new, do they not have their roots in the *mouseion* of classical antiquity, an institution which united philosophical thinking and disciplines of art, man, nature and the universe; and also in the curio cabinets of the humanists of the European Renaissance, whose apparent heterogeneity was in fact the deep expression of a conception of the world, a *Weltanschauung*?

Are not museums themselves partly responsible, owing to their desire to decompartmentalize, to bring themselves up to date, in order to meet the challenge of the increasingly marked development in all branches of knowledge?

We leave these questions open while awaiting any remarks, positive or negative criticisms that readers of this special issue of *Museum* may be prompted to make.

1
MUSÉE DU LOUVRE, PARIS.
Mantegna: *Parnassus*. The Nine Muses dancing in a ring, a symbol of the interdisciplinary approach to the museum. Each discipline retains its individuality whilst uniting to form one chorus.



Reflections on the concept of museums and interdisciplinarity

Julian Pitt-Rivers

2

The hoarding instinct is perhaps universal in mankind in some form or other and it is not uncommon even in the animal kingdom. A museum is first of all a hoard, as the titles of the director imply: curator, keeper, conservator, etc. But a hoard is a reserve of something that will be needed and a museum is by practical standards useless, or, to put it more kindly, it responds only to intellectual and moral needs. The motive for making a collection is first of all the curiosity whereby any human group assures its boundaries—spies into enemy territory or scouts in search of natural resources—but its boundaries are not only in space, they are in time too. All societies define themselves in relation to their past. A museum conserves the past for the uses of the future and in this sense all museums are historical, even without playing on the words 'natural history', for they represent the accumulation of what is known at a given moment while awaiting further discoveries in the future. The museum of contemporary history waits to take its place in the past when the time comes, to reign over its subject while it is still of interest and eventually to disappear when it no longer has anything to say to the present, like the tombs of those who are no longer anybody's ancestors. Cemeteries are the most ancient and universal *phénomène muséal.*

Yet cemeteries are not the only form in which the dead are preserved within the memory of the living. Their likenesses were kept alive in those portrait galleries that are regarded as the earliest form of historical museum, and which still persist not only in the same form as in the National Portrait Gallery in London but in waxwork simulacra at Madame Tussaud's in London or the Musée Grévin in Paris. Not only were their likenesses intended to give to the people thus commemorated the honour of a spurious immortality, but the fame of their founders was preserved in the title of the museum. Among the various reasons that can be given for the development of the notion of a museum since the end of the eighteenth century must certainly be the decline of religious faith: a place at Madame Tussaud's failing a place in paradise.

Since the days when 'to sing the praise of famous men' was their chief purpose, museums have expanded and refined their interests. To begin with, in the modern age they are more often centred upon a particular famous man whose home becomes a shrine to his memory, where the devout can come into contact with the household objects whose sacramental value is that they were once in daily contact with him and whose museological value is that they enable him to be seen in the round, as he was in daily life.[1] Such museums, George Sand's at Nohant or Abraham Lincoln's at Springfield,[2] are in fact, though perhaps they do not realize it, 'proto-ecological' in approach. The shrine merges gradually with the museum.

From the palaces of the Medici to the stately homes of England, spiced for public attraction by the addition of lions or ancient automobiles which make them financially viable in the tourist business of today, there is a certain continuity, but such exercises on the margins of the museum world should not blind us to the interest of the homes of those who were truly collectors. Sir John Soane's house in Lincoln's Inn Fields in central London is an example of the genre where the nimble and eclectic mind of the owner (who opened his house to visitors during his lifetime—he died in 1837) can be seen to have been aiming at something more than idle curiosity in graceful surroundings. But the collector always has his criteria, and they sometimes go beyond the demonstration of his enlightenment and good taste. Sometimes the criteria of selection are provided by a theory.

General Pitt-Rivers, less of a magpie than Sir John, made a collection of weapons and bought a house in Bethnal Green to shelter it (it was the nucleus of what was later to become the anthropological museum of Oxford University) for the express object of proving his theory of the evolution of culture. The archaic or primitive in time was equated, by that facile assimilation the evolutionists bequeathed to us, to the archaic or primitive in space, and history and ethnology joined forces.

The Pitt-Rivers Museum was organized according to the comparative

2
PITT-RIVERS MUSEUM, OXFORD. Started by General Augustus Henry Lane Fox Pitt-Rivers, the collection, which originally consisted of a classified group of firearms, was later extended to cover other subjects. At first the collection was located at Bethnal Green, London, but soon afterwards was transferred to South Kensington, London, and in 1883, the General donated it to Oxford University. The building that houses the museum today has a Gothic-type metallic architecture whose structure harmonizes with the method of display adopted by the founder. A project to replace it by a modernistic building has not so far been realized.

1. 'And nothing resembles more in our civilization the pilgrimages to sacred places made periodically by the Australian initiates under the conduct of their wise men than our visit-lectures to the house of Goethe or Victor Hugo, whose pieces of furniture arouse in us emotions as vivid as they are arbitrary. Moreover, as for the *churinga*, the main thing is not that it is the actual bed in which Van Gogh is known to have slept; all the visitor wants is that it can be shown to him' (Claude Lévi-Strauss, *La pensée sauvage*, p. 323, Paris, Plon, 1962).

2. Another example is Goethe's house, of which Lévi-Strauss speaks, and which is described in the present issue by Dieter Eckhardt in his article 'The Goethe Museum', p. 67.

method of the time, supporting the theory that culture, like biological species, evolves by slight changes.

On the basis of the collection of weapons and carrying the argument still further, he aimed at proving that cultural objects in different regions of the world had reached different degrees of sophistication.

Objects having the same function but coming from different sources were arranged together. This pluridisciplinary rather than interdisciplinary approach left the visitor free to concentrate entirely on the section of his choice and enabled him to compare the objects from the viewpoint of his speciality. A more recondite example of a museum organized around a theory is the museum I discovered in 1948 in the semi-ruined castle of Niebla in Andalusia, whose eccentric owner had set out to demonstrate the existence of Atlantis. The exhibits, shrouded in dust, provided concrete proof, one might think. They were items of material culture of the people of that ill-fated island before it sank in the Atlantic. According to village gossip, they had been fabricated by the neighbours and palmed off on the collector as discoveries. The *musée à thèse* might appear to be a thing of the past, yet every curator has ideas about the relation between the exhibits of his collection, and he arranges it to make them evident. And a recently created museum, that of the Jewish Diaspora at Tel Aviv, has not hesitated to include Karl Marx and Benjamin Disraeli.[3]

The influence of natural history was present in museum building from the Age of Enlightenment and placed the problem of taxonomy in the forefront. The ideal was to gather examples of every type of a given class of object, and not merely that which supported the founder's thesis. But a collection's aspiration to completeness necessarily restricted its range. Museums became more limited in their scope and less eclectic in their outlook. The dilettante gave way to the specialist.

The most specialized museum I ever visited was the cowboy-boot museum which, a quarter of a century ago, filled the ground floor of the Grand Hotel at Prescott, Arizona; a museum not of clothing but of footwear, and not of footwear but of boots, and of only those boots worn by the cowboys of Arizona, whose high heels, chased silver toe- and heel-caps and gaudy embroidery reminded one incongruously of pantomime garb. A monument to the foot-fetishism of the Far West and a model of museological method, for the name of the owner of each pair of boots was given! Yet behind this meticulous regard for provenance one sensed the concern for famous men. How else can you commemorate a famous cowboy who had otherwise only a horse, a shirt and a pair of jeans—and no house anywhere?

The history of museums of history is a part of history and an historian of museology could no doubt trace in detail the development of different techniques at different periods and relate them to the society that generated them. But without going into details one can see that the preoccupation with famous men corresponds to the days when power was personal and overt and to the theory of history which attributes events to their characters. I have called it the Ethelred-the-Unready theory of history, for it explains the Danish invasion of England simply as the result of Ethelred's regrettable ingenuousness. It is only when historiography has reached a certain theoretical sophistication that museums start to worry about the economic and demographic conditions which produce the items they contain. The change mirrors the transition in archaeology from treasure-hunting to scientific excavation, which no longer regards its aim as the discovery of objects whose curiosity or beauty entitle them to be placed on display, but as the reconstruction of the past through all the traces it has left in the ground (pushed to the extreme in the present, this tendency has made facts like the statistical variation in the bone-count more valuable than things you can see and handle). It was no longer the object as such that was to be treasured but its relationship to other objects with regard to which it represented a transition from one style to another, like those firearms in the collection at Bethnal Green which retained features that had ceased to be functional but were nevertheless preserved out of respect for cultural continuity.

3. Steven Uran, *Les paradoxes de l'identité juive: réflexions sur le musée Beth Hatef Suth*, Paris, 1980 (Les Nouveaux Cahiers, No. 60). Isaie Berlin, *Benjamin Disraeli, Karl Marx and the Search for Identity*, London, Jewish Historical Society in England, 1970. See also, *Trois essais sur la condition juive*, Collection 'Diaspora', edited by Roger Errera, Paris, Calmann-Levy, 1973.

Museums do not just satisfy curiosity, they celebrate something. The past is always sacred and every nation must celebrate its past if it is not to disintegrate in the present, so that it has become almost as necessary to have a national museum as a national airline and a seat in the United Nations. The theory of nationalism attributed its sacred origins to the soil (always a highly mystical notion) and those closest to it acquired a value that the poor esteem in which they were held in daily life hardly predicted. The collection of folklore enabled the metropolitans both to mark their social superiority to the peasant and to integrate him into the nation assuring the territorial mystique of the state. Social history, the explanation of the past, not by the characters of the famous, but by social conditions, has meant an interest in the everyday life of the people. Culture, as in anthropology, becomes more than the culture of the 'cultured'. Sacred roots in the soil combine with the history of technology and ecological anguish to elevate the folk museum to the front rank.

Nations, however, are not the only social entities that require their past to be celebrated. Every city today has to have a museum as a necessary adjunct to its collective identity, and since the culture of one industrial city is much like that of its neighbour it is necessary to search for roots in the region. Regional identity arises in the face of modern centralization and begins to endow the folk museum with political implications quite different from those that inspired its foundation. Culture enters the political arena and the past becomes a weapon in the present and museums that were founded in the cause of the nation-state now serve those who feel their 'national' identity at a more local level. Libraries contain records of persons, events and things, but museums contain the things themselves, and they are therefore evidence of a more direct kind that can be submitted to fresh analysis from a new viewpoint; different disciplines can work upon the same object from a different angle. A new technique like radio-carbon dating can reveal evidence that was not previously imaginable. But at the same time the 'concrete' evidence presented by the thing itself has become much less concrete. Marcel Mauss's insistence on the necessity to establish 'total social facts', and the realization that things carry meaning, not in themselves but by virtue of their relation to other things, has led to a concern with social context. At the same time, for its own internal reasons, anthropology has come to define 'culture' in much less material terms: culture today is no longer the hoe, but the technique of hoeing, not the picture but the idea of representation in a particular way and by a particular method.

Hence, what the specialist comes in search of is not the object itself, nor even its place within a historical series of objects of the same sort, but its relation to its natural habitat, when it was still alive and not yet 'mummified' by being placed in a museum. This of course is much more difficult to display in a museum with four walls. Thus museums demand more and more space and end by going out into the open in search of natural habitat. Zoos, Indian reservations, folk art for the tourist are all unnatural by this canon and the very idea of conservation places fetters on the freedom of the spirit, for the past is the enemy of the present. If cemeteries are museums, then museums are cemeteries. To be real, culture must be alive.[4]

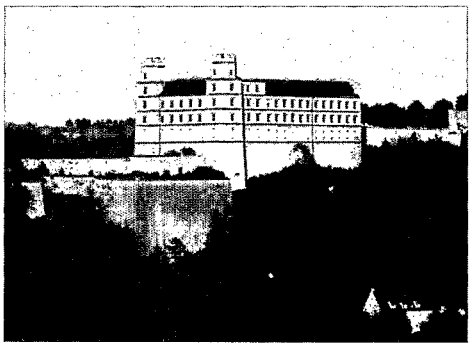
At the limit, it is proclaimed that art to be alive must be limited to the context of its creation, like the canoe-prows of the Sepik river which were burned at the conclusion of the rite for which they were carved. The occasion must not be allowed to bequeath its inventions to the desiccating fingers of the museologists. The cowboys must be buried in their boots.

Such purism would be the end of all museums and this does not seem imminent. Never have they been so thickly frequented. The popular sense of history, which in the past produced nursery rhymes and pageants, is becoming learned and requiring knowledge and historical precision; everybody should be able to recognize the architecture of different periods: '*Eglise XII^e-XIV^e*' as the road-signs say in France. The individual ancestors are forgotten and replaced by a past that belongs to us all. The age of museolatry has opened. The rites of Sunday morning take us to the Louvre.

4. Cf. Michel Leiris, 'Folklore et culture vivante', in R. Jaulin (ed.), *Le livre blanc de l'ethnocide*, p. 43, Paris, Fayard, 1972.

The Jura Museum, at Eichstätt, Bavaria, Federal Republic of Germany

Günter Viohl



3
JURA MUSEUM, EICHSTÄTT
Willibaldsburg, home of the Jura Museum.

The Jura Museum can be described as a small, specialized natural history museum that has attracted remarkable public interest. Despite its unfavourable 'provincial' location away from major roads, it has been visited by some 300,000 people during the first three years of its existence.

Origins

The Jura Museum was based on the rich natural-history collections of the St Willibald Episcopal Seminary in Eichstätt, made up predominantly of geological and palaeontological, mineralogical, botanical, zoological and anthropological items. The part with the greatest scientific value is the special collection of fossils from the Solnhofen limestone schists, which is one of the largest and most varied of its kind. The collections, which were started in 1844, originally served as demonstration material for the natural-science course of lectures at the College of Philosophy and Theology. Over the course of time they were progressively added to by the different professors of natural history according to their particular scientific interests.[1]

In 1968, there came into force a new theological training syllabus that no longer provided for a natural science course. So far as the college was concerned, the natural history collections had thus lost their function. In order to continue making good use of them, the Episcopal Seminary, as legal owner of the collections, came to an agreement with the *Land* of Bavaria regarding the founding of a natural science museum. From 1972 onwards, the scientific and curatorial supervision of the collections, together with the technical planning of the new museum, came under the direction of Professor Wolfgang Engelhardt, for the Bavarian State Scientific Collections Department, the Episcopal Seminary remaining responsible, as before, for the upkeep of the collections and the museum.

The Jura Museum was installed in part of the Willibaldsburg, the former residence of the prince bishops of Eichstätt (Fig. 3), which is now owned by the Bavarian State Castles, Parks and Lakes Department. Thanks to good collaboration between several state and church institutions, together with the private Friends of the Eichstätt Jura Museum support group, the Jura Museum was able to open on 17 September 1976.

1. A special debt of gratitude is owed to Franz Xaver Mayr (1887–1974), who occupied the chair of chemistry, geology, biology and anthropology from 1923 to 1958. Under his care, all sections of the collection were considerably augmented. It was his collecting and research activity that gave the 'Solnhofen limestone schists' collection, in particular, its high scientific quality. He thus paved the way for the Jura Museum and may be described as its spiritual father.

Theme

The theme of the Jura Museum is indicated by its very name. The name 'Jura' ('wooded mountains' in Celtic) was originally restricted to the Swiss Jura mountains. In 1795, Alexander von Humboldt adopted it to designate a geological formation. This geological term subsequently again became a geographical designation for the Swabian-Franconian Alps, that mountain chain being composed of rocks of the Jurassic period. Among the local people, in particular, the name 'Jura' is used much more frequently than the name 'Alps'. The Jura, in its twin uses as a geological term and as a name for the Alps, forms the key theme of the Jura Museum.

The Jura Museum is a local museum that aims to instil into its visitors a deeper understanding of the southern Franconian Alps region, which has become world famous through its Solnhofen limestone schists and the fossils they contain. And through the specific example of this region, its geological evolution, its fossils and its present biota, the visitor can acquire understanding of a more general kind, cultivate an ecological attitude and become conscious of his own responsibility with regard to life and the future of the earth. (Fig. *4*).

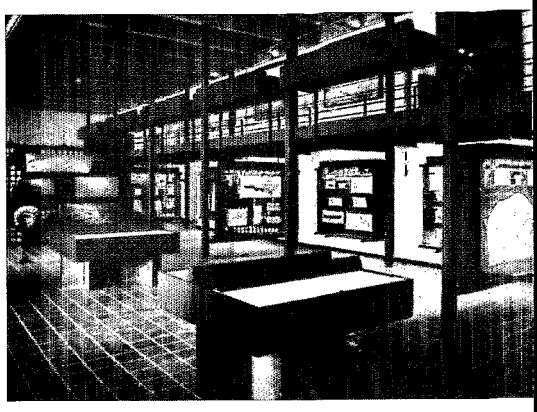
The Solnhofen limestone schists form the focal point of the exhibition. There is an audio-visual presentation explaining their formation and the specific features of the area where they were deposited (Fig. *7*). A three-dimensional model shows what the landscape of the southern Franconian Alps area looked like at the time when the limestone schists were formed 140 million years ago: in the north, the coast of a mainland or large island; in the south, the ocean; between the two, a lagoon zone in which the limestone schists were deposited and which was bounded to the south by coral reefs. Information about the deposition environment is provided by characteristic marks and traces on the surface of the schists and by the state of preservation of the fossils. As one walks around, one gets an idea of the great diversity of the organisms, belonging to very different environments, that have been handed down to us by the Solnhofen limestone schists. Many plants and animals were washed from the mainland or island, from the coral reef zone and from the open sea, ranging from delicate insects up to giant fishes (Fig. *5*) and one four-metre crocodile; from the abundant small marine echinoderms up to the rare pterosaurs. The most valuable exhibit is of course the Eichstätt exemplar of the primitive bird *Archaeopteryx lithographica,* the original of which is displayed in an octagonal smoked-glass showcase specially built for the purpose (Fig. *6*). Casts of the other four skeletons found have been fixed to the outside of this octagon.

The aquarium room acts as a link between the fossils of the Jurassic period and the present (Fig. *8*). Here, among other things, 'living fossils' are kept, such as horseshoe crabs (*Limulus polyphemus*), related to the Jurassic *Mesolimulus*, and long-nosed gars (*Lepisosteus osseus*), descendants of the primitive palaeopterygian fishes. In a tank can be seen various invertebrates whose fossilized kin are also displayed in the museum. The largest aquarium gives an idea of the magnificent forms and colouring of present-day coral fish and stimulates comparison with the fossil fishes from the Solnhofen limestone schists, many of which also lived among coral reefs.

Further on, the visitor to the Jura Museum learns something about the formation of fossils and the evolution of the major invertebrates of the Jura. The Geology of Northern Bavaria section situates the Jura in a wider spatio-temporal context (Fig. *4*).

Probably the most interesting geological phenomenon of the Jura is the Nördlinger Ries meteorite crater. It has a small section of its own, in the centre of which stands a three-dimensional geological model of the Ries area. One half of the model can be lifted up to show the internal structure of the crater (Fig. *10*).

Further on, we find a treatment of the themes of 'Karst formation and groundwater'—a present-day environmental protection problem in the Jura—



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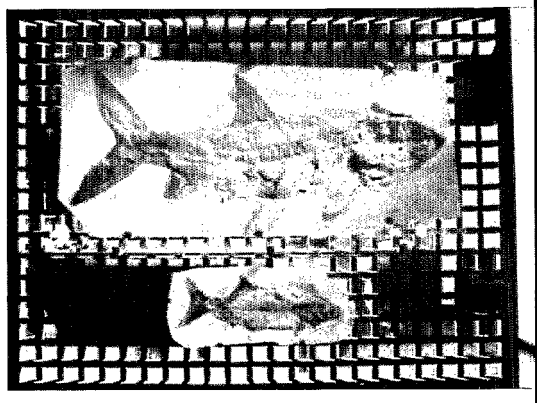
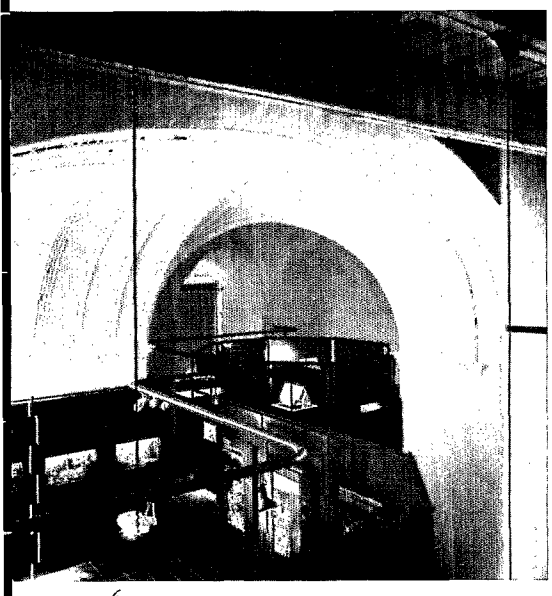


5

4
View of the main hall; below, the Solnhofen limestone schists section; in the gallery, the geology of northern Bavaria section.

5
Two large fish fossils from the Sohnhofen limestone schists, supported on a wooden lattice.



6
The south-west tower room seen from the gallery; in the foreground, the section entitled, 'The Present-day Altmühl Valley Region as Habitat'; in the background, the octagonal *Archaeopteryx* showcase.

and 'River and landscape history of the Altmühl Alps'. An eye-catching exhibit is the three-metre-long running-water aquarium containing fish from the Altmühl.

The presentation of the present-day landscape of the Altmühl valley merits a larger display but has had to be compressed for lack of space (Fig. *11*). A three-dimensional model of the Altmühl valley shows the ecotopes—the smallest topographical units. By pressing a button, the visitor can see illustrations of individual ecotopes. Further on, he can select for projection on to a screen pictures of eighty plants characteristic of the southern Franconian Alps. There are three small dioramas illustrating typical insects.

Twice a day, or more often if necessary, a multi-image display illustrates the main stages in the evolution of life and thus shows the place of the Jura, and of the fossils exhibited in the Museum, in a wider context. (Fig. *9*).

Didactic role

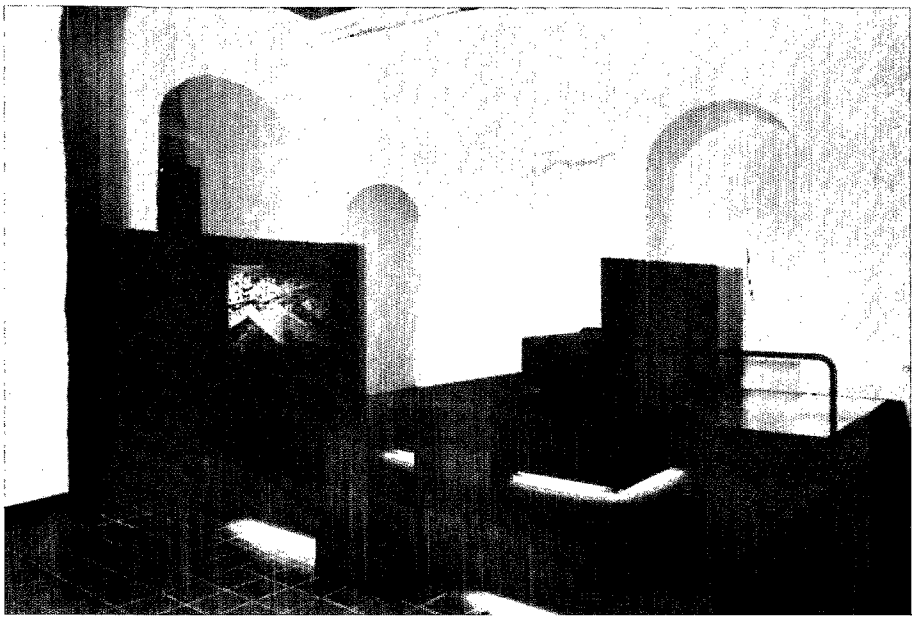
In order to fulfil its educational purpose, a museum must be made to appeal to a wide public. The best way to do this is to arrange it so that a visit becomes an exciting experience, a source not only of pleasure but of wonder. Astonishment often gives rise to a desire to study the themes dealt with in the exhibition more closely and to learn more.

In the Jura Museum, therefore, every effort has been made to prevent boredom. By a succession of new visual stimuli, such as particularly large and beautiful fossils, large and attractive graphic displays and photographs, models and aquaria, the aim has been to keep the visitor in a state of suspense and curiosity regarding the next exhibit. A multitude of buttons that he can press appeal to his sense of play. A multi-image and a single-screen audio-visual display enhance the museum's attractiveness (Figs. 7, 9). In particular, these make allowance for the mentality of the average person today, who has become accustomed—thanks to television—to having his culture entertainingly and attractively gift-wrapped.

The aquaria play a special part in bringing the museum to life. They certainly make it easier for many people, especially small children, to take an interest in the 'dead' fossils. Their teaching value lies primarily in the way they enable living animals to be compared with fossil forms. The differences and similarities stimulate the formulation of all kinds of questions concerning evolution and the relationship between form and function and between form and environment.

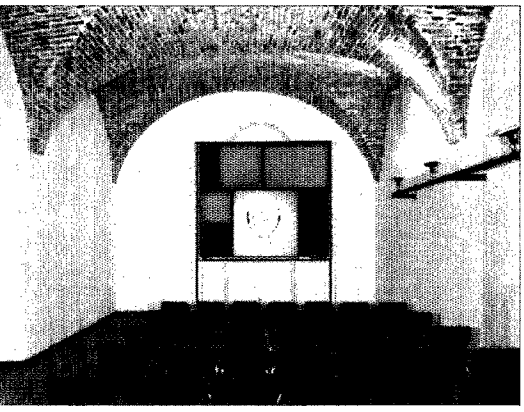
The museum's extremely varied public—encompassing schoolchildren of different ages and from various types of school, adults with levels of education ranging from primary to university, people with technical and business training, amateurs interested in science, collectors, students of the earth sciences and of biology—calls for the provision of information at different levels to meet the many different types of demand.

Leaving aside the pictorial illustrations, models and audio-visual displays, basic information in the Jura Museum is imparted mainly by the captions to the exhibits. These, however, have purposely been limited to what is absolutely essential, using only key words in many cases, since experience has shown that long captions in museums are tiring to read, and in fact are not read. A brief illustrated handbook is also available for the visitor who wishes to make his own one-and-a-half-hour guided tour of the museum. Many people, however, want more information. For them, there are illustrated information sheets covering the themes of the exhibition more fully. The sheets can be bought either individually or as a complete set in a folder. Unlike the usual museum guide, the sheets have the advantage that the visitor can select those themes he is really interested in. In addition, any necessary alterations to the text can be made more quickly, since each time only individual sheets need be reprinted.



7
Tiered seating for the audio-visual presentation of the Solnhofen limestone schists.

8
The aquarium room, seen from the General Palaeontology section.



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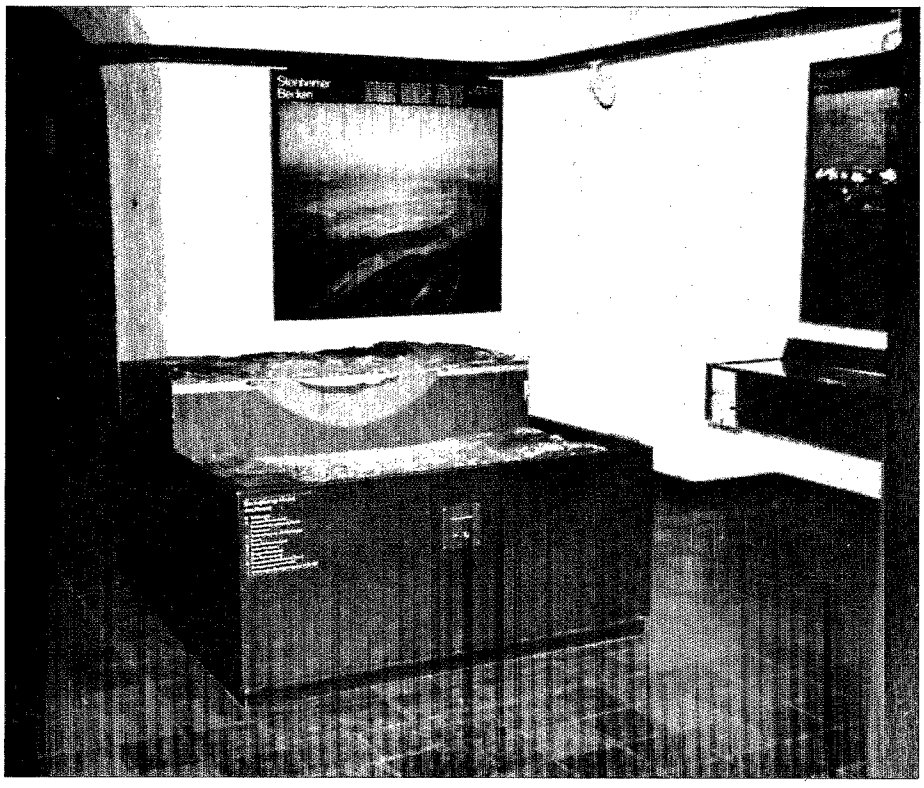
The multi-image display room.



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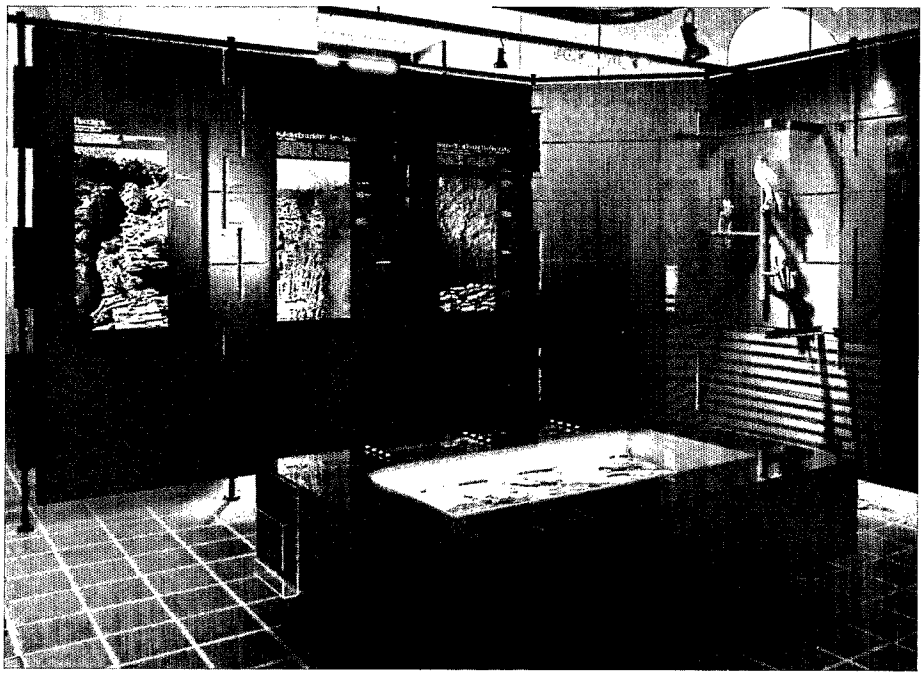
A geological model of the Nördlinger Ries meteorite crater.



11
Section entitled 'The present-day Altmühl Valley Region as Habitat'.

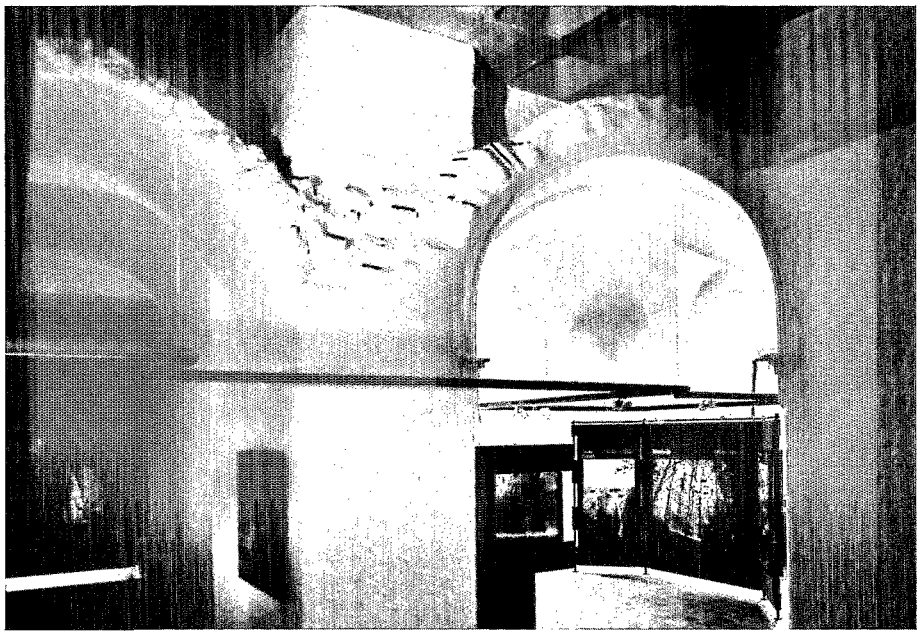
Architectural design and presentation

The Jura Museum is accommodated in the Gemmingen building, a part of the Willibaldsburg constructed in the early seventeenth century. Before the Museum was installed, the building was in a ruined condition (Fig. *13*). In the main hall, for instance, the ceiling was missing, as was a large part of the vaulting of the north-west tower. The architectural problem was to adapt the ancient ruins to a modern museum. For the excellent solution to the problem, praise is due to the architect Karljosef Schattner, head of the Eichstätt Diocesan Works Department.[2] Where the existing state of the fabric allowed, he carried out restoration work, but deliberately designed the modern parts of the building to contrast with the original architecture while harmonizing with the overall structural rhythm (Fig. *14*). So as not to impair the historical interior, the placing of graphic displays and large exhibits directly against the walls was

2. K. Schattner; 'Das architektonische Konzept und seine Verwirklichung', *Jber. 1976 Generaldir. Staatl. Naturwiss. Slg. Bayerns,* 64–75, Munich, 1977; 'Jura-Museum in Eichstätt', *Baumeister,* 1977, 3, 226–9, 9 Abb., Munich, 1977.

12
A graphic display panel.

13
Willibaldsburg; the north-west tower room before restoration.



14
The north-west tower room after restoration. The stucco work has been restored. In the foreground, where the arches had collapsed, a coffered concrete ceiling has been inserted.

avoided by installing lattice screens. Where it was essential to fix panels to the walls, spacers were inserted. The surface area available for exhibiting (now approximately 800 square metres) was increased by constructing a gallery. This too, however, was made free-standing and does not interfere with the structure of the room. The showcases were made to the architect's specifications by an Eichstätt joinery firm. This made it possible to reduce considerably the cost of the interior fittings, which (including the pictorial displays and audio-visual equipment) came to only DM 590,000.

A feature that distinguishes museums from other information media must surely be the opportunity they provide to establish a direct rapport with the original object. The architect has striven to maximize that rapport by creating as peaceful a background as possible, and eliminating all distracting influences. The museum is darkened, and artificial light, including spotlights, are used to pick out the exhibits. The purity of the architectural conception gives the museum, for all its vitality, an atmosphere of peace and concentration.

Unlike artistic objects, natural objects have to be explained in words and pictures. Hence graphic illustrations also have their part to play in a natural history museum. They must be both informative and aesthetically pleasing without overshadowing the natural objects exhibited (Fig. *12*).[3]

The colours used for the illustrations in the museum convey a meaning. In the palaeontological illustrations, for instance, objects on display are shown in red.

Future tasks

Only a tiny part of the Eichstätt natural history collections is displayed. By far the greatest part is stored away in what are at the moment, unfortunately, most unsatisfactory condition—the storerooms being damp in places. It is to be hoped that the storage problem will be solved within the next few years, this being an important prerequisite for extending the museum's activity. The extensive resources of the collections provide a wealth of material for scientific study (especially in the palaeontological field), make it possible to lend suitable items to schools for educational purposes, and represent the material necessary for alternative exhibitions. There are plans for such exhibitions in the future, but the Episcopal Seminary will first of all have to spend a considerable sum on the purchase of showcases.

One task which local natural history museums such as the Jura Museum clearly have a duty to perform nowadays is the compilation of all data ecologically relevant to their special field. Such data form an important basis for all land-use planning.

In future, another important function of the Jura Museum will be to act as a natural science training centre for the Altmühl Valley Nature Park. It would therefore be excellent if the museum could provide, in addition to exhibitions on its own premises, a considerably larger number of guided tours, lectures and excursions to the surrounding countryside.

Unfortunately, the present staff establishment (one scientific specialist and one-and-a-half technician posts) makes it impossible to carry out all the above-mentioned tasks satisfactorily. It is to be hoped, therefore, that there will be an improvement in the staff situation in the future.

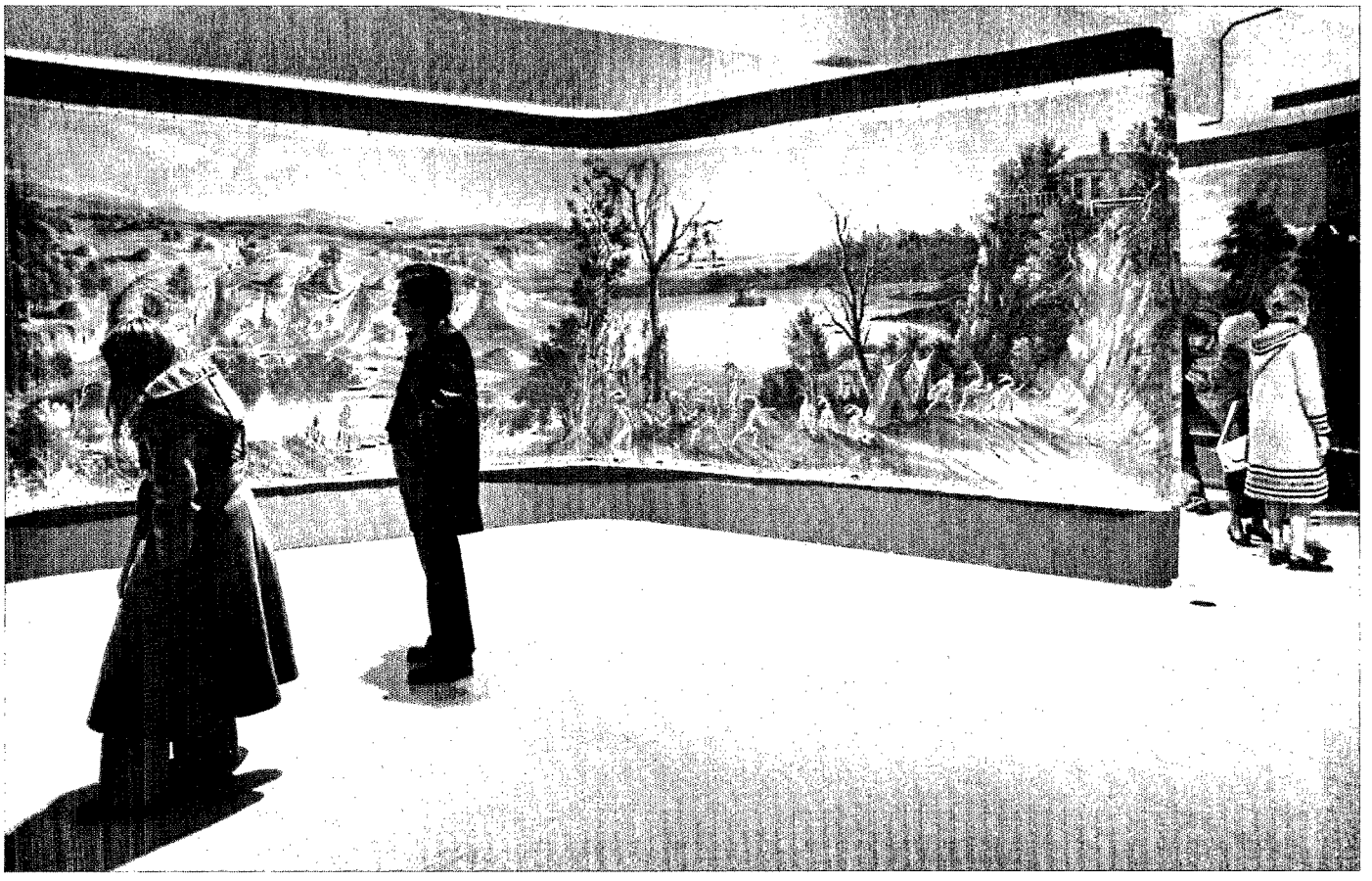
[*Translated from German*]

3. Walter Tafelmaier's overall graphical design satisfies these requirements. The palaeontological illustrations were prepared by Renate Klein-Rödder, and most of them were printed in the serigraphy section of the Senckenberg Museum at Frankfurt am Main, for whose kind assistance the Jura Museum is extremely grateful.

The River: Images of the Mississippi, *Walker Art Center, Minneapolis, United States of America*

Martin Friedman

15
WALKER ART CENTER, Minneapolis.
The River: Images of the Mississippi. Section devoted to the evolution of steamboats.



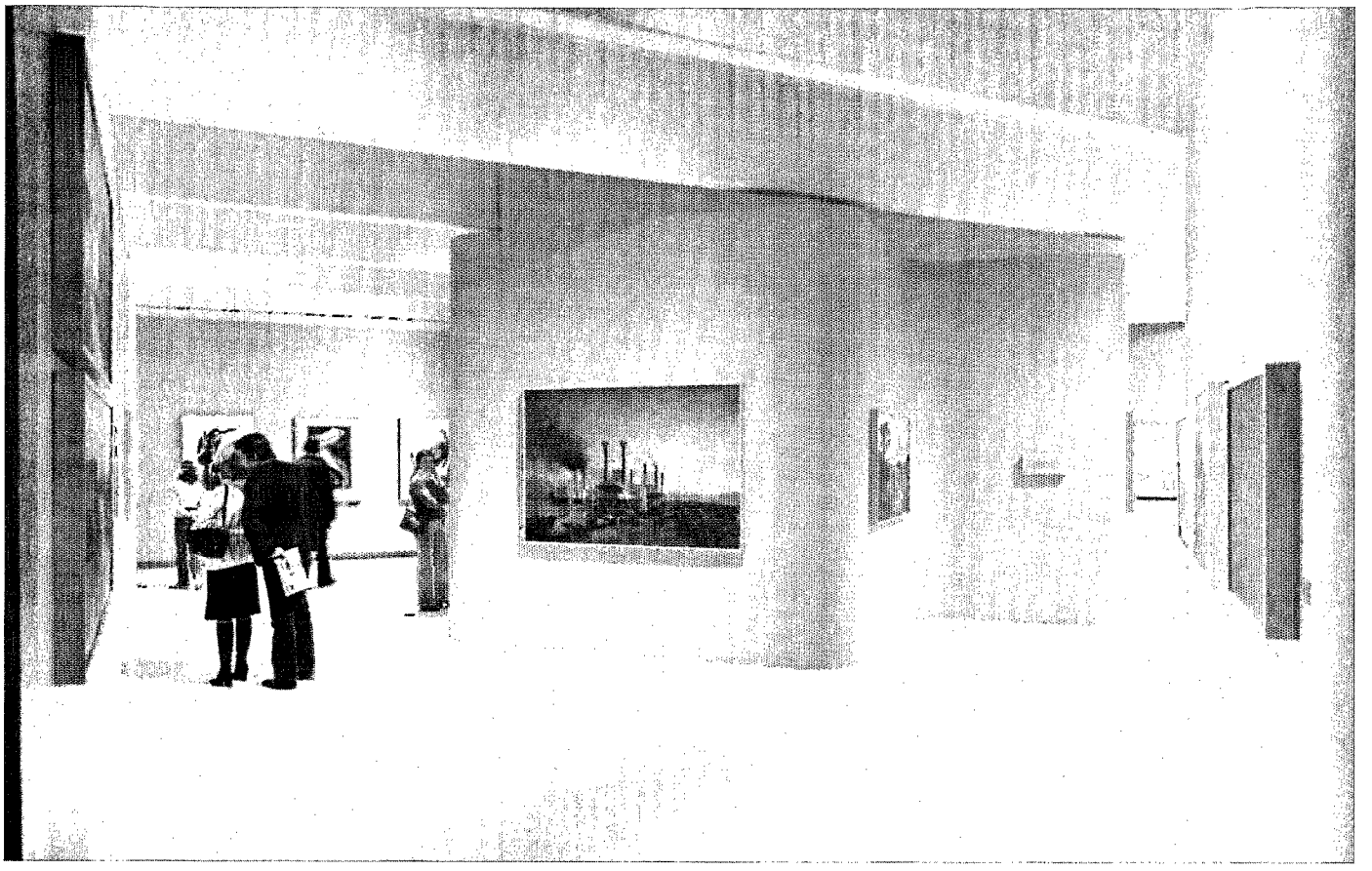
16
The River: Images of the Mississippi. Panorama by John J. Egan and M.W. Dickeson, lent by the St Louis Museum of Art; it depicts the historical events that have occurred on the river's banks. It is the only surviving example that uses the river for its theme.

Geographically there is one Mississippi; symbolically there are many. The observations of generations of explorers, fur-traders, steamboat captains, writers, painters and musicians have added to its legend. The river has been regarded as a life-sustaining force and, alternately, as a ruthless destroyer whose rampaging floods can eradicate the life along its banks. By its seemingly endless course and variable identity, the Mississippi not only unites the country's northern and southern extremes but its presence keeps alive some of its most stirring history. The major conduit of a vast interior waterway that includes the Ohio and Missouri, it originates as a meandering creek in northern Minnesota, gaining breadth and turbulence as it flows towards its delta in Louisiana, approximately 3,750 kilometres away.

The Mississippi remains an enduring theme in American culture, and the exhibition *The River: Images of the Mississippi,* held from 3 October 1976 to 9 January 1977, examined its presence in art. Inextricably part of the American mystique, the Mississippi has been the source of a great spectrum of imagery, providing inspiration to generations of artists: the native Americans who lived along its shores, and Europeans and Americans from the nineteenth century to the present.

Among the first examples of the Mississippi's graphic documentation are seventeenth-century maps drawn by explorers and missionaries whose knowledge of geography was more intuitive than factual. Father Louis Hennepin produced one of these early documents; as La Salle's deputy, he explored the Mississippi's upper reaches and made a brave if tenuous effort to describe its origins and course. The results are embodied in a sketchily realized map, published in 1698, whose most precisely defined element is the requisite allegorical cartouche framed by classical personages celebrating the discovery of the river. The map shows the '*Mescha Sipi Qui Signifie Grande Rivière*' being joined by such other august bodies of water as the 'Ouisconsins', 'Les Bides Akanssa' and the 'Ooyo'.

A section of nineteenth-century landscape and genre painting of diverse kinds based on river themes illustrated homegrown naïve styles as well as translations of European-inspired techniques. It contained groups of paintings



17
The River: Images of the Mississippi. Section devoted to the works of artist-naturalists at the beginning of the nineteenth century.

of river subjects by such familiar names as Seth Eastman, George Catlin, George Caleb Bingham and John James Audubon, luminaries in the history of American art. Sketches, paintings and prints by other artists whose reputations, until recently, have been primarily regional, revealed a wide range of responses to this subject. A monumental, if highly fictionalized, treatment of the river appeared in the amazing 1850 Egan-Dickeson Panorama. Still well preserved, fortunately, Egan's colourful tempera on muslin is the only surviving example of this painting form on a monumental scale depicting the Mississippi valley, exalting it as the new Eden (Fig. *16*).

By the end of the nineteenth century, the bucolic image of the river had given way to sooty realism. The timeless idyll was superseded by a more immediate portrayal of this subject, not only in painting but in widely published engravings made from on-the-spot sketches by artists employed as newspaper and magazine correspondents. Photography, which by the end of the century had become the dominant means of recording the river and the life it sustained, helped engender a new era of naturalism.

An epic 1858 bird's-eye lithograph of a lively St Louis, steamboats crowding its waterfront, was a metaphoric journey whose layout was inspired by the long ribbon maps used by steamboat pilots. By the 1880s, panoramic photographs and bird's-eye-view prints were the most popular means of documenting the growth of river towns.

The development of these towns was accelerated by their growing importance as production and shipping centres linked together by the steamboat, the most romantic symbol of nineteenth-century river life. A floating architectural phenomenon, it was uniquely adapted to the river's shallow depths and winding course. Its evolution from cabin-on-a-raft to a vision of baroque splendour was illustrated by a group of exceptionally fine models in the exhibition. Shown with these handsome reminders of an all but extinct form of travel were architectural drawings for several steamboats that once travelled the inland waterways (Figs. *17, 18, 19, 20*).

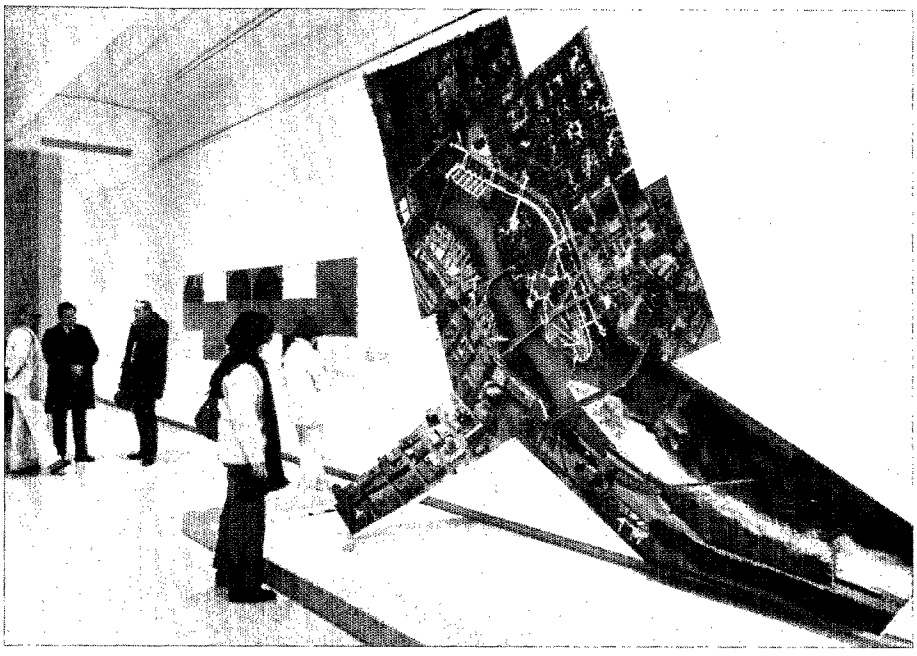
These romantic personifications of the river, however, fade in the light of present-day reality. The powerful 'Father of Waters' has not only been domes-

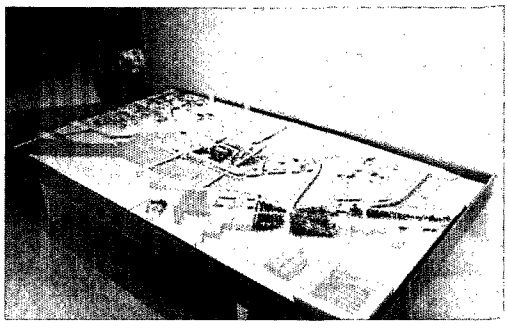
18

19

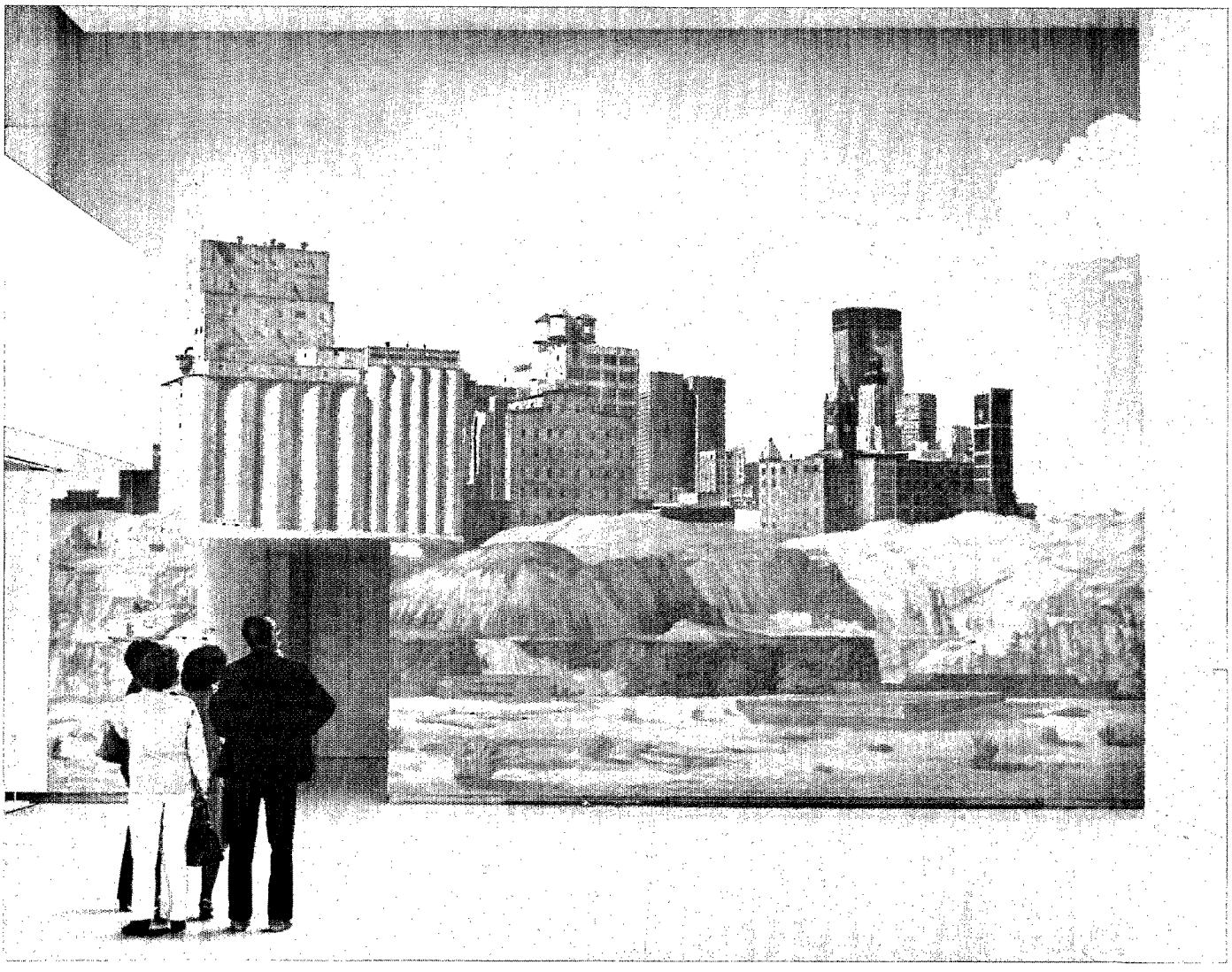
18
The River: Images of the Mississippi.
Photographs of the river and its life.

19
The River: Images of the Mississippi. Children working in the exhibition.





20, 21
The River: Images of the Mississippi. Plans for the development of Nicollet Island.



22
The River: Images of the Mississippi. Large surrealistic mural entitled *No River*, by Terry Schoonhoven.

23
The River: Images of the Mississippi. Alluvial Fan, created by Andrew Leicester, which evokes the fantastic shapes of the river's delta.

ticated, he has been almost fatally misused. Although here and there along the banks a nostalgic reminder of Mark Twain's Mississippi persists, the paradisiacal river no longer exists. Industries that evolved along its banks did so through an exploitive relationship with it. The river landscape that provided early nineteenth-century artist-naturalists with a memorable profusion of images of wilderness has been largely obliterated by the grim steel and concrete appurtenances of urban progress. Cities that flourished along the waterfront have levelled its banks, polluted it, banished its wildlife and created physical and psychological barriers between it and their inhabitants.

In the last decade, rivers, along with other important natural resources, have become a subject of increasing public concern. Coupled with the immediate need to prevent further destruction of their delicate ecology there has been new public awareness of the river as a major urban asset. For this exhibition the Art Center, in co-operation with the Minneapolis '76 Commission, sponsored the preparation of three designs (Figs. *20*, *21*) for the development of Nicollet Island,[1] a long-neglected forty-eight-acre wedge in the Mississippi near the central business district of Minneapolis. The imagery generated for it in this exhibition could affect the future development of the entire upper Mississippi River.

Despite differences in style, an essentially narrative approach characterized the work of the nineteenth-century artist. Such consistency is hardly typical today, as evidenced by the various reactions of contemporary artists who created works for this exhibition. Among them were Terry Schoonhoven, Andrew Leicester and Otto Piene.

The tradition of panorama painting underlies Schoonoven's surrealistic 'mural', which was painted directly on the walls of the Art Center's concourse (Fig. *22*). His image was jarring—a suddenly dry Mississippi River bed over which an unchanged Minneapolis skyline looms.

The Mississippi constantly alters its shoreline, changes its direction, broadens and narrows itself, and at its mouth shallow rivulets create fantastic patterns. In response to these forms, Leicester made a flat sand sculpture whose granular surface was modified by the water that flowed over it (Fig. *23*).

1. The architects were The Hodne/Stageberg Partners, Minneapolis; Craig Hodgetts and Robert Mangurian of Studio Works, Los Angeles, with consultant Charles Moore; and the Institute for Architecture and Urban Planning, led by Peter Eisenman, New York.

24
Black Stacks Helium Sculpture, by Otto Piene.

Piene's work, *Black Stacks Helium Sculpture* (Fig. *24*), consisted of four red polyethylene tubes about a metre in diameter and 100 metres long. The tubes were tied to the tops of tall smokestacks at the Northern States Power Company's river steam plant. Billowing in the wind, the thin tubes were visible for miles and appeared as streams of red smoke emanating from the stacks.

The Mississippi has been a fertile source of personal visions by artists who have contributed to its myth. These visualizations have focused our attention not only on the great serpentine as it was a century ago, but on the role it might play in our lives today. As this exhibition illustrated, the artists' vision can heighten our consciousness of the Mississippi, and though the river is no longer synonymous with primal nature, its potential as a generator of new images remains strong.

The Camargue Museum, Mas du Pont de Rousty, Arles, France

Jean-Claude Duclos

25
MUSEON ARLATEN, Arles.
The children's workshop, where the main theme is 'housing traditions'.

The Camargue Museum, which was opened as recently as 1978, is one of the three principal facilities planned in 1974 as part of the general programme for welcoming visitors and providing activities of interest to them at the Camargue Regional Wildlife Park.

When the Camargue Regional Wildlife Park Foundation, which is responsible for the management of the park, was granted the initial funds for actually launching the venture, it directed its efforts, first of all, to providing facilities for welcoming visitors and to setting up activities likely to be of interest to the public.

The basic aspects of the problem are simple enough and can be illustrated by two figures: the Camargue has a local population of 8,500, and it receives approximately a million visitors every year. Finding a solution to this situation depended on achieving one of the fundamental aims expressed in the charter of the park:

> The Foundation shall use its authority in those areas of the Park which are freely accessible to the public to inform, educate and instruct its visitors and thereby foster respect for wildlife and help the public to become better acquainted with the Camargue.

With this in mind, answers had to be found to a number of questions:

How could respect for the environment be reconciled with the discovery of the area by the public?

How could a considerable number of visitors be encouraged to visit the Camargue without the risk of deteriorating the environment?

How could priority be given to the interests of the local inhabitants (as it is they who constitute the life-source of the Camargue) while giving due consideration, at the same time, to the interests of the visitors?

How could an exchange of ideas be brought about between these two groups of people, when it is a known fact that for some of the local inhabitants, visitors are a source of livelihood, while for others they are merely strangers?

There are two factors which come to the fore, in the light of these questions. On the one hand, there is the need to be able to communicate all that constitutes the originality and wealth of the natural and cultural heritage of the Camargue and the concern to protect and preserve it, while, on the other hand, it is necessary that information of this kind should be contributed, as far as possible, by the inhabitants of the Camargue themselves, by means of an exchange of ideas within the Camargue and, looking outwards, between the local inhabitants and their guests.

It has therefore been the idea of encouraging and developing this dialogue that has constituted the foundation stone of the programme for welcoming and entertaining the public in the Camargue Regional Wildlife Park, centred on three main facilities:

The Ginès Information Centre, designed to cater for a maximum number of visitors at Saintes-Maries-de-la-Mer, the chief tourist town in the Camargue, so as to inform them of the resources of the local environment and make them more aware of their fragile nature (permanent exhibition and audio-visual aids) and direct them towards a range of other facilities which could provide them with more detailed knowledge of the wildlife and cultural life of the Camargue.

The Park Lodge, at the Mas du Pont de Rousty, which constitutes the park's link with the local community. It provides facilities for meetings organized by the Park Foundation or by local associations, and is where local people can obtain all kinds of information on the life of their area.

The Camargue Museum, lying at the heart of this double input system, which has the mission of encouraging an exchange of ideas between visitors and the inhabitants of the Camargue.

The Board of Directors of the Foundation asked the project team responsible for the development and construction of the museum to avoid reproducing what had already been done in the existing museums (the Museon Arlaten[1] at Arles and the Baroncelli Museum[2] at Saintes-Maries-de-la-Mer) and to attempt to conceive it as a complement to these museums, without considering their collections as reservoirs that could be drawn upon indefinitely.

The Camargue Museum received the Council of Europe's 'European Museum of the Year Award' in 1979. – Ed.

1. The Museon Arlaten was founded in 1896 by Frédéric Mistral. It constitutes one of the most valuable collections of objects representing the popular crafts and traditions and iconography of Provence.

2. The Baroncelli Museum, also known as the Camargue Museum, was founded by the town council of Saintes-Maries-de-la-Mer. It mainly comprises a series of dioramas illustrating the natural environment of the Camargue and a set of objects evoking the memory of the Marquis de Baroncelli, who was a staunch defender of local traditions.

What mattered, therefore, was to create a genuinely original museum and to give considerable thought to what it was to represent. This was to constitute the first task undertaken by the Foundation's Commission for Cultural Affairs and Tourism, presided over by Jean-Maurice Rouquette, Curator of the Museums of Arles, assisted by myself.

A survey of the other Regional Wildlife Parks, especially those of Brittany and the Landes of Gascony, and also the Ecomusée du Mont-Lozère, indicated the appearance of a new type of museum, pioneered by Georges Henri Rivière, comprising a combination of the concepts of time and space, with time being illustrated by bringing together under one roof the whole spectrum of cultural fields in their various periods and the concept of space being created through a path with observation points.

At the request of the administrators of the park, this expert subsequently agreed to take part in each of the working sessions for the development of the museum and studied all the stages of the project, in its aspects of time and space.

The programme in time

The Camargue denotes the area of marshland and ponds that lies today between the sea and the two branches of the Rhône. Its formation is very recent and virtually coincided with the appearance of man in this part of France. From then on, natural and human history have been inextricably linked. Changes in the course of the Rhône, changes in the coastline and rises in sea level and the encroachment of the sea represent a whole series of events of considerable significance, both in the history of the Camargue and in that of its local people. It was through fighting against such natural phenomena and by adapting to them that the local people gradually moulded their surroundings and acquired their identity. Today, such is the value of human activities in the Camargue that it would be impossible to safeguard the area without them. This, naturally, constitutes the principle aim of the park.

Here, conveyed in a few words, is the idea that was to give birth to the museum programme. The initial version was divided up into three parts: Part 1, the environment—nature and wildlife, climate, biosphere; Part 2, the part played by man—antiquity, Middle Ages, reconquest, the seventeenth and eighteenth centuries, the nineteenth century, the present day; Part 3, the Camargue today—the weight of the past, hostile influences, future prospects.

Each of these parts corresponded to intellectual disciplines of which the field of inquiry was very narrowly defined: the first involved the natural sciences, the second was based on human history and the third belonged to the realm of the other human sciences.

It was felt, however, that this approach did not illustrate the close interdependence, at any one time, between natural and cultural factors, which, after all, was of paramount importance. The solution adopted was—after geological times—to integrate the natural environment into the cultural one, along the lines of a chronological approach.

The programme remained divided into three major parts, but these became: Part 1, the Camargue before 1850 (from geological times to the mid-nineteenth century); Part 2, the Camargue at the time of *Mireille*;[3] Part 3, the Camargue today and tomorrow.

Accordingly, each part of the programme, instead of being based on a particular science, involved a comparison and an interdisciplinary synthesis of various sciences such as geology, natural and human ecology, history, archaeology, ethnology, sociology, linguistics, and agronomy.

An Advisory Committee was set up, bringing together local scientific experts from all these disciplines. During the two years over which the programme was developed this committee met on only three occasions. Nevertheless, each of the members of the committee was consulted repeatedly, almost

3. *Mireille*, Frédéric Mistral's major work, relates the love affair between the daughter of a wealthy landowner and a modest basket-maker. This work was written and published in the 1850s, a period which coincided, in the Camargue, with the peak of the traditional era and the advent of the industrial age.

constantly, by the director of the programme. Each of the three plenary meetings was held for the purpose of reviewing the programme as a whole and comparing the opinions of the various experts. The only difficulties encountered were those involving the process of drafting texts which would be comprehensive, unequivocal and easily understood, and could be given the approval of the specialists concerned. These difficulties were overcome but not without some difficulty.

The combined efforts of the geologist, the specialist in prehistory and the archaeologist in particular gave rise to very extensive research on the formation of the Rhone delta and produced a presentation which, by form and content, is not only attractive and comprehensible for children but also constitutes a new basis for research by specialists. This work was considered of sufficient interest by the Commission for Cultural Affairs for it to decide to present the results at a symposium of geologists, archaeologists and historians, with a view to developing an interdisciplinary research plan on all aspects of the Rhone delta.

This temporal programme was initially outlined in a fifty-page document comprising a corpus of the major and subsidiary texts, classified in order of importance, together with explanatory notes. Although it was quite comprehensive, this document had nevertheless been drawn up by a small group of people. It had still to be presented to the local people, discussed with them, and supplemented if need be. They had yet to be encouraged to take part in the search for documents, first-hand accounts and objects which were to constitute the bulk of the presentations. Hence, a second phase in the project was undertaken in 1977, involving an ethnological salvage campaign,[4] conducted as follows.

An audio-visual montage, entitled *Lou Muséon Camarguen*, of which the script illustrated the main features of the programme, was used to explain the programme to the local population and to launch the debate which was considered desirable. Priority was given to schoolchildren in the Camargue, who were offered a series of activities aimed at encouraging them to take part in the collection of objects. The adults, in turn, were approached through private associations, clubs for the elderly, associations of cattle-breeders and farmers' and parents' associations, etc. Gradually, a network of relations was set up, information poured in, people were interviewed, objects were collected, together with all the background information which enhances their value (the Provençal name, purpose, manufacture, use, history, etc.).

A little over two hundred objects were found in this way, representing almost two-thirds of the number planned in the programme. They were mostly ethnographical objects, rare, almost extinct manifestations of traditional life in the Camargue.

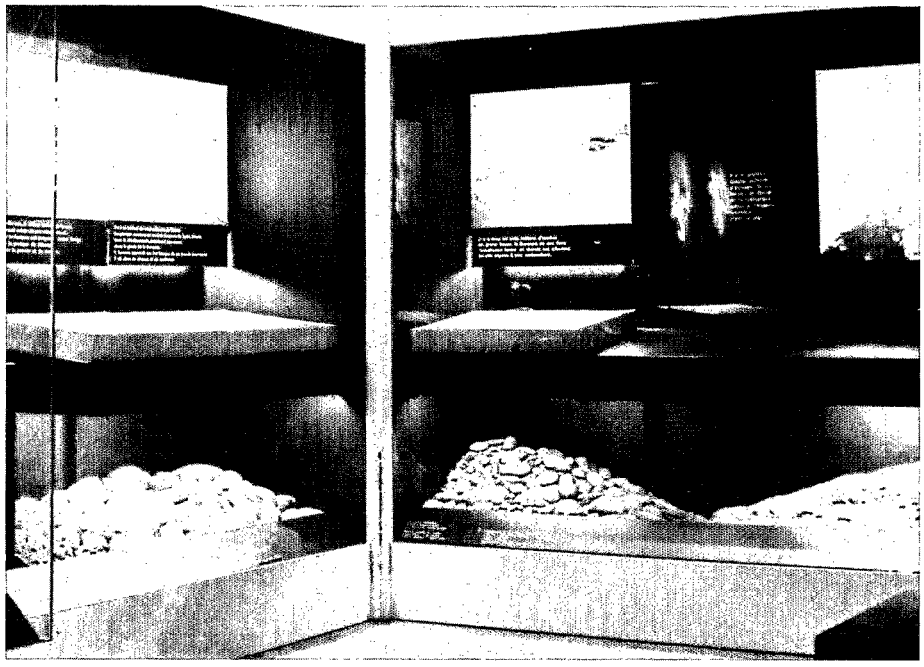
The park authorities promised the donors that these objects would be preserved by the museum in the Camargue and would, so to speak, be inalienable. The promise was kept, with the support of the higher spheres of government.

The programme was thus considerably enriched. Various anecdotes spring to mind, such as the search for wool shears which led to the discovery of an old sheep-shearer who, some forty years ago, used to practise his craft on the sheep in the fold which today houses the museum and who donated not only his shears but all his equipment. There was also the instance of the schoolchildren who found fragments of Roman tiles on a Gallo-Roman site. There were indeed many cases of this kind.

The museum had, in this way, acquired a soul, and had awakened a degree of awareness in the minds of the local people, investing them with a common possession—their heritage.

The programme finally comprised six main parts, which were to be the basis for a project. In fact, almost immediately, a constant dialogue was established between the author, as representative of the party conducting the work, and the architect in charge of the work, under the supervision of the park authorities and Jean-Maurice Rouquette, the official curator. These parts were as follows.

4. An ethnological approach on similar lines to the archaeological salvage campaigns which have been conducted for some time by research workers in this field, with the assistance of public authorities and private companies.



26

26
THE CAMARGUE MUSEUM, Arles.
Geological times are shown by means of three superimposed strata. From bottom to top: real mineralogical units from one period to another, three-dimensional diagram blocks, geological relief maps; all with accompanying explanatory textes.

27

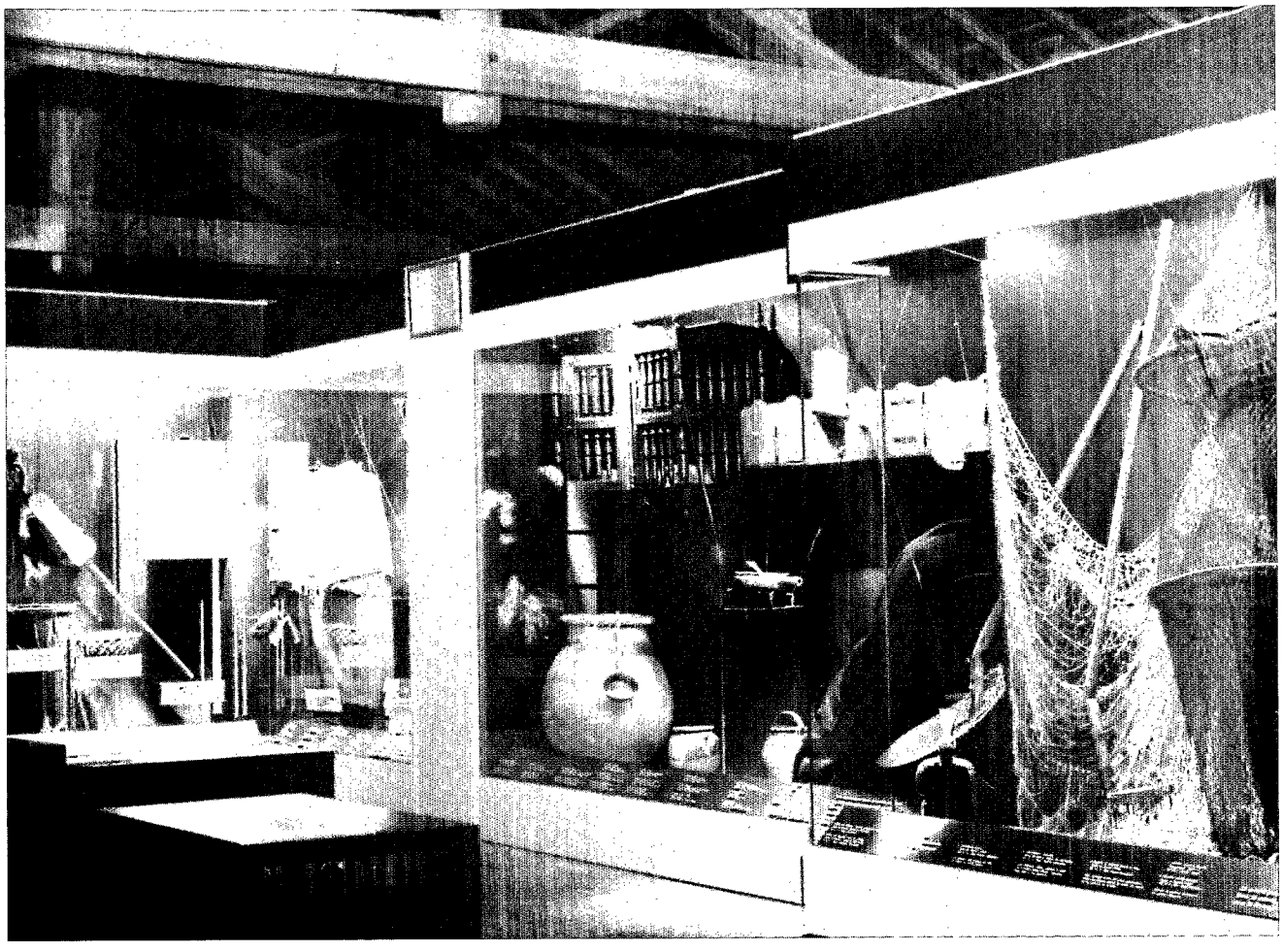
27
From left to right: Ligurian, Greek and Roman eras.

28
SAINTES-MARIES-DE-LA-MER. Model of the twelfth-century fortified church which, when a button is pressed, lights up the miraculous wells at the origin of the sancturary; the crypt where gypsies call upon Sainte Marie l'Egyptienne and the upper chapel where the ceremonial shrine is stored.

28

29 ▶
Ethnographical objects from the same era collected under the same conditions. From right to left: fishing, domestic life, the shepherd, major annual ceremonies.

30 ▶
Ethnographical objects dating from the 1850s, 'in the time of *Mireille*', which were collected mostly during the 1970s during an ethnological salvage campaign. From left to right: ecological groups, harvesting, ploughing.



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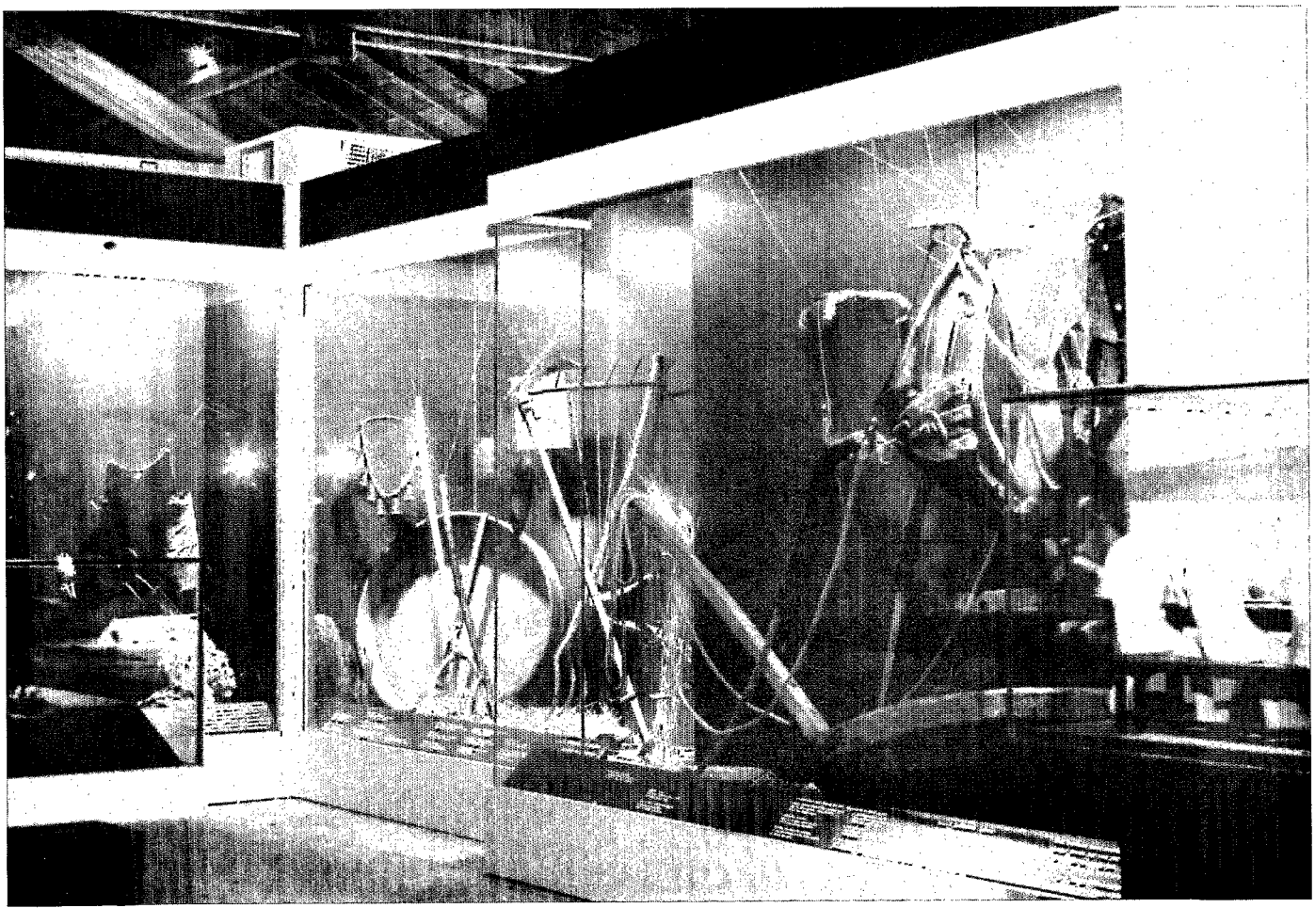

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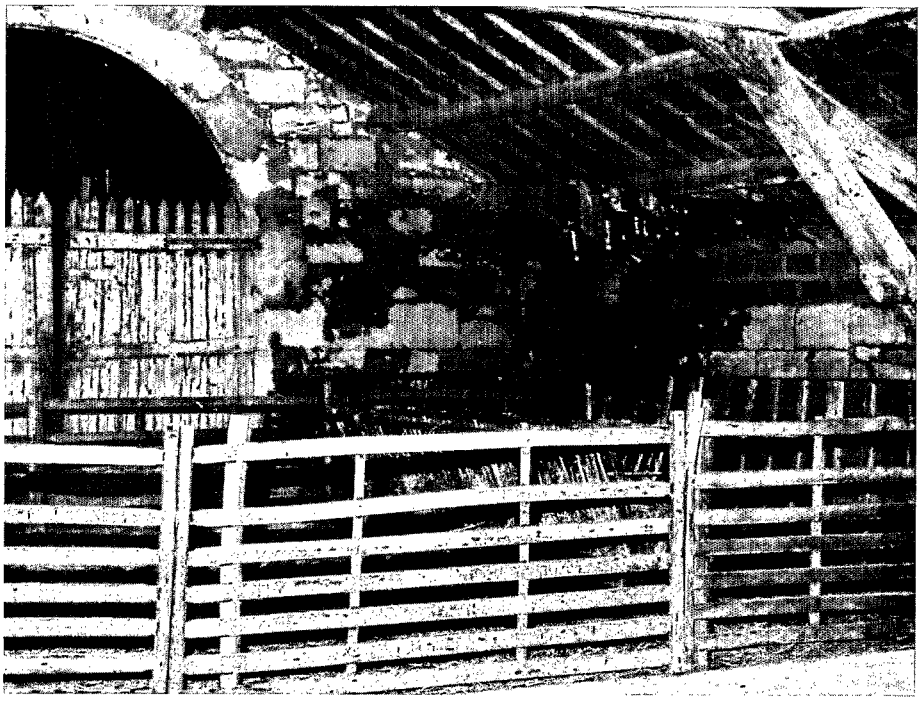


31
Southern end of the sheepfold, reconstructed as it was in 1957. An audio-visual unit enables visitors to listen to the voice of the shepherd who lived there at that time.

The Camargue in geological and prehistoric times

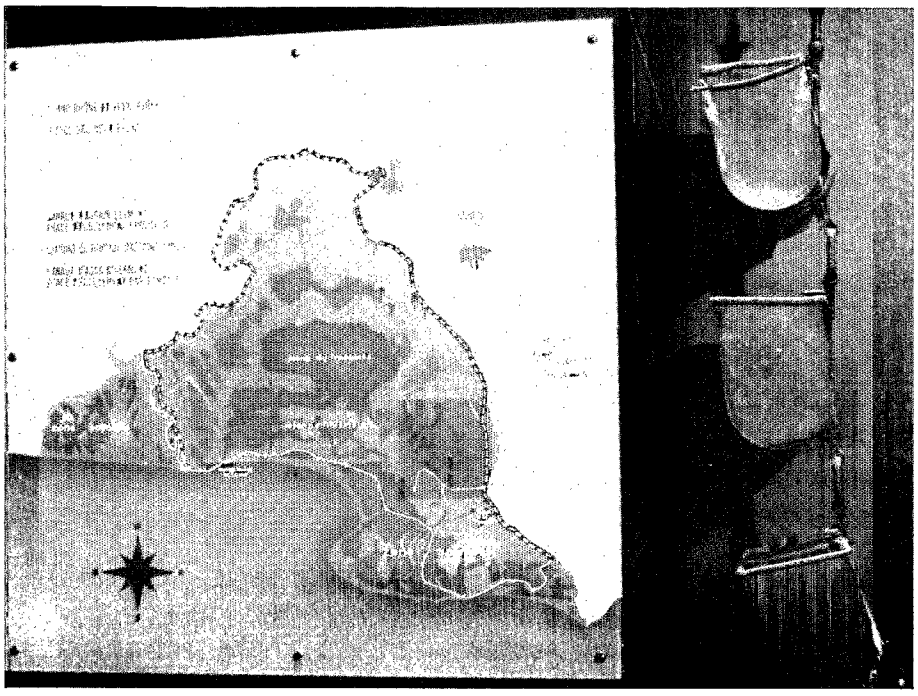
The formation of the Rhône delta is illustrated in seven phases, beginning 4 million years ago, at a time when the entire area of the Camargue was covered by the sea, and extending up to 3000 B.C., at a time when the area was starting to take shape and was already populated by man, and composed of the natural landscapes which exist today. The study comprises maps, three-dimensional diagram blocks and various objects of natural or cultural significance (Fig. *26*) together with a montage of photographic slides and an album of photographs.

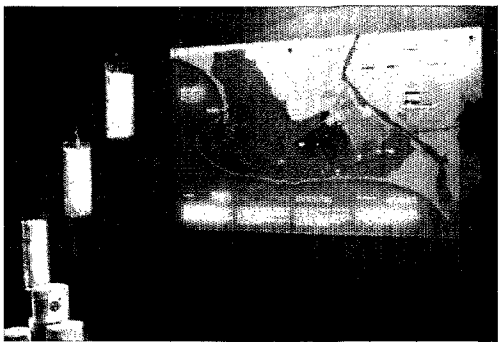
The Camargue in protohistoric and historical times

The diachronic presentation next includes an illustration of the Camargue under the successive influences of the Greeks and the Ligurians, the Romans (Fig. *27*), the invasions, the Middle Ages and the reconquest during the seventeenth and eighteenth centuries. A map indicates the location of the Rhône and the coastline during each period in comparison with their location today. Objects such as fragments of pottery, coins, carvings and engravings serve as milestones in interpreting this process. In instances where there is no representative object, or the object available cannot be considered sufficiently representative, other means are used. This is the particular case for the church of Saintes-Maries-de-la-Mer: the model displays, at a glance, the different sections (Fig. *28*), the miraculous well, the crypt and the upper chapel.

The Camargue in the time of Mireille

At this point, the study continues temporarily at a synchronic rather than diachronic level. The focal point here is the *mas*, the basic socio-economic unit in the Camargue, with illustrations of the social and land structures and the whole spectrum of local activities, as they were in 1850: wheat-growing, sheep-rearing, breeding of horses and bulls, fruit-picking, hunting, fishing, domestic life (Fig. *29*, *30*), and the major events in the local calendar. The basis of this presentation is, first and foremost, the object, placed in its usual context wherever possible; there are also scale models of the administrative centre of each *mas* and its surrounding area and a semi-abstract three-dimensional model of the typical domestic group. A montage of photographic slides,





32
From left to right: an illuminated working model of the mechanical system of irrigation and drainage of fields used since the end of the nineteenth century; parts of an old *noria* used to irrigate the fields up to the end of the nineteenth century.

33
Production of industrial salt. Left: different types of salt samples; right: illuminated working model of the production of industrial salt and its various uses in food, chemical industry, etc.

an album of photographs and an audio bank also contribute to reconstituting the life of those times.

The sheepfold of the Mas du Pont de Rousty in 1957

From the outset, it was agreed that a part of the sheepfold housing the museum would be preserved and restored to its original appearance. This particular part was, quite naturally, the southern end of the building, which includes the main door and the shepherd's quarters (Fig. *31*).

The entire internal layout of the museum was, in fact, conceived in terms of the restoration of this particular part of the building which was to provide an evocation of both traditional times and the industrial era. It affords a setting for an audio-visual ecological unit in which the commentary spoken by the shepherd who lived there in 1957 evokes a series of some ten events in a shepherd's life, one of the highlights of the visit to the Museum.

The Camargue during the industrial era

Illustrations are provided of each of the changes that occurred from the end of the nineteenth century onwards and which gave the Camargue the characteristics it has today: hydraulic projects, wine-growing, rice-growing, the industrial extraction of sea salt, wildlife reserves and tourism. The museographical means of presentation used are, once again, objects together with illuminated working models of hydraulic projects (Fig. *32*), salt extraction installations (Fig. *33*) and wildlife reserves. An album of photographs and a montage of photographic slides give an overall view of the Camargue today and tomorrow, as well as the objectives of the Regional Wildlife Park.

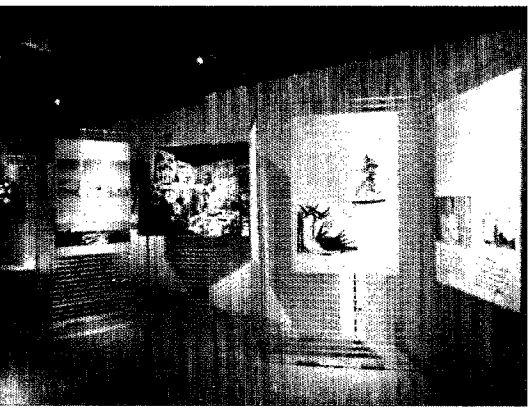
Programme of topical events

This last part of the Camargue Museum is composed of an area reserved for temporary exhibitions on subjects of topical interest.

The Museum and the Child in the Camargue was the theme of the first of these exhibitions, which was opened at the time of the official inauguration of the Museum on 23 June 1979[5] (Fig. *34*). Another exhibition will be held on the subject of the Camargue horses.

Events of this kind should therefore enable the museum to maintain an

5. The year 1979 was proclaimed International Year of the Child by the United Nations.



34
The museum's temporary exhibition, *The Museum and the Child in the Camargue.*

active interest in all aspects of life in the Camargue in the past and the present and to strengthen relations between the local inhabitants and the visitors to the area.

Programme and project

This set of presentations was the subject of a project based on the programme just outlined, under the responsibility of Robert Claude and André Marchetti, architects in Arles.

The actual location of the museum was decided on by the park authorities: the former sheepfold of the Mas du Pont de Rousty (Fig. *35*), disused as such, with the *mas* itself, since 1973, when they were bought by the park together with a part of the land of the *mas.*

This sheepfold is comparable in every way with other Camargue *mas* sheepfolds, as they appeared at the beginning of the nineteenth century. Despite considerable alterations undertaken during the latter years of its use, the building has remained a very typical example of rural architecture in the Camargue. This had to be taken into account when the building was converted into a museum. Nothing is irreversible in the museographical arrangements. It would be perfectly feasible to highlight the successive stages of the sheepfold, as displayed at one end of the building.

The architects were also faced with another constraint, namely the observance of the hygrothermic and optical standards defined by the International Committee of ICOM for Conservation. These require hygrothermic ambient conditions of 18–22° for a humidity rate of 55 per cent and approximately 100 lux for the optical environment, with a preparatory optical chamber.

There remained the task of making full use of the 600 square metres of surface area, in accordance with the planned programme. All the movable elements were designed in accordance with the *modulor* of Le Corbusier, along modern lines. Special studies were made for the restoration of the walls, timber-work and roof (Fig. *36*); provision of a central technical trench, ground drainage; installation of lighting and safety equipment against fire and theft; four types of display cabinet; sound and audio-visual equipment; provision of public conveniences and a car park for 100 vehicles; civil liability of visitors.

It is a closed circuit: the entrance and the exit doors give on to the former sorting pen of the sheepfold, which has been restored with due consideration for its ecological character.

Restoration work began in 1975 and was completed in 1979.

The programme in space

By choosing to install the Camargue Museum in the sheepfold of the Mas du Pont de Rousty, the Foundation of the Regional Wildlife Park placed it in the very heart of the Camargue and, more especially, within the confines of the *mas*, which is the socio-economic farming unit. The choice was all the more judicious in view of the fact that the Mas du Pont de Rousty is one of the most typical of the Camargue, through its history and by the nature of its buildings and land.

On purchasing it in 1973, the foundation re-ceded the arable land to a neighbouring farmer who continues to farm it. The foundation let out the uncultivated areas, composed of pasture and marshlands, to local livestock breeders. The Camargue Museum was therefore established in the heart of the living environment of which it evokes the history, in the immediate vicinity of the various landscapes usually found on local farms in the Camargue: wheatfields and rice-paddies, the *sansouires* or salt marshes where horses and bulls graze, the reed-beds and finally the marshlands, where the local people go hunting, fishing and fruit-picking. A variety of landscapes which made it possible to apply the model suggested by Georges Henri Rivière and whose discovery on foot became the logical complement to a visit to the Museum.

35

36

37

35
Entrance to the old sheepfold where the museum is housed, seen from the former sorting pen, which has been restored.

36
The timberwork of the old sheepfold is still visible. At different points, visitors can consult documentary albums.

37
One of the three children's workshops organized by the Camargue Museum, where children learn to recognize the objects displayed in the Museon Arlaten by looking at, touching and smelling objects in a 'treasure chest'.

A footpath, known as the 'scenic walk through the landscapes of a Camargue *mas*' was traced through the territory of the *mas*, spaced out as almost all of them are along the outline of an alluvial deposit from the waters of the Rhône. The path, which is three kilometres long and partly circular in layout, was used long before the museum was opened, by teachers and children from schools in the country around Arles. This preliminary experiment led, with the co-operation of the teachers and that of the Regional Centre for Educational Documentation, to the publication of a topographical guide with a commentary on the various stages of the route: the pumping station, the heart of the cultivated area of a *mas*, the old transhumant path that crosses it, the pasture, the reed-beds, the marshlands and the salt marshes are the main sites along the walk, each discreetly indicated by posts bearing only numerical cross-references to the topographical guide and the folder handed out at the beginning of the walk.

From the experimental to the definitive opening

Before its completion, the Camargue Museum was shown on 26 June 1978 to the members of the board of directors of the foundation and to all the various donors. It was opened to the public a few days later and welcomed some 8,000 visitors during the summer. Several hundred remarks, critical comments or suggestions inscribed in a visitors' book placed at the exit of the museum have made it possible to endeavour to correct, perfect or complete the museum's presentations on a sound basis. The museum was therefore officially inaugurated on 23 June 1979, Midsummer's Eve, in the presence of François Delmas, Secretary of State for the Environment, at a ceremony in which local Camargue herdsmen, folk groups and tambourine players took part. Although some of the presentations are not yet complete in every detail, the museum has nevertheless begun its work and has launched its activities in the local and

regional context. Two specific areas have been given priority: research and information work for research workers, and cultural action in the schools.

The development of the museum's programme and its execution have called for considerable work in scanning various studies and in synthesizing works and documents on the history of the Camargue, its geological formation, its ethnography and its socio-economic life. These documents, comprising some 8,000 photographs, over 500 works and some 50 phonograms, constitute the basic documentation, which it is hoped will be supplemented with books and periodicals of general interest, and which is now available for teachers, students and other research workers studying the Camargue, within the context of a field laboratory. This laboratory is composed of all the museum's departments grouped together in the main building of the *mas*: store-rooms for objects and documents, a processing workshop, documentation centre, a photographic laboratory, accommodation for four to six research workers or trainee research workers, and a meeting room. The park authorities sought very early on to establish ties with teachers in the region. The museum will, henceforth, be a valuable instrument, to be used in a series of activities proposed by a joint educational service for all of the Arles museums.

The Camargue Museum, the scenic walk and the Museon Arlaten are the basis for three workshops for children in which the themes of interest are housing traditions (Fig. *25*), sheep and fruit-picking.

The workshop activities are divided into three stages. The first takes place in the classroom, where the children are given the opportunity of looking at, touching and smelling all the objects to be found in a 'treasure chest' (Fig. *37*). Subsequent activities are conducted at the Camargue Museum and on the scenic walk, and finally at the Museon Arlaten.

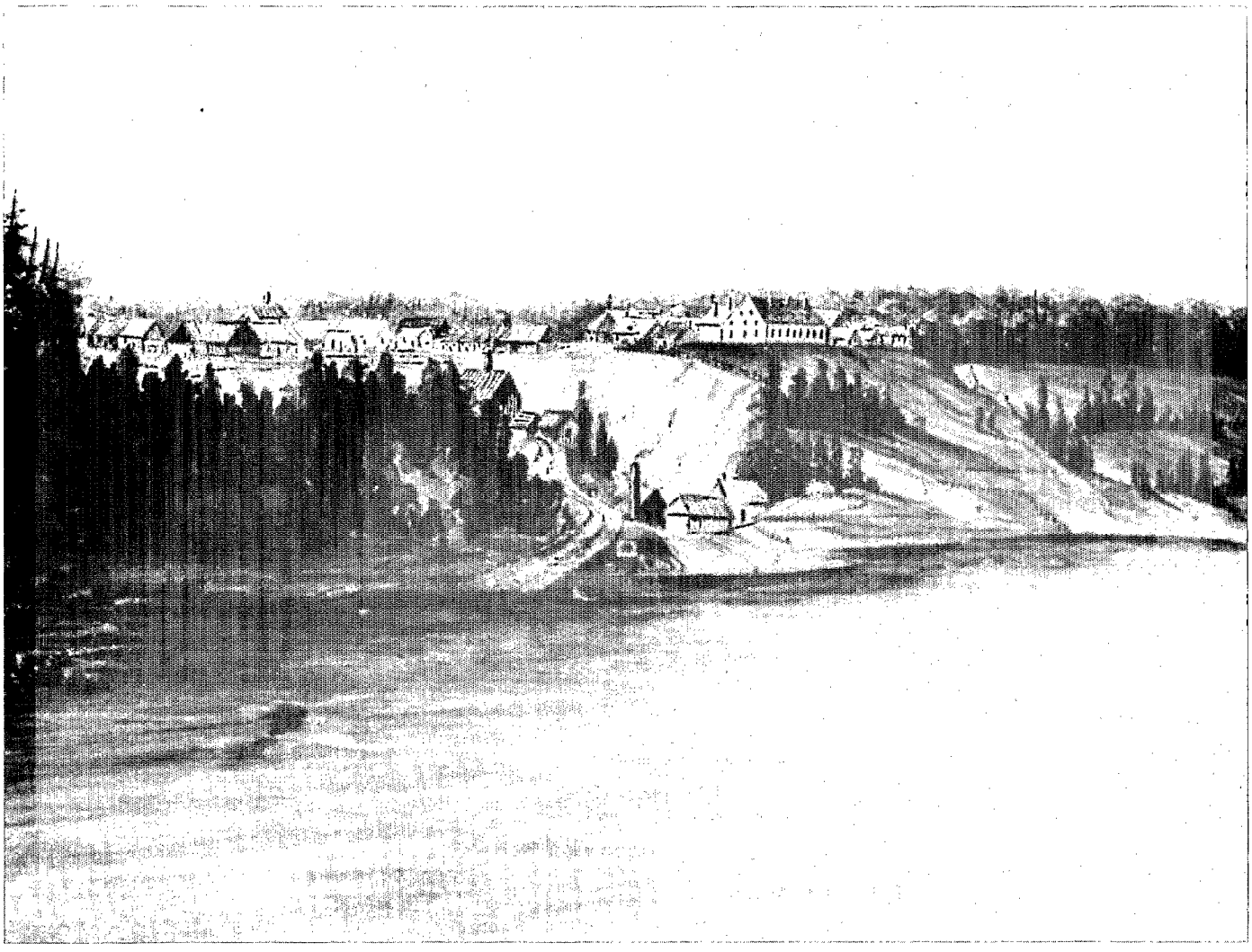
Various institutions have contributed to the execution of the programme and the project: the Ministry for the Environment, the Ministry of Agriculture, the Ministry for Cultural Affairs and Communication (Direction des Musées de France), the Fonds d'Intervention Culturelle and the Etablissement Public Régional Provence–Alpes–Côte d'Azur, not forgetting the foundation itself, which owns the estate and movable property of the museum.

However small it may be, the Camargue Museum meets the requirements of a modern approach to museums, at the service, above all, of the local population of the Camargue.

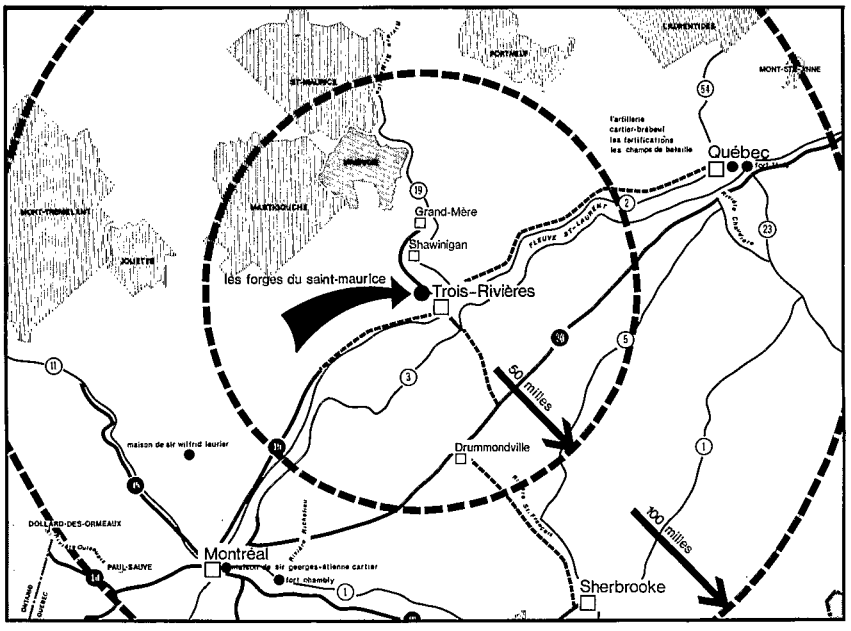
[*Translated from French*]

Les Forges du Saint-Maurice, Trois-Rivières, Quebec, Canada

Marcelle Girard Villemure



38
The iron-foundry towards the end of the eighteenth century. Woodlands suitable for producing charcoal. Stream whose flow was adequate for the power plant's needs. The Saint-Maurice River, an excellent means for transporting goods from Les Forges to Trois-Rivières.



39
LES FORGES DU SAINT-MAURICE, Trois-Rivières. Location map of Les Forges.

The historic National Park of Les Forges du Saint-Maurice is situated some ten kilometres to the north of Trois-Rivières. Most of the remains of the first industrial plant based on the exploitation of non-renewable resources are found on this forty-nine-hectare plot of land (Fig. *38*).

In 1919, the Commission for Historic Sites and Monuments of Canada recognized the national historical importance of the site. In 1959, in response to public pressure, the Commission recommended that studies be undertaken to evaluate the interpretation potential of the site and the possibility of restoring it.

Over the period 1966–72, the Ministry of Cultural Affairs of Quebec carried out archaeological excavations and restoration work. In 1973, a preliminary memorandum of agreement was signed transferring the site of Les Forges du Saint-Maurice to the Federal Government. The Canadian National Parks Service (Parks Canada) was made responsible for the preservation and commemoration of Les Forges du Saint-Maurice for the benefit of the Canadian people.

150 years of history

Les Forges du Saint-Maurice came into being in the eighteenth century as the result of tireless efforts made to discover and exploit the mineral wealth of the colony. Already at the beginning of the seventeenth century there was considerable interest in the various mineral resources of Nouvelle-France, but it was not until 1730 that Louis XV granted to Poulin de Francheville the right to exploit the iron-ore mines in the region of Trois-Rivières.

Instrumental in the choice of the site of Les Forges du Saint-Maurice was the existence of a natural environment conducive to the creation of an industrial area for the production of forged and cast iron. Within a radius of fifteen kilometres of Les Forges, there were marshlands with easily extractable deposits of iron ore, woodlands suitable for the production of charcoal, a limestone quarry capable of providing a fusion agent, and quarries of sandstone useful as a refractory. The presence of a stream whose flow was considered adequate for the plant's power needs was another positive factor. And the Saint-Maurice River provided an excellent means for transporting the production of Les Forges to Trois-Rivières (Fig. *39*).

The history of the working of Les Forges stretched over a period of more than 150 years (1729-1883), which saw a succession of different managements, directors, owners, tenants, ironmasters, foremen, skilled workers, artisans, clerks, apprentices, etc., along with their families; seasonal workers from the neighbouring region also lent a hand. Everyone participated in one way or

another, using the techniques customarily employed, in a diversified production process which was conditioned by economic and political requirements.

1729–36

The beginnings were not easy. Francheville and his associates did not have the knowledge to ensure the efficient operation of such an undertaking. Iron was produced by the direct reduction method, a simple and cheap process but not a very productive one. Francheville's workers managed to produce no more than a seven-to-nine-kilogram bar per day!

1736–93

A new company, subsidized by metropolitan France, set about rebuilding the enterprise and developing it on a larger scale. Technologically speaking, this represented a radical change. Now, indirect reduction was introduced, requiring the building of a blast furnace and two forges. An industrial village also came into existence, built around two poles: one administrative, the company office (*la grande maison*) and the other operational, the blast furnace. Between these two focal points there grew up the various sectors—living quarters, workshops, warehouses and service units—to form a harmonious whole.

1793–1845

During this period the appearance of the village underwent considerable change. Few of the buildings of earlier periods were retained, and the village took on an increasingly industrial character. Unlike the traditional village, which was a centre providing services for a region, the village of Les Forges was completely bound up with the production process. Few technological changes took place during this time (Fig. *40*).

1846–83

This was a new period of technological innovation. Kilns replaced stacks in the production of charcoal. New machinery was introduced such as the hot-air furnace, the air compressor and the turbine. The two forges now had separate functions: the upper forge (*forge haute*) was converted into a foundry equipped with two cupolas and the lower forge (*forge basse*) became an axe works. Les Forges de Saint-Maurice now produced only cast iron, and in 1881 a second blast furnace was built at the site of the upper forge.

On 10 March 1883, Les Forges du Saint-Maurice closed down. Among the various factors that led to the demise of this industry were increased production costs resulting from the remoteness of raw material supplies, obsolescence of production techniques and outside competition (Fig. *41*). After it was abandoned, the village of Les Forges was parcelled out and eventually made up a vast private property until in 1966 it became an archaeological site.

Research

Since 1973, concerted efforts have been made by specialists in various fields (history, archaeology, material culture, engineering, architecture, planning, interpretation), to assess the potential use of the site and decide on a concept for its presentation.

The historians listed and analysed all the written and pictorial evidence relating to the 150-year history of Canada's first iron works. Special studies were made of iron technology, craft techniques, industrial and domestic architecture, society, politics, oral traditions and history of the period, products, the natural environment and daily life.

The archaeologists in turn uncovered remains and artefacts of a large number of buildings, offering evidence of the life and activity of the industrial

community. Digs were carried out in all sectors: the stream, the industrial area, the residential and service sectors. Precise descriptions were made of all such excavations with the aid of diagrams, sketches and photographs (Fig. 42). Some fifteen video-montages were also made.

Subsequently, the researchers in the field of material culture made a systematic study of the artefacts found at the site. Analyses were also made of iron and cast-iron products, of pollen and macro-remains. The historians, archaeologists and researchers in the field of material culture were thus able to collate their data and, on the basis of their individual expertise, draw up a detailed, composite profile of the history of Les Forges du Saint-Maurice. Engineers and metallurgists of established reputation gave their opinion about the technology, hydraulic power, dams and machinery that had been used, and architects worked on plan reconstruction of the different buildings at Les Forges.

Once this basic research had been completed, some way had to be found of drawing the attention of the Canadian population to the importance and significance of this historic site. A team of opinion analysts then carried out two surveys of actual and potential visitors to the site of Les Forges du Saint-Maurice in an effort to ascertain their socio-economic characteristics, their interest in seeing the site developed and why they felt it necessary, with a view to identifying a target-population.

Interpretation programme

Interpretation

Interpretation of history is essentially a process of communication which seeks to explain and establish the significance of past phenomena or events that occurred in a given place, in the light of experience and with the help of objects and appropriate media.

Interpretation should be regarded not as the passive agent of transmission of simple historical facts, but rather as a dynamic instrument that prompts the visitor to experience, understand and ponder over the true meaning of a historic site and its evolution, and the repercussions of this evolution on the present and future of a region.

Objectives and approaches in the interpretation of Les Forges du Saint-Maurice

At Les Forges du Saint-Maurice, the object of the interpretation programme is to convey to visitors the 150 years of history of the former industrial village as seen through the prism of the multiple facets that make it up.

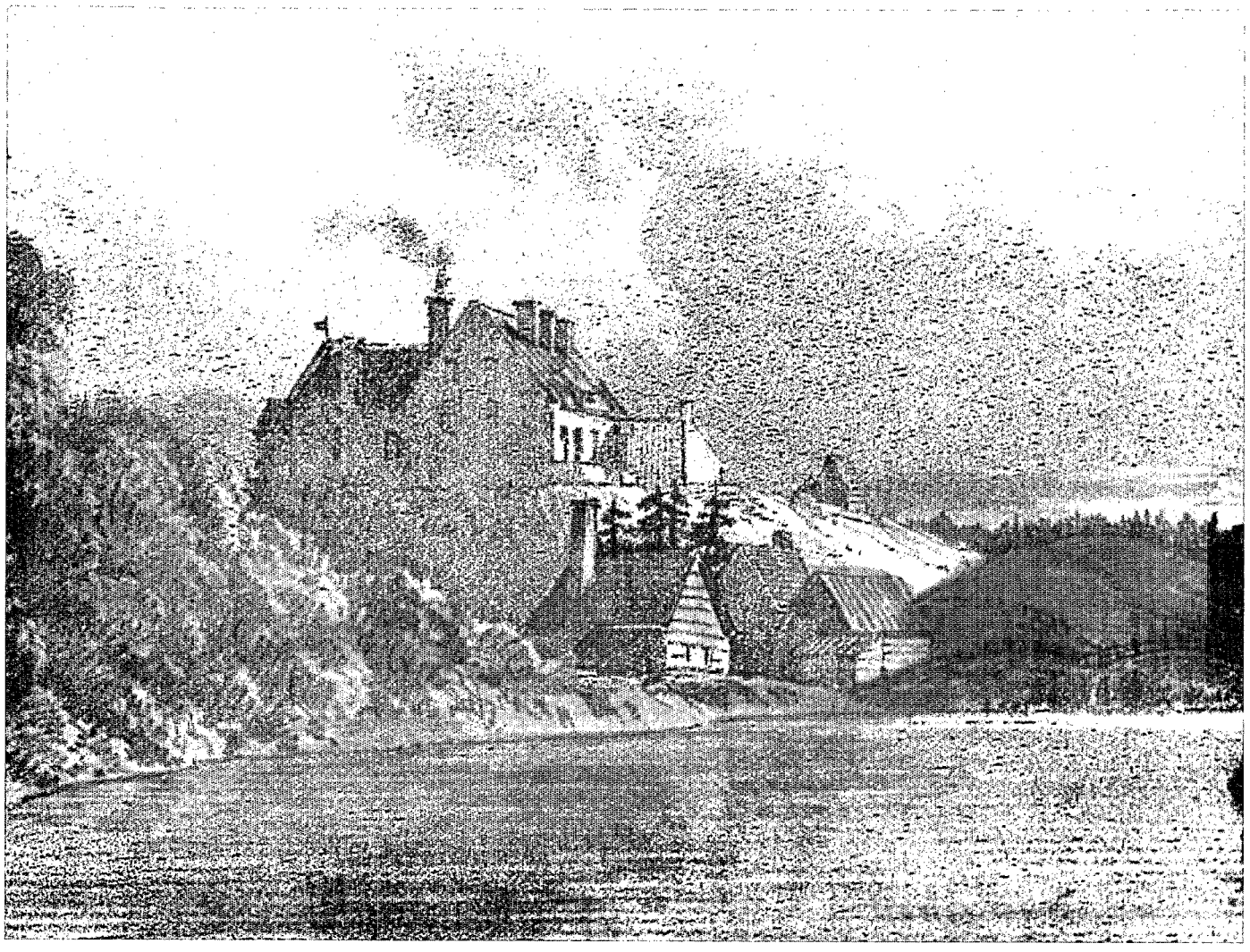
Although the park, by reason of its national character, will draw visitors from Canada and elsewhere, the interpretation programme will devote special attention to the local and regional population which is regarded as the 'target-clientele' of the park.

Within that context, the interpretation programme and related activities will endeavour to provide each category of visitors (school groups, families, adults, elderly persons, etc.) with differently focused elements of presentation, with the help of appropriate media, so as to respond to specifically identified interests and needs. Various approaches will also be used, which make a distinction between the varying levels of perception and understanding of visitors—intellectual, sensory or emotional.

Depending on the type of approach used and on the category of visitors, the interpretation programme will make possible the following:

It will enable schoolchildren to understand and make use of the site in such a way as to give reality to the living aspect of regional-history teaching and develop their faculty for discovering and interesting themselves in the traditional values of the surrounding community.

It will provide adults with information and insights as regards the historical



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41

40
The iron-foundry during the first half of the nineteenth century. Few of the earlier buildings were retained; the village was completely bound up with the production process.

41
The iron-foundry closed down in 1883. The village of Les Forges was parcelled out and eventually became part of a vast private property until 1966, when it became an archaeological site.

42
At the same time as historical research was being carried out, archaeologists uncovered remains and artefacts of a large number of buildings, offering evidence of the life and activity of the industrial community.

and contemporary achievements of this site, which is part of their heritage; it will enable them to verify their own knowledge and open up new vistas while encouraging them to act within their communities for the safeguarding of cultural values.

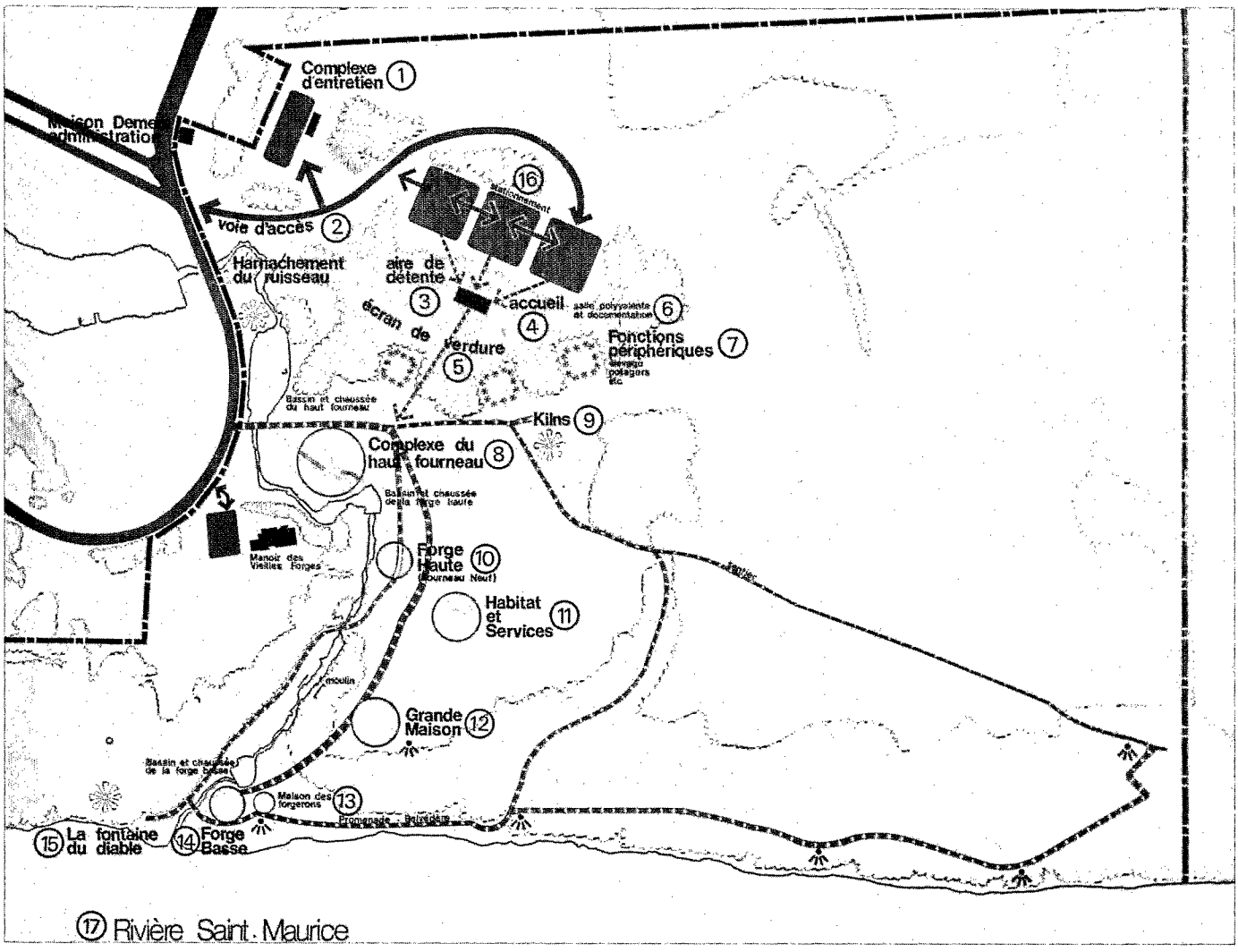
It will induce elderly persons to rediscover and enhance their knowledge of their heritage by stimulating their pride in their region, making them feel very much a part of the clientele of the site, encouraging them to take part in the efforts to give prominence to the cultural heritage and encouraging them to visit other sites of a similar nature.

It will put the family unit in touch with the heritage of the region, favouring thereby the exchange of ideas and experiences between parents and children while offering at the same time a place for leisure and relaxation.

In the other groups it will promote interest, integration and participation in the presentation of the regional heritage.

Themes and units of interpretation

The history of Les Forges du Saint-Maurice is comparatively complex and gives rise to a number of themes for interpretation, all related to a central theme: 'The establishment, organization and development of the industrial community of Les Forges du Saint-Maurice.' All the components of the history of Les Forges revolve around it (ecology, politics, economics, social life and technology). It was therefore decided to apply the thematic interpretation to the site as a whole and to link it directly to the remains and the original function of the buildings. Thus, several units will be fitted out to house the interpretation equipment (Fig. *43*).



43
Thematic interpretation of the site establishment, organization and development of the industrial community—linked directly to the remains and the original function of the buildings.

1. Maintenance premises; 2. Access route; 3. Rest area; 4. Reception; 5. Green belt; 6. All-purpose and documentation rooms; 7. Peripheral functions; 8. Blast furnace complex; 9. Kilns; 10. Upper Forge; 11. Living quarters and services; 12. 'Master's house'; 13. Blacksmiths' houses; 14. Lower Forge; 15. Devil's fountain; 16. Car park; 17. Saint Maurice River

The themes related to industry will be presented and interpreted in the following locations:

In the blacksmiths' house *(maison des forgerons)*, which is adjacent to the lower forge and dates back to the initial period of the working of Les Forges; the difficult conditions that prevailed at the outset, the domestic organization and the technology in use at that time will be treated.

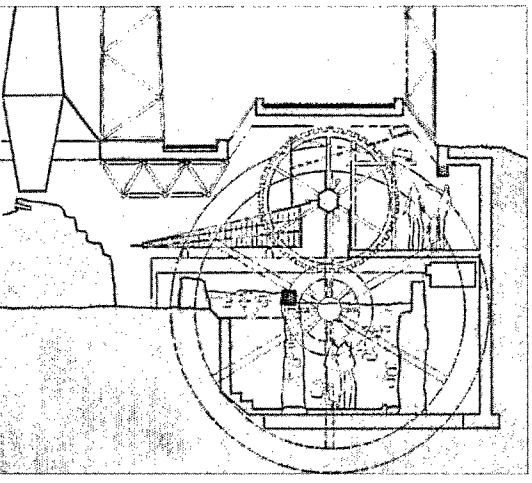
At the upper forge complex, divided into four sub-units of interpretation[1] (Fig. *44*): (a) the coalyards; (b) the blast furnace; (c) the casting shops; and (d) the caster's house.

At the lower forge, where iron production and ore-refining techniques will be interpreted.

At the upper forge new furnace complex, where visitors will be familiarized with the industrial development of Les Forges and the progressive changes in techniques.

The social and economic aspects of the village will be presented and interpreted at the company office, headquarters of the management; the functions of the building, its architecture, space arrangements will be rendered along with all aspects of the economic life of an industrial community; in the residential and services area, where questions concerning the social organization of the village, the family, the economy, education, religious practices, recreation, etc. will be presented. At the blacksmith's shop, which is part of the same complex, attention will be given to the role of the blacksmith at Les Forges, his duties, his living and working conditions, his contribution to the economic life of the village, etc.

1. Major emphasis will be placed on the beginning stages of the iron and steel industry at a time when technology was still feeling its way; the process of indirect reduction will be explained as well as the different steps in the production and transformation of cast iron.



44
Proposed diagram for the restoration of the blast-furnace machinery and the indirect reduction of iron ore.

The multi-purpose centre

Apart from the locations mentioned above, interpretation activities will be carried out at the multi-purpose centre situated at the entrance to the historic core of the park. The themes developed there will bear on the overall history of the industrial village, the circumstances in which it emerged, flourished and declined and its geographical setting. These themes will serve primarily as an introduction to the visit of the site.

The centre will also contain an all-purpose room where local people will be able to come together and engage in various group activities connected with instruction, teaching, socio-cultural matters (talks, projection of audio-visual documents, exhibitions, etc.).

Moreover, there will be a documentation centre where students, teachers and anyone else who is interested can consult the whole body of written, iconographical and audio-visual materials on Les Forges which have been collected over the years. The documentation centre will contain reference material and works on various aspects of the history of Les Forges du Saint-Maurice, on the history of the iron-and-steel industry in North America, on archaeological research and on different works and studies, which led to the development of the park. One room will offer an indoor *son et lumière* performance focused on an enormous scale model of the site, depicting the various facets of its development. It will be supplemented by slides and a running commentary.

The units of interpretation indoors will include the reconstruction of such elements as the stream with its dams and waterways and some pieces of industrial machinery. The natural features of the landscape of the industrial site will also be presented there.

Presentation options

The objectives pursued by the historic national park of Les Forges du Saint-Maurice may be described as follows: the preservation of the historic remains of the 150 years of activity of Les Forges and the historic features of the natural setting; the presentation of the site in such a way as to perpetuate the memory of Canada's first industrial village, the setting and the men involved in its 150 years of activity; the playing of an active role in stimulating the socio-cultural life of the region.

In the light of these objectives, a multidisciplinary working group explored three possibilities likely to lead to a final concept for the effective presentation of the park.

Option 1: an archaeological site

A simple and inexpensive presentation entailing the preservation and exhibition of the most significant remains; interpretation of the history of the site would have been done in an interpretation centre situated outside the historic core.

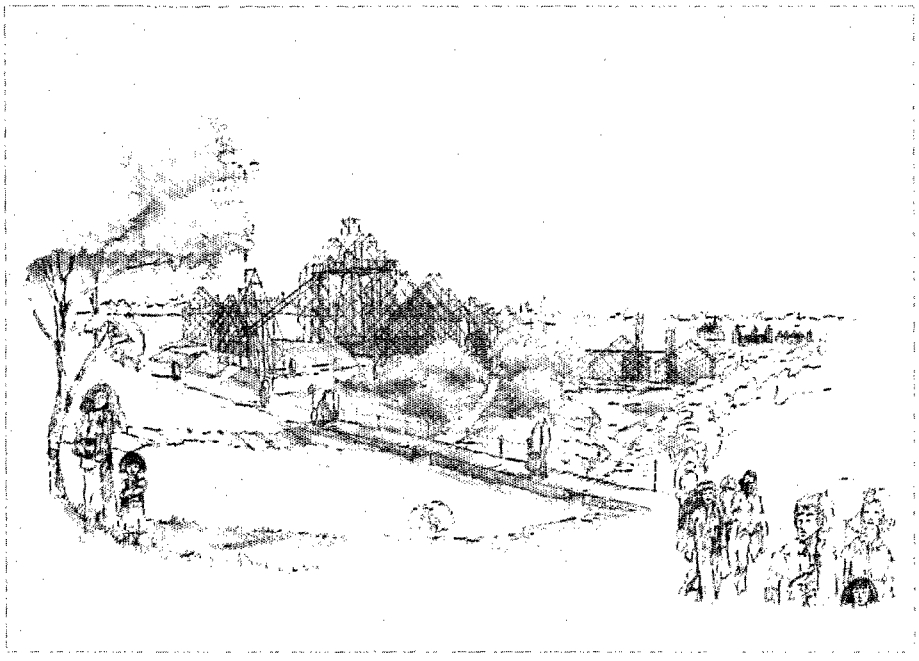
Option 2: restoration of the historical volumes

This choice implied stabilization of the most important remains and reconstruction of the original volumes, using contemporary techniques and materials; it involved freezing the site, as regards both its architecture and its interpretation, at a given period of its history.

Option 3: creation of expressive volumes

This choice also implied stabilization of the most important remains, with the addition of a distinctly contemporary volume suggestive of the original functions of the buildings above the remains. These volumes would cover the whole of the remains brought to light on the site of an old structure (Fig. 45).

Option 3 was chosen because it seemed to satisfy all the presentation objectives



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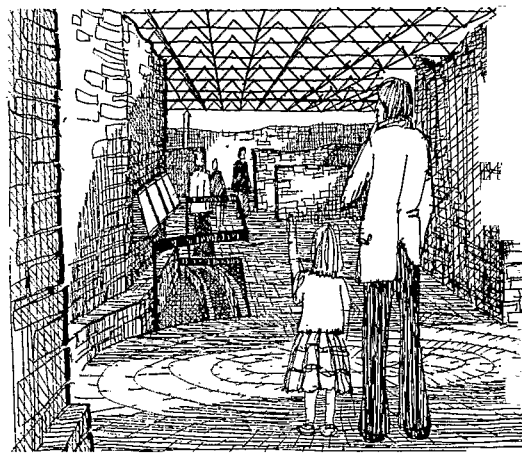


45 46

Proposed diagram, for the option finally chosen, of the most important remains with the addition of a distinctly contemporary volume suggestive of the original functions of the buildings.

46
Same option: proposed presentation which aims at familiarizing the population with a part of its heritage and providing research workers with an opportunity to use the information collected by historians and archaeologists.

and was best adapted to: (a) safeguarding and presenting the remains and the artefacts that had come to light; (b) conveying to the visitor a clear picture of the evolution of the industrial community in all its aspects; (c) familiarizing the population with a part of its heritage in the form in which it had been discovered by the researchers; and (d) providing research workers with an opportunity to make maximum use of the information gathered by historians and archaeologists (Fig. 46).

Public reaction

Before going ahead with the plans for the new layout of Les Forges du Saint-Maurice, Parks Canada considered it advisable to consult the local and regional population about the presentation options. This effort to stimulate public awareness aroused keen interest among groups involved in the presentation of the cultural heritage and resulted in varying reactions. By and large, the groups were satisfied with the concept that had been proposed, but there were some who suggested to Parks Canada that at least one building in the residential area, more particularly the Company Office, should be reconstructed.

Accordingly, in the months ahead, the project team for Les Forges du Saint-Maurice will have to explore various approaches that can meet the demands of the community and yet be consonant with the architectural harmony of the site, approaches consistent with the objectives of the park and in conformity with the principles of presentation recognized by international bodies.

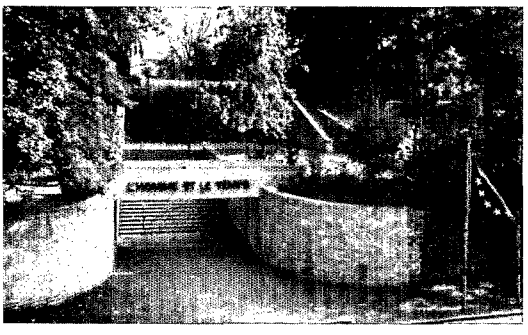
Conclusion

The whole undertaking represents an enormous challenge. It is no easy matter to attempt, on an abandoned and desolate site, without monuments or actors, to bring to life for the visitors a once flourishing industrial community. Optimum use will have to be made of the remains, in juxtaposition with the architecture and the media of the present day. We are conscious that there is nothing spectacular about the remains, but they are testimony to a way of life and technology of a bygone age. As such they are fundamental to the interpretation of the history of Les Forges du Saint-Maurice, for the feelings they will conjure up in the visitor and for the insight they provide into our knowledge of the subject. And though the visitor will be expected to exert his imagination to the full, he should be given a sufficient number of clues to help him understand the past and establish links with the life he leads today.

[Translated from French]

The International Clockmaking Museum at La Chaux-de-Fonds, Switzerland

Pierre Imhof



47
THE INTERNATIONAL CLOCKMAKING MUSEUM, La Chaux-de-Fonds.
The main entrance to the underground museum is wide and spacious, with a gently sloping pavement, which continues a little way inside the doors; so does the garden wall of Jurassic limestone.

The International Clockmaking Museum is centred on one theme, and at the same time typically interdisciplinary, the intention of those who set up the museum being to show how the combined action of several branches of science are essential for the measurement of time.

Before we cross the threshold of this underground museum (Fig. 47), a modern Ali Baba's cave, filled with a thousand and one treasures fashioned by the watchmaker craftsmen, we are met by a serious looking figure, the bronze bust of the late Maurice Favre. This tireless collector knew these craftsmen so well, with their desire to create something beautiful, a masterpiece, their love of their craft, their spirit of self-sacrifice and their perseverance. Alongside this fine figure of the 'master watch-case maker' who used chased gold and silver for his fob-watch cases, we can read the following lines, which speak at once for the interdisciplinary vocation of this museum: 'Founded on 24 March 1902, this museum tells the story of clockmaking as a science, a technique and an art, and man's wonderful adventure in quest of methods to measure time.'

The different disciplines

The measurement of time is the measurement of frequency. Man began by measuring the length of day and night; then, the changing length of the shadow cast on the ground by the shepherd's staff. After that, the clepsydra or water-clock was discovered and this enabled us to calculate the hours; it was followed by the hourglass with which we could count the minues. Then came the spiral-balance which measured the second, followed by the quartz crystal resonator which calculated the milliseconds and, finally, man succeeded in counting down to the ten-millionth part of a second when the cyclic period of the caesium atom was discovered.

In the beginning, the stars regulated man's time; today, man measures the time of the stars. However, the same basic disciplines, from the outset, enabled man by his prodigious discoveries to develop the different methods of measuring time: *mathematics* and *physics*. On every milestone in the history of clockmaking is written a great name from the history of the sciences: Ptolemy, Galileo, Huygens, Curie and Einstein. Mathematics and physics gave birth to mechanics and electricity. Other famous names are linked with the improvement of mechanisms for fractioning time: Archimedes, Copernicus, Leonardo da Vinci, Tycho Brahé, Newton, Harrison, Thomas Mudge, Ferdinand Berthoud, Abraham Louis Breguet, Charles E. Guillaume and Max Hetzel.

The discovery of the basic principles of mechanics led to the birth of the timepiece which showed and, finally, rang the time in hours. At first, these

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As a general rule, there is no guided tour round the museum. At different points during the visit, visitors find three audio-visual programmes lasting six, eight and ten minutes respectively, which can be seen from all over the museum. Here, an audio-visual programme transmitted on four screens traces the history of clockmaking.

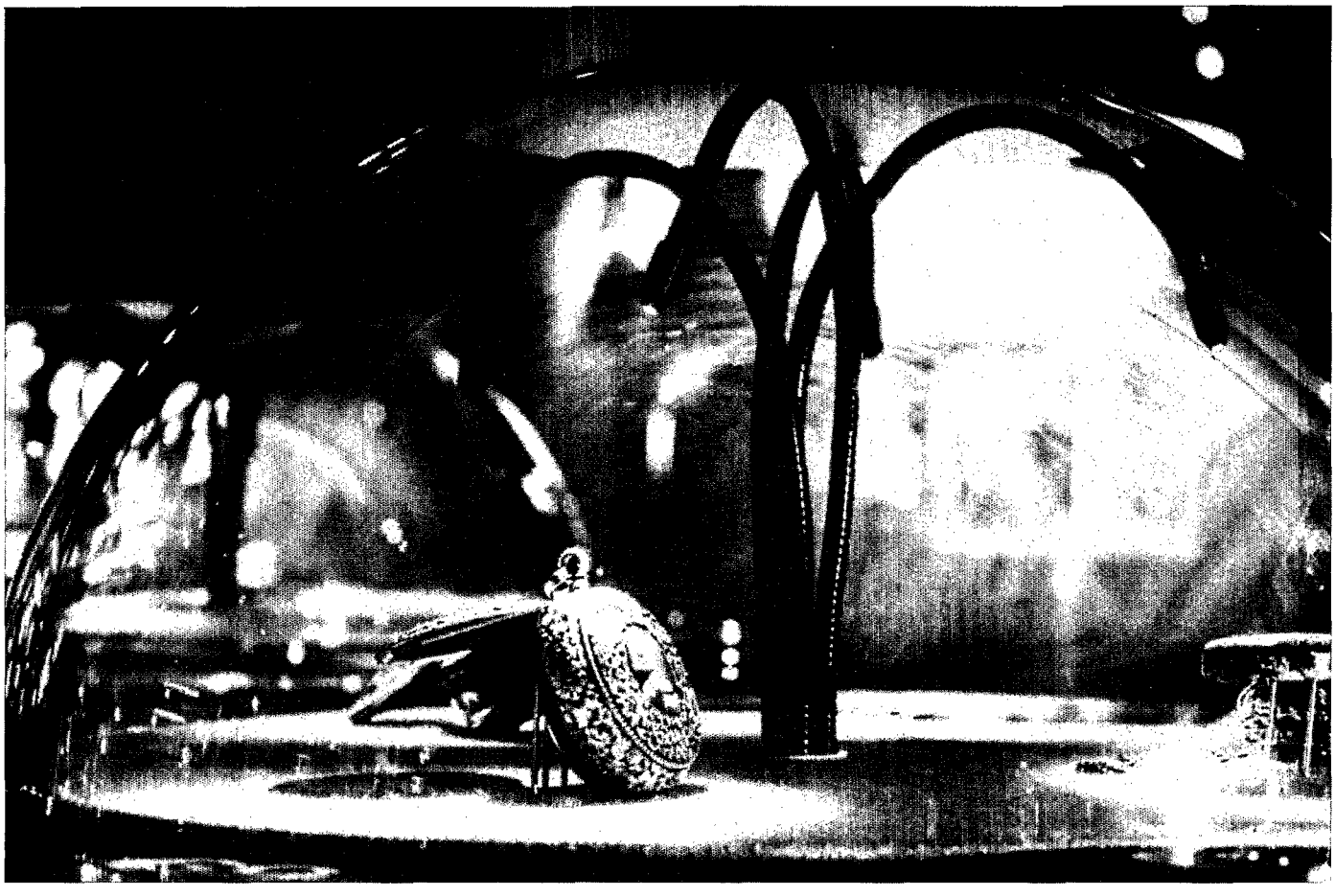
were only in public use—gnomons, sundials and clock-towers. Man, the eternal individualist, had, however, to have his own personal timepiece, his water-clock, his hourglass, his table clock, his wall clock, his carriage clock, his pocket-watch, the pendant-style watch for his lady, his self-winding wristwatch and, finally, his quartz-crystal watch which shows the figures of the time with crystal fluid.

It was very important to fit these timepieces with cases. At first this was done by architects in ancient Egypt, Athens, Rome and Stonehenge. These 'clockmakers' forged their uncomplicated clocks out of iron. Then the craftsmen specializing in the applied arts joined with the craftsmen specializing in mechanics and with the clockmakers in Italy, France, Germany, Switzerland, England, and wherever the art of clockmaking flourished, and new professions sprang up as a result. Mathematics and physics joined forces with the applied arts. So we arrive at the stage of interdisciplinarity and this leads to a new human occupation, which develops into a passionately interesting vocation. This is what the museum wishes to demonstrate.

Man

The exhibition area is geared to show man working at his craft and the impressive number of trades needed to invent and execute the masterpieces on display. Clockmaking was a much-sought-after lucrative occupation, and very important from a socio-economic point of view. Individual clockmakers made way for the clockmaking industry. In addition to clockmakers we must remember the makers of chronometers who created ship's clocks which became more and more precise, resulting in greater safety for shipping and, consequentley, the expansion of overseas trade.

The great clockmakers of the eighteenth and nineteenth centuries travelled, selling their merchandise, and opening small workshops in other countries and in the main capital cities. In this way, they created new occupations, offered



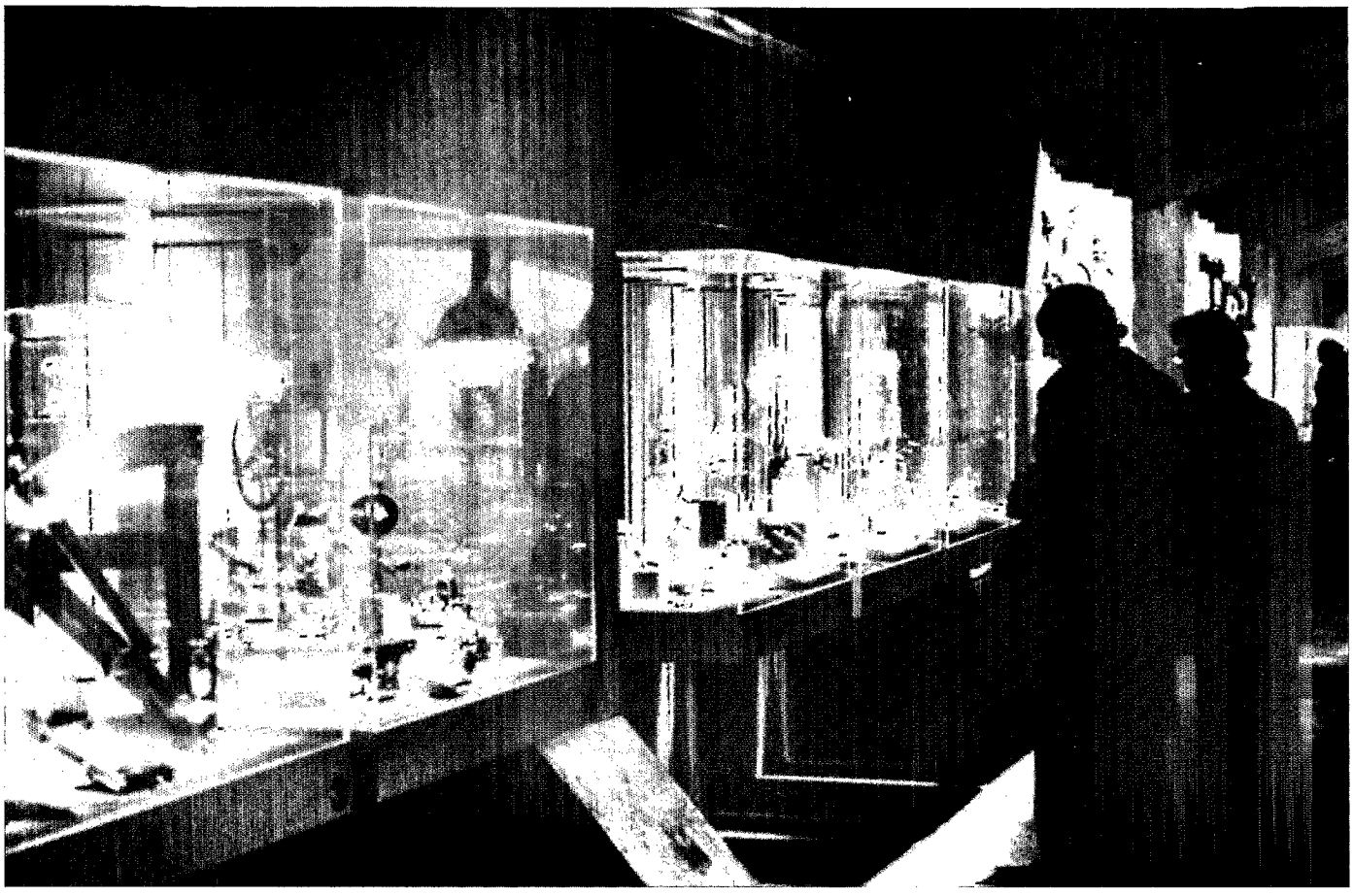
49
A semi-circular showcase, lit by special flexible tubular optical glass which does not generate heat harmful to sensitive items with delicate colours.

employment opportunities and created new industries. Clockmakers were involved in the rise of the working classes, they set up trade unions and contributed to the growth of industry. Schools were founded to train clockmakers and they were awarded professional and scientific diplomas. The period of clockmaking as a craft was followed by the modern era: after the skilled worker came the microtechnic engineer. Having made the regulating hairspring with his own hands, the watchmaker is now turning his attention to the logic of microprocessors. Yesterday, he studied and experienced the passage of time, today, he programmes it, orders it and then lets the machine take over.

The manufacture of fragile mechanisms necessitated the combination of the smelter's skill and the physicist's knowledge, for the making of new alloys; recourse was had to the swaging specialist, the screw-cutting machine operator, the springmaker, the gem-stone cutter and the pivot-maker. It was necessary to have the skilled hand and practised eye of the general watchmaker, the regulator and the case-fitter. The engraver was essential when it came to decorating the movements and the cases, and the chaser for the bronze work on the pendulums. The enameller practised his art in this field for four centuries, reproducing scenes from famous paintings on the dials and case interiors. He was replaced by the jeweller and the watch-case maker. Varnishes and lacquers were invented by the painter, who decorated wooden clocks and sometimes chased them with tortoise-shell inlaid with metal. The smelter might also be called in to chase a masterpiece with bronze.

Today's clockmaker has become an expert in micromechanics while the regulator is an electronics expert. The *ébauches* or unfinished movement, works, dial, hands and watch-case are now all machine-made on transfer machines. In the case of the quartz-crystal watch, a computer designs the closed circuit, the laboratory assistant vacuum-packs the quartz in its capsule, and skilled female workers solder the minute gold wires on the silicon inset connections.

Yesterday's craftsman created his own watches, fashioned them with his own hands. He had his own customers or was his own door-to-door salesman. He was his own master. The multinational company of 'tomorrow' assembles



50
Cube-shaped showcases along the walls contain collections arranged according to themes and categories.

Japanese quartz-crystal watches whose *ébauches* are made in Switzerland, dials in China, cases in Mauritius and electronic components in the United States of America, using a local work-force recruited as required.

The timepieces of the past or the present are the result of the combined skills of all these specialists. The multiplicity of skills involved arouses the visitor's admiration as he walks round the museum discovering the world of clockmaking. One feels that the museum also has a special vocation.

Time

The museum acquired more than 3,000 items between 1902 and 1974, but only a small number of them was on public display. The idea of the authorities was to preserve the heritage of the industry in a region whose livelihood depends almost entirely on clockmaking.

Following the building and equipping of *Man and Time*, it was decided to display the collections in two groupings: the old and the new. The section dealing with former times traces the history of clockmaking as a handicraft by displaying masterpieces by master clockmakers from every country, from ancient times down to the nineteenth century. Ultra-modern flower-shaped showcases (Fig. *48*) are used to exhibit these treasures. The visitor can walk about as he pleases, or take the suggested route. In the wall showcases (Fig. *49*) the specialist will find objects grouped according to different themes.

The section dealing with modern times takes the visitor on a technological voyage behind the clock face. Each step in the manufacture of the twentieth-century watch is shown separately (Fig. *50*), enabling the visitor to discover the role of each part and the skills of the technicians and workers who made it. Each trade is represented: workshop, tools, manufacturing process and finished product ready to go on sale. The visitor can sit down comfortably at the table-style showcases (Fig. *51*) and study the recent past and the future of clockmaking.

51
The section on modern times is divided into the eight stages in the manufacture of a watch, with explanatory texts and photographs displayed on big vertical panels.

Restoration

A specialized centre (Fig. *53*) looks after the preservation and restoration of the museum's collections. Here the skilled craftsmen work away, in the heart of the exhibition area, in view of all the visitors. Private collectors can have their clocks and watches restored here, as there is a special customer-service which enables the centre to be financially independent. Moreover, qualified graduates from watchmaking schools all over the world can take a four-semester course here which trains them to become restoration technicans. Respect for the craftsmanship of the period, the style of the watch and, if necessary, its history, is the principle of all the restoration work carried out here. Watches and clocks restored at the centre bear a stamp with the museum's intials.

The museum's scientific role

As the museum also sets out to be a dynamic force in the study and promotion of watchmaking, it was necessary to include a collection of relevant books and documents, available for public consultation. The documentation centre contains more than 1,400 books and 2,000 documents, all on the subject of timepieces or related disciplines. Rare as well as modern works are to be found. Teachers and students consult them on the spot. There is a reading-room for visitors, with a documentalist at hand to advise them if they so wish. University students work here as paid trainees.

Tests and examinations are carried out on all recent acquisitions and clocks and watches taken in for repair and restoration; this has resulted in the building up of an important collection of photographs, slides and tapes. The curator and a team of specialists value and give expert advice on clocks and watches.

As already mentioned, the measurement of time is the measurement of frequency and, consequently, the exhibition area includes a special 'astronomy' gallery, where the visitor will find the scientific instruments used to determine the exact time. He can follow the development of all the different techniques from the transit instrument (Fig. *54*) to the atomic clock. From this gallery is reached the 'belfry', from where there is a sweeping panoramic view round the museum, looking down on the 'chimes', a monumental work of art which tells the time to the hour, minute and second, in a modern audio-visual way (Fig. *55*). This stainless-steel sculpture is at present being constructed in the park above the underground museum and demonstrates in a lively way the museum's scientific role.

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A table-style display case in the modern-times section.

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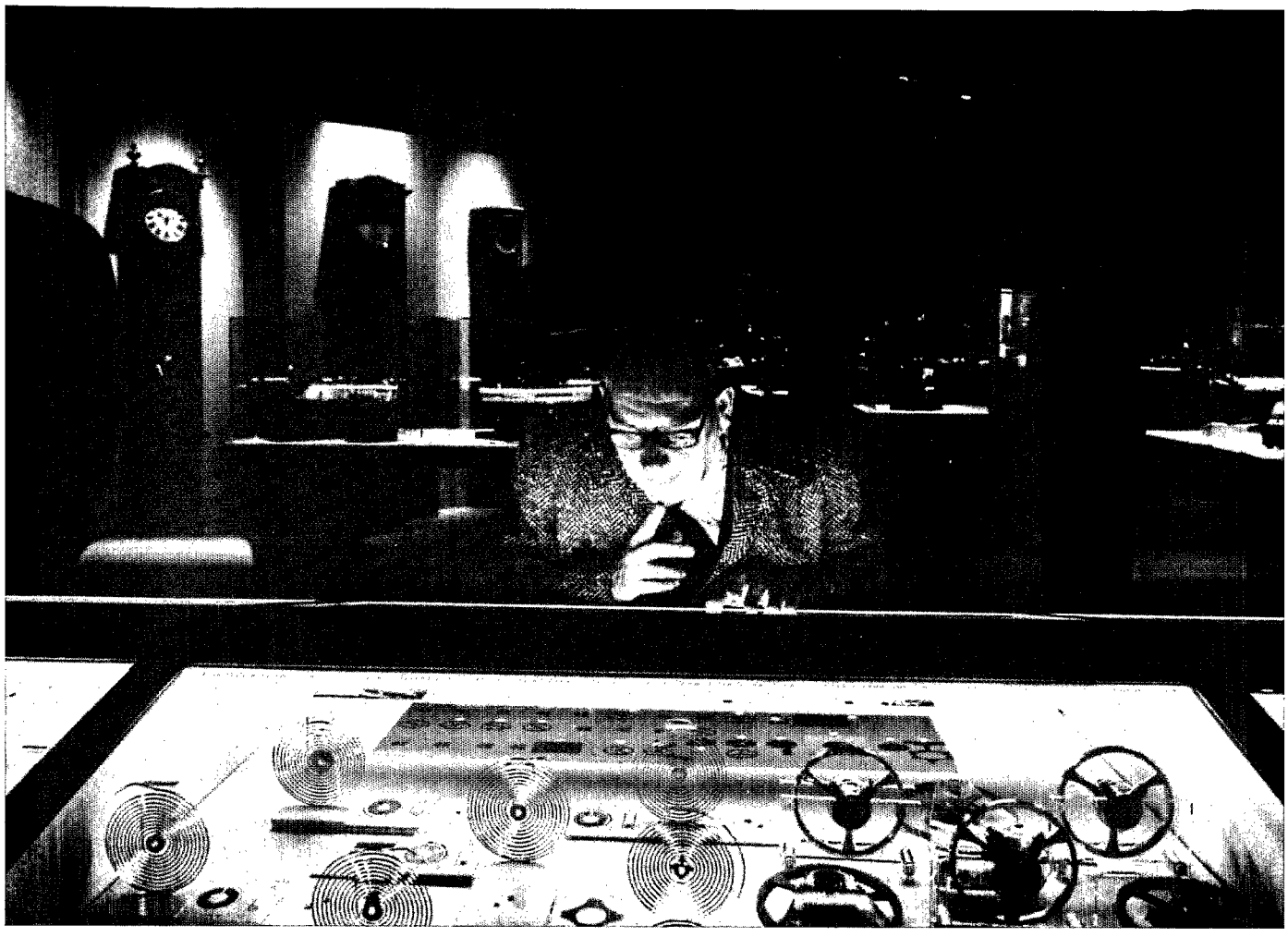
Craftsmen working in the restoration centre in full view of visitors.



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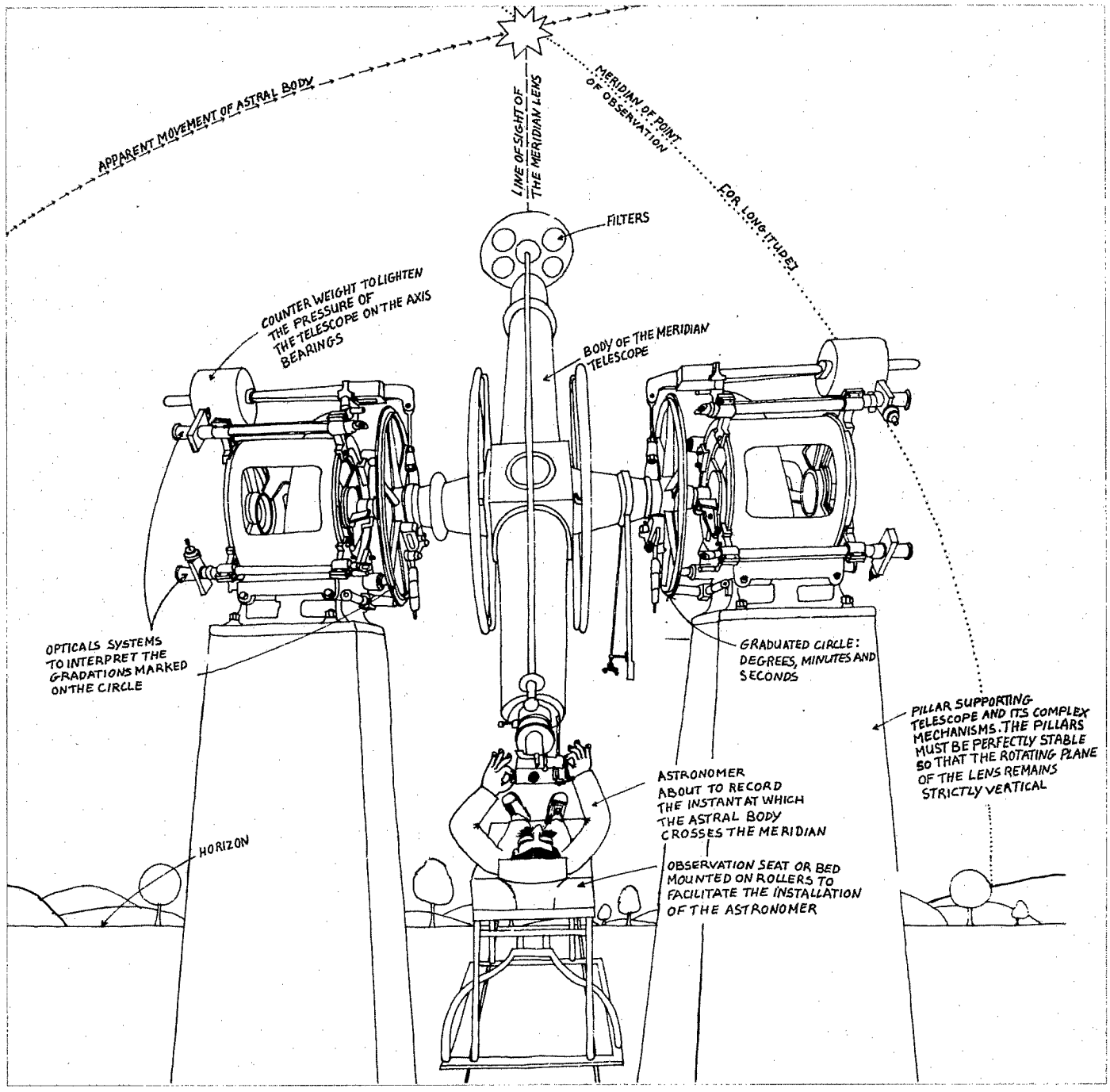

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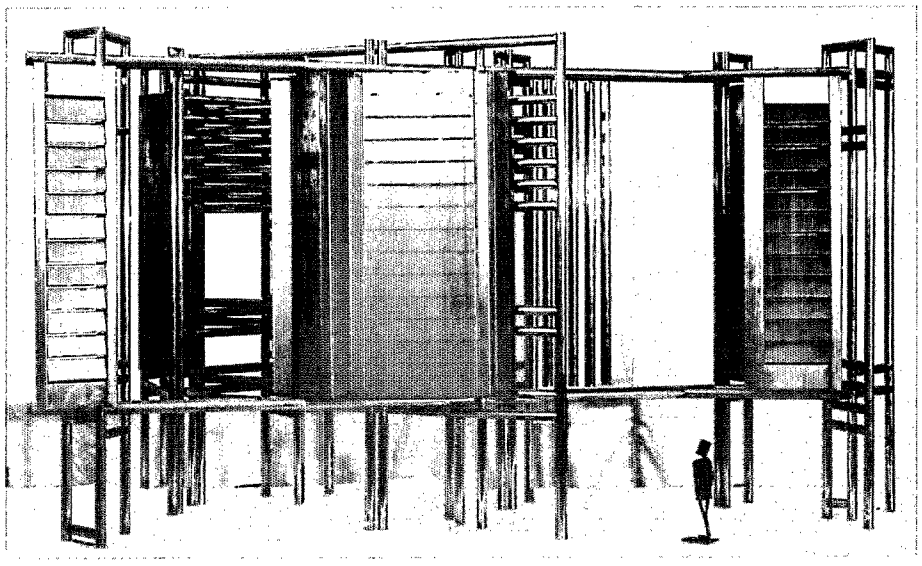
A humorous drawing explains how to use the transit instrument.

55
The electronic chime; a gift from the Swiss Confederation made it possible to erect this monumental work of art, measuring six metres high by fifteen metres wide, in the park above the underground museum. A variety of audio-visual means has been used to express, by electronic impulses, either the march of time or the times of the most famous chimes in the world. A traditional keyboard will be fitted which will allow bellringers to practise their art. This modernistic symbol of the clockmaking industry was created by the sculptor Orelio Vignando, assisted by Serge Tcheridyne and Mario Galloppins. The photo is of the small-scale model.



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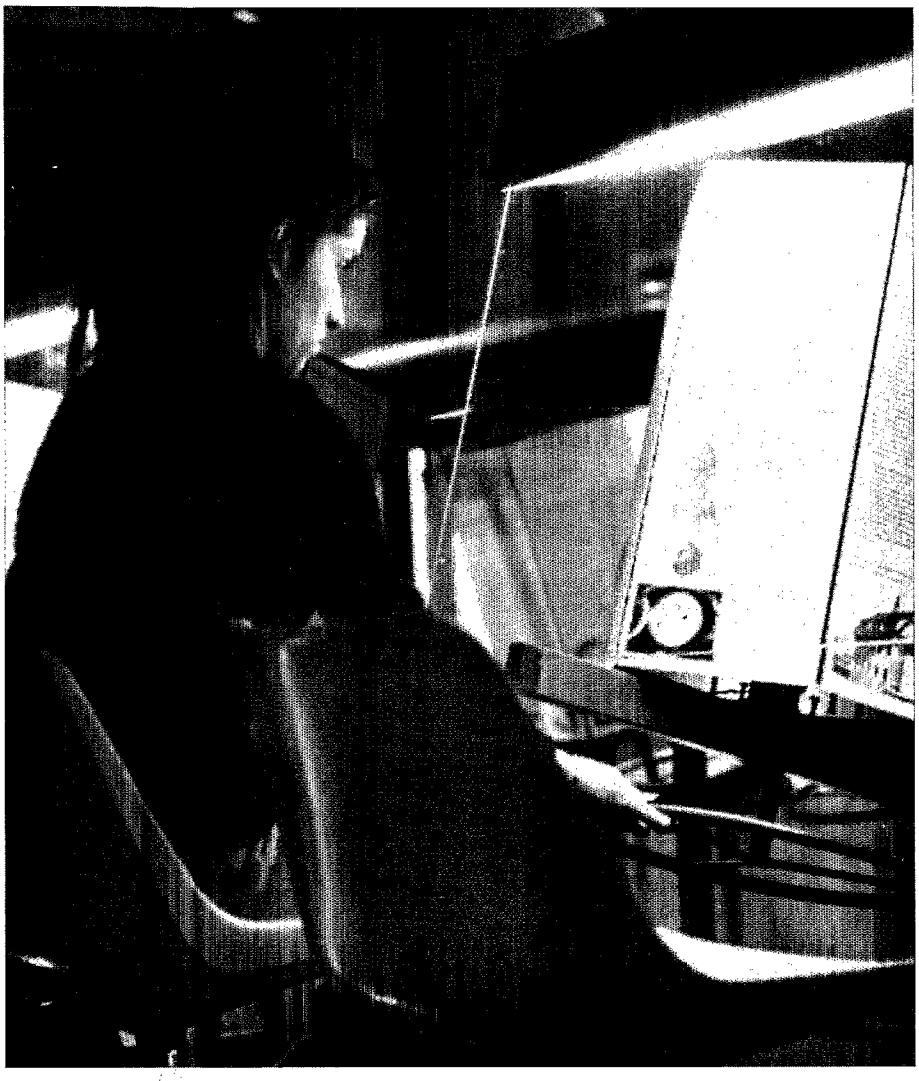

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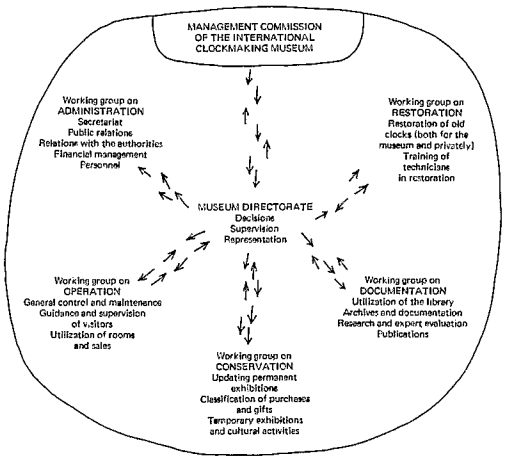
Hexagonal revolving lecterns make available a quantity of textes and illustrations, which can be read like a book.

57
The 'trench' with its quiz game and electronic scoreboard is reserved for children. A group of schoolchildren are using the quiz game.



58
The management commission's organization chart. The organization, administration and running of the museum are based on the principle that members of the commission and the staff are involved in management responsibilities.

Educational and cultural role

To make visiting the museum more interesting and to arouse the visitor's curiosity, the architects and museologists have introduced several innovations which enable the visitor to be his own guide in this Ali Baba's cave, to enrich his knowledge and to enjoy himself at the same time.

Let us now look at the main cultural and educational attractions on the recommended visiting route. In the reception area, the planisphere, a great mosaic of coloured glass, shows the time at all the different points on the world's standard time-belt. On entering the section dealing with former times, instead of a guide, a huge audio-visual display on two screens with a six-minute programme traces the history of the measurement of time, in French, English or German. Having absorbed its special atmosphere, the visitor comes to another great audio-visual display, four screens with an eight-minute programme on the technical and artistic evolution of clockmaking as a handicraft. The screens are placed two metres above the ground and, together with the spherical and cylindrical showcases, can be seen from all angles.

As he continues, the visitor passes in front of the restoration centre where craftsmen are working in full view of the public. Before arriving at the section on modern times, he goes through the information and rest area. By means of sixteen hexagonal revolving lecterns (Fig. *56*), numerous texts and illustrations of all kinds are made available. The visitor can read them sitting down and turn over the pages, like a book; he can also relax in an easy chair and browse through watchmaking periodicals and magazines. Supplementary information on professional training and the microtechnic side of the watchmaking industry can be found in four showcases.

Now we arrive at the 'trench' (Fig. *57*) which is reserved for school groups and where up to fifteen children together can take part in a quiz, with an electronic score-board to add to the excitement.

The section dealing with modern times contains a third audio-visual display using eight screens. The ten-minute programme shows the visitors, who sit either on the floor or on seats, how the modern clockwork-driven or electronic watch is manufactured. They can then understand the more specialized information presented in the table-showcases. Visitors can test the speed of their reflexes calculating them down to a hundredth part of a second and discover their own performance. The visitor may end his visit in the multi-purpose room where fifteen- to twenty-minute documentary films on art or science are shown. This room is decorated with large frescos by Hans Erni, tracing the general history, techniques and philosophy of the measurement of time.

This same room is used also for temporary exhibitions on clockmaking, admission being free, as well as cultural lectures on subjects other than clockmaking, since the reception area and the multi-purpose room are at the disposal of the whole community. Looking out from this room there is a view of the whole museum. Thus, the museum has now become a dynamic educational force for the whole upper Jura region, the area on the French side and that around Neuchâtel and Berne, where most people are engaged in the microtechnic industry or in clockmaking.

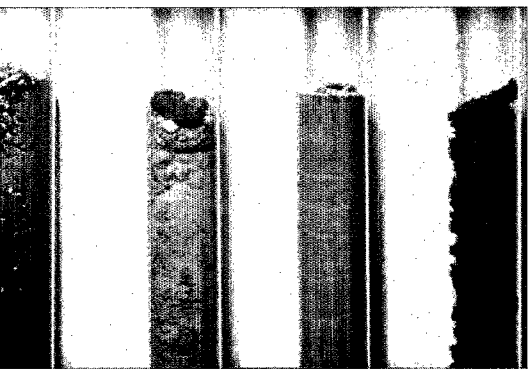
The museum as an institution

The museum was founded by, and is the property of, the town of La Chaux-de-Fonds. The municipal council appoints a management commission with a four-year mandate (Fig. *58*) and nominates its president. Members of the commission and the staff are involved in management responsibilities: this is the basis for the organization, administration and running of the museum. The setting up of a Board of Directors and five working groups means that all categories of staff can participate in the running of the museum, and all the specialists from the different disciplines who are needed can be incorporated in the active life of the establishment. Members of the commission and the working groups work on a volontary basis.

The Helsinki City Museum, Finland

Jarno Juhani Peltonen

59
THE HELSINKI CITY MUSEUM, Helsinki.
Model depicting Helsinki in the 1870s.



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Extracts from different soil formations in the Helsinki area.

The aim of the present article is to describe how the Helsinki City Museum depicts local history. The tasks and roles of local museums must be kept in mind here. In addition to recording the cultural and general history of a locality with objects and pictures, local museums must in fact document both the townscape and the natural landscape of the entire area, including, for example, buildings. This task is indeed the duty of local museums, for it would be difficult to link it on the same scale to the functions of other museums.

This idea, which in a certain sense is still new, was actually the primary motive in starting museum activities in Helsinki seventy years ago. An architect was in charge of museum activities at the outset, and there were also architects on the first museum board. Photographing the changing townscape and preserving parts of buildings destined for demolition have in fact continued without interruption for seven decades. As a result of these efforts, the picture archives of the museum today contain a large number of photographs, paintings, building plans, and maps. There is also a special section for fragments of demolished buildings.

The Helsinki City Museum attempts to carry out this policy in its basic display, thereby taking the physical townscape into account. The exhibition premises are by no means sufficient, but the museum must live for the future. Hopefully, the construction of a new museum building will solve the space problem.

A large aerial photograph encompassing the greater Helsinki area serves as an effective introduction to the exhibition as a whole (Fig. *59*). The next theme of the exhibition is the area's geological formations (Fig. *60*). Following a display of a prehistorical settlement (Fig. *61*), the exhibition depicts the construction of the city from its founding in 1550 up to he beginning of the twentieth century. The exhibition attempts to show the link between the past and the present wherever possible. For example the soil samples on display—stones, minerals, etc.—are presented alongside photographs of work now in progress on the Helsinki City Metro (Fig. *62*). Objects for the prehistorical display were chosen from among those found recently during construction work in the suburbs. Photographs of these excavations are also on display.

It is not easy to depict the architectural history of a city like Helsinki in an exhibition. First of all, the town was founded rather late, and at one time its site was moved. In fact, the town was of no national significance until 1812, when it became the capital, although work on a large fortress of considerable national importance was begun on islands off the town in 1748. Up to the end of the nineteenth century almost all the buildings were of wood. Fires, attacks, and subsequent construction works destroyed the older buildings at the beginning of the nineteenth century. Almost nothing remains of them. It has been necessary to resort to the few existing maps, pictorial material and excavated objects for this section of the exhibition. Adequate material first appears with the period of rapid building in the first half of the nineteenth century. Perhaps the highlight of this part of the exhibition is the model depicting Helsinki in the 1870s (Figs. *59*, *63*), which represents an important stage in the building of the town. This model is possibly the most popular 'object' in the museum. It is planned to supplement older sections with such models.

A great deal of pictorial material—graphics, aquarelles, maps, etc.—illustrates the construction of the town up to the 1910s. Pictures with town motifs did not become widespread in Finland until the first half of the nineteenth century, while photographs were used to document the townscape almost as soon as photography itself became available.

The small-scale basic exhibition becomes a cultural and historical display of objects at this point. The most recent decades—up to the end of the 1960s—are depicted with various kinds of situation pictures. It is interesting to observe how pictures of the very recent past affect visitors in a quite emotional way.

The present exhibition premises of the Helsinki City Museum are limited. The museum has therefore also sought to hold exhibitions elsewhere. The

61
Archaeological excavations in Helsinki.

62
Recent construction of an underground railway and extracts rom the rock basement in the city area.

museum's plans include the construction of a separate building, enlarging the Tuomarinkylö branch museum, use of a new civil-defence shelter for audio-visual programmes and activities and the completion of a small-scale open-air museum project (Fig. *64*). Efforts to preserve and record evidences of the past will continue as before: some will be displayed in permanent or temporary exhibitions as the museum develops, others will be preserved in storerooms and available for research purposes.

As the above indicates, the museum will continue to create a record of the

town's buildings and architectural history; it considers this to be its main function. Models will play a very great role in the future. The museum has already begun a systematic programme to this end and work is in progress on a model of a seventy-year-old section of the town now being razed. Wherever possible, fragments of buildings are preserved. The museum has even managed to save a few wooden buildings from the 1820s and 1830s. Two of these remain on their original site, where they will be opened as museums when their renovation has been completed. Land is being acquired on which three others will be re-erected. Other open-air museum plans are not considered necessary for the time being, for the city has a good opportunity of preserving a sufficient number of more recent buildings in their original function through official building protection measures; in this way it is hoped to create 'living museums'.

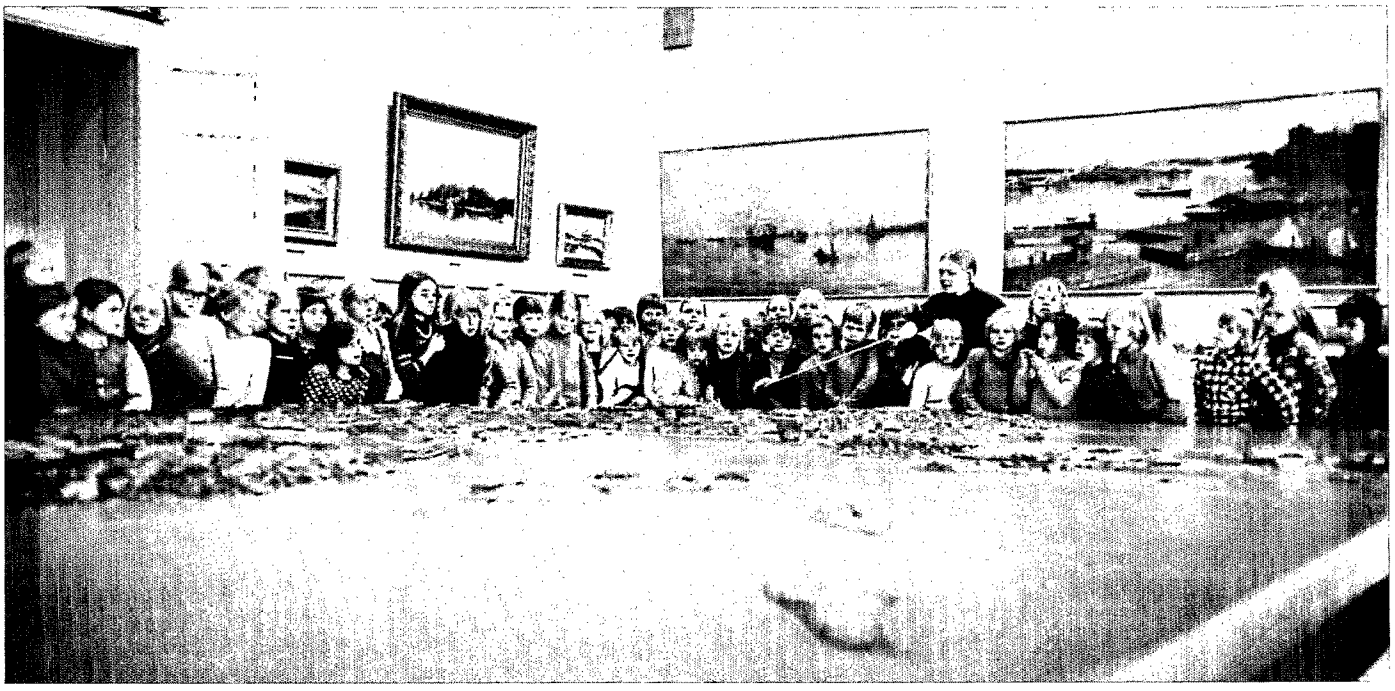
The new museum building will feature architectural history. If it is erected on the proposed site in the vicinity of the present building, it will afford an exceptionally broad view of the old quarters of the town. In this way an exhibition of phases in the construction of the town could be linked organically with the living townscape.

The museum will act as a data bank. Its task will be to collect and preserve various data, not merely objects and photographs. Ideally, the visitor would benefit from the varied collections as much as possible, and the data would be readily available. New rooms would include records collections, collections of photographs and other illustrated materials, libraries, and premises for a wide variety of creative activity.

The Helsinki City Museum's goal has been to unite the exhibition with the events of today. The natural function of a local museum will be expanded; the Helsinki Museum will be developed into an information centre on municipal activities, and on activities carried out by various institutions in the town. The City Planning Bureau and the Metro Office already have their own premises for exhibitions which are an extension of the museum's exhibition. The museum could provide assembly rooms for local associations. It could very well be the site of an exhibition produced by another capital city. Helsinki has a lively exchange of exhibitions with other capitals. Paris, Prague, Oslo, Moscow, and others have recently presented building, restoration, and the life and special features of their inhabitants to Helsinki residents.

Local museums could also project their activities outside perhaps more than any other museum. After all, part of the museum's material lies outside its walls. Various public premises would be involved here. In addition to schools and adult education centres, exhibitions could be held in parks, Metro stations, department stores, etc. The task of the museum is also to arrange guided tours to interesting sites and town areas having specific architectural styles. Activities of this kind have been started by the Helsinki City Museum, though on a limited scale. Responsibility for this sector should be that of the local museum, but for the time being economic resources are restricted even as far as planning is concerned.

The Helsinki City Museum tries to serve city residents in as many ways as possible. It supplies background information to residents who were not born here. The museum attempts to make their town a more pleasant place to live in, helping them to find their place in its history and to share in its past and present. Another function of a local museum is to project changes in the physical environment to the visitor. The museum must assume all these tasks if it is to achieve its objectives.



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63
Schoolchildren visit the museum. The model of Helsinki in the 1870s.

64
A wooden house (Kristianinkatu 12) which it is planned to make part of the open-air museum.

The Departmental History Museum, Pernik, Bulgaria

Alexandre Valtchev

The Departmental History Museum of Pernik is typical of Bulgarian history museums; it shows the historical development of the region from ancient times to the present day. It is a model of its kind in the Bulgarian regional museum network.

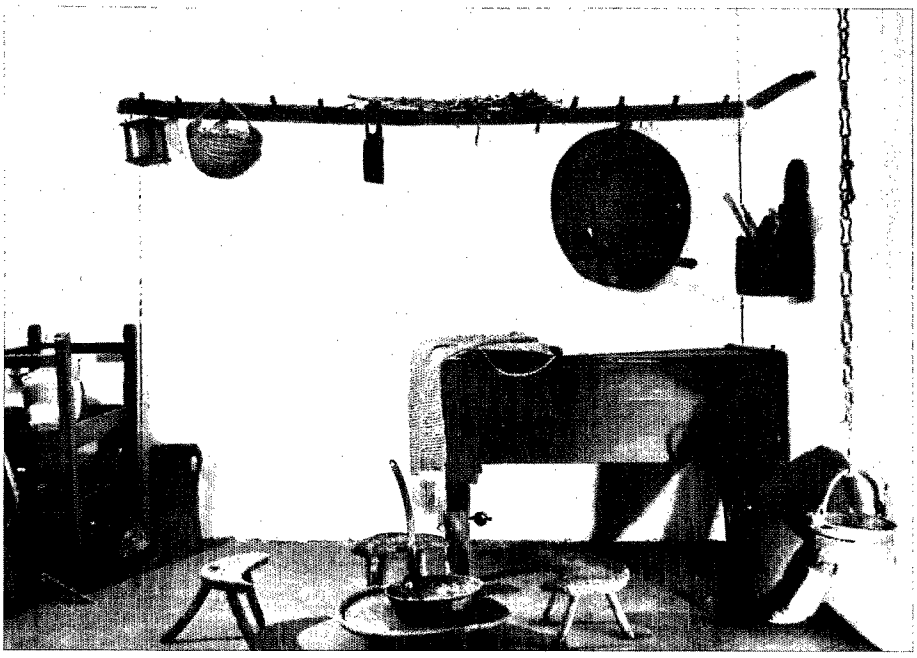
In 1968 there were only 800 exhibits in the museum's storerooms, to which has since been added contributions from amateurs interested in the archaeology and urban and rural ethnography of western Bulgaria. Since 1968 continuation of this work has been entrusted to a group of specialists, who within five years installed the collections and opened the museum to the public.

Three main factors have conditioned the development of this departmental history museum: the wealth of the historical heritage, the population, and the influx of tourists.

The town of Pernik is situated about thirty kilometres south of Sofia, the capital of the People's Republic of Bulgaria. There are six other towns and about 200 villages in the same region. The mining industry, metallurgy and engineering are the principal activities.

Throughout history this region has had an active life. Archaeological research undertaken in recent years has shown that the region was inhabited in the sixth millennium B.C. Life went on throughout the Stone, Copper and Bronze Ages. From the fourth to the second century B.C. the Leei, Agriania and Cerdi tribes lived there. The imposing fortress on the hill of 'Krakra' near Pernik dates from this period, and ruins of settlements, villas, sanctuaries and roads dating from the Roman period are still to be seen. The most famous of these, the sancturary of Asclepii Keiladen, is connected with the cult of mineral waters and the gods of health. Between the third and fifth century, strong fortifications were built as a defence against the invasions of the Goths and the Huns. There are traces of a Slav population. Owing to its proximity to Sofia (known as Sredetz at this time), Pernik was important as a strategic post after the establishment of the Bulgarian state. For several decades it was the Byzantine administrative centre. In 1189 the town was sacked by the Serbian overlord Stephen Nemanja.

The eventful history of the town was partly responsible for the opening of the museum's department of archaeology (Fig. 66), where the exhibits are displayed so that they can be seen in relation to one another. Additional information guides the visitor and provides him with the main background knowledge he needs. The principal periods covered are those of the early neolithic settlement discovered near Pernik. Thus, from a few carefully selected examples, the visitor is able to form an idea of most aspects of the history of



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THE DEPARTMENTAL HISTORY MUSEUM, Pernik. Ethnographical section: reconstitution of a typical house interior.

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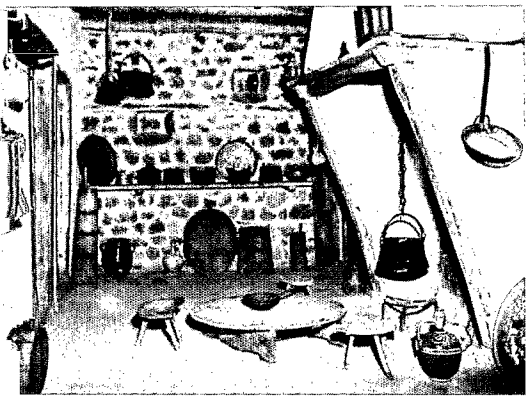
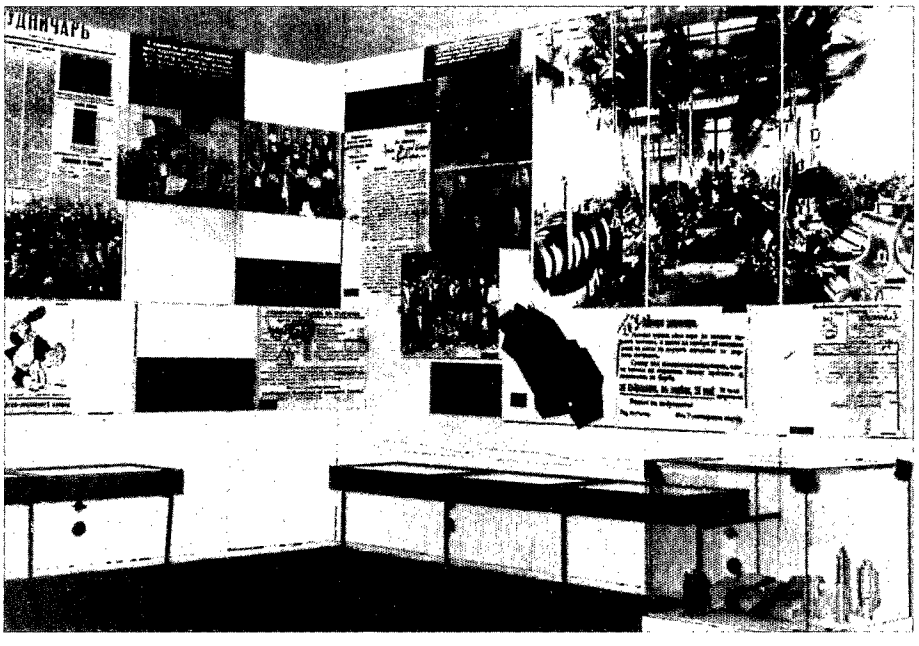
THE DEPARTMENTAL HISTORY MUSEUM, Pernik. Archaeological section: photograph of the remains of the Asclepii Keiladen sanctuary; Roman stone inscriptions; horse-rider in relief.



67
KOVATCHEVTSI VILLAGE
The interior of the house where Georgi Dimitrov was born.

68

68
KOVATCHEVTSI VILLAGE
The house where Georgi Dimitrov was born.



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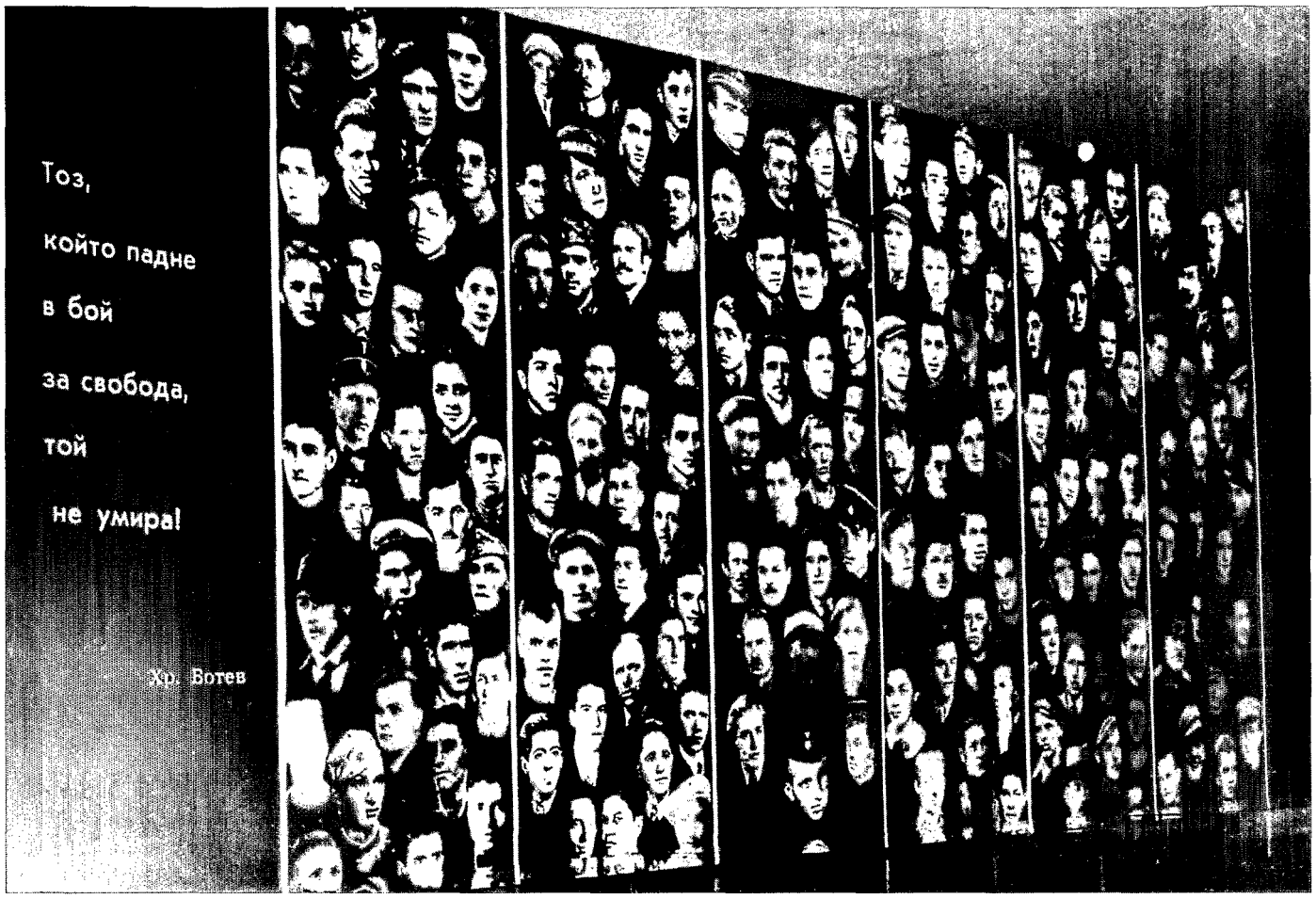
69
THE DEPARTMENTAL HISTORY MUSEUM, Pernik. Section devoted to the Soldiers' Revolt.

the town and the region. Additional space has now been set aside for the archaeology department, where other aspects of the life of the inhabitants of this region will be shown. The ruins of about 500 buildings have been discovered in Pernik, spanning the history of the town over 8,000 years, and most of them have not yet been studied, so it is clear that the exhibition in the museum will constantly increase in size. The museum specialists are anxious to create a dynamic exhibition, one that reflects both the most recent archaeological discoveries and the latest findings of research. Thus the museum illustrates not only historical development but also the results of modern work in this field.

The second department in the museum is devoted to ethnography.



70
THE DEPARTMENTAL HISTORY MUSEUM, Pernik. Photographs of revolutionary heroes.

Although the town is small and has few inhabitants (about 100,000) there is a high degree of ethnographic variety in the region: dress, habits, customs and occupations, particularly of the nineteenth century. Preserving the style of the times, the museum administrators elaborate on a few themes in their exhibition, stressing certain characteristic features.

A house typical of western Bulgaria is used to give a picture of local traditions (Fig. 65). Typical costumes are displayed inside the house, while in another the visitor is also shown some examples of pottery crafts of the region. This craft with its own paticular artistic features has won international fame. Prominence is given to the *sourvakars*, a custom rich in masks and ritual garments. Every year the museum participates in the organization of the *Koukeri* festivals, where dancers perform, wearing costumes and masks from all parts of the country. Craftsmanship also has a place in the museum—jewellery, ironwork and the craft of the cartwright.

The third department in the museum contains exhibits connected with the revolutionary struggles which took place in the region. Not far from Pernik is the birthplace of Georgi Dimitrov (Figs. 67, 68), one of the greatest figures of Bulgarian history and an outstanding representative of the international revolutionary movement. The working-class movement has existed throughout the Pernik region since the beginning of this century, marked by a series of events in the socialist movement. During the period of armed struggle against fascism, some of the largest groups of partisans operated in the area of Pernik. Many of the inhabitants sacrificed their lives. One outstanding event in the revolutionary struggle was the Soldiers' Revolt at the end of the First World War, which attained considerable dimensions in this region and resulted in the establishment of the Republic of Radomir (space is set aside for material showing the history of these events) (Fig. 69). Apart from original objects connected with these events, there are many facsimiles of documents, photographic material, and photographs of the heroes exhibited in a special showcase (Fig. 70).

Lastly, there are two departments under construction. One is devoted to the mining industry, which is an important part of the economy of the region. Machines and tools directly connected with coal-mining are displayed in an authentic mine near the museum. The other shows the life and work of the miners. Preparations for an exhibition of the contemporary development of the region are under way, so as to give the visitor an idea of the present, as well as of the heroic past.

There are four branches of the Pernik Museum in the region. Firstly, there is the birthplace of the famous Bulgarian Georgi Dimitrov, in the village of Kovatchevtsi. In the town of Radomir is the Museum of the Republic of Radomir and of the Soldiers' Revolt; and in the village of Slichavtsi, the Museum of the Resistance Movement. There is also an art gallery in the town of Pernik.

Apart from the state museums there are others run by voluntary workers, examples being the Museum of the 'Lenin' Metallurgical Combine in Pernik, 'Boussintsi Ceramics' which shows an authentic house with a ceramics workshop, in the village of Boussintsi, and the 'Historical Collection' in the town of Breznik.

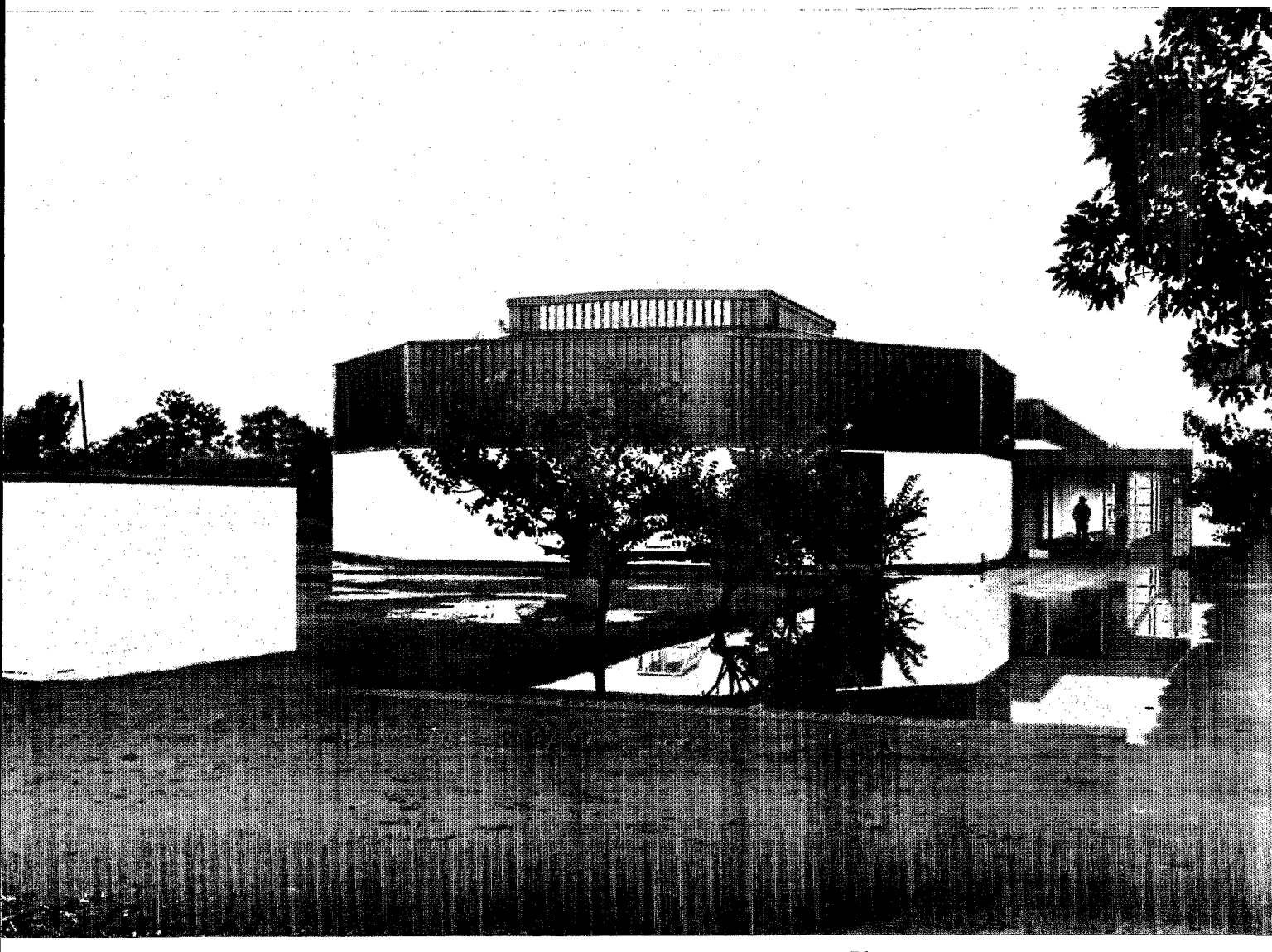
The museum of Pernik is responsible for looking after about 200 monuments and commemorative sites in the region. Thanks to the work of the fourteen administrators of the museum about 6,000 objects a year are discovered and placed in its stores for conservation.

About 190,000 people visit the museum each year, 42,000 of whom are foreign tourists. The museum guides conduct 4,200 lecture tours a year. As many as 80 per cent of visitors ask for a guide.

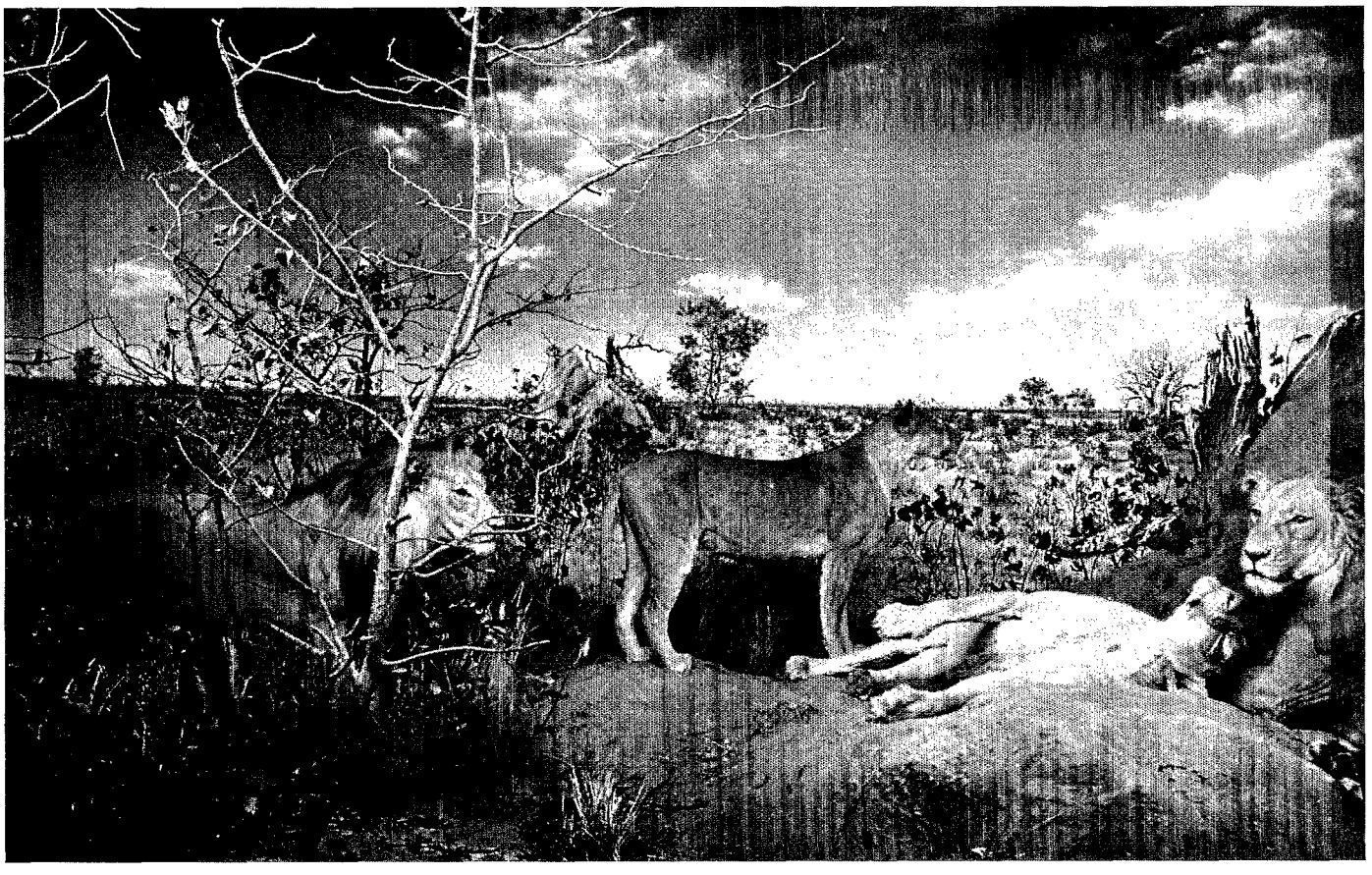
There is a restoration workshop, and a group of art-history experts and specialists are responsible for the day-to-day running of the technical centre. Films are shown in three of the departments. Groups of tourists can visit the ruins on the outskirts of the town. The Departmental History Museum of Pernik is one of the small departmental museums of Bulgaria. Generally speaking, however, its organization meets the standards of modern museum work. In the future, it is planned to add new objects, exhibitions, departments and branches. Already very good results have been achieved, from both the artistic and the technical points of view.

The National Museum and Art Gallery, Gaborone, Botswana

Alexander Colin Campbell,
and Doreen N'Teta



71
National Museum and Art Gallery, Gaborone.
Auditorium and Art Gallery.



72
Diorama of the Mopane swamp with lions.

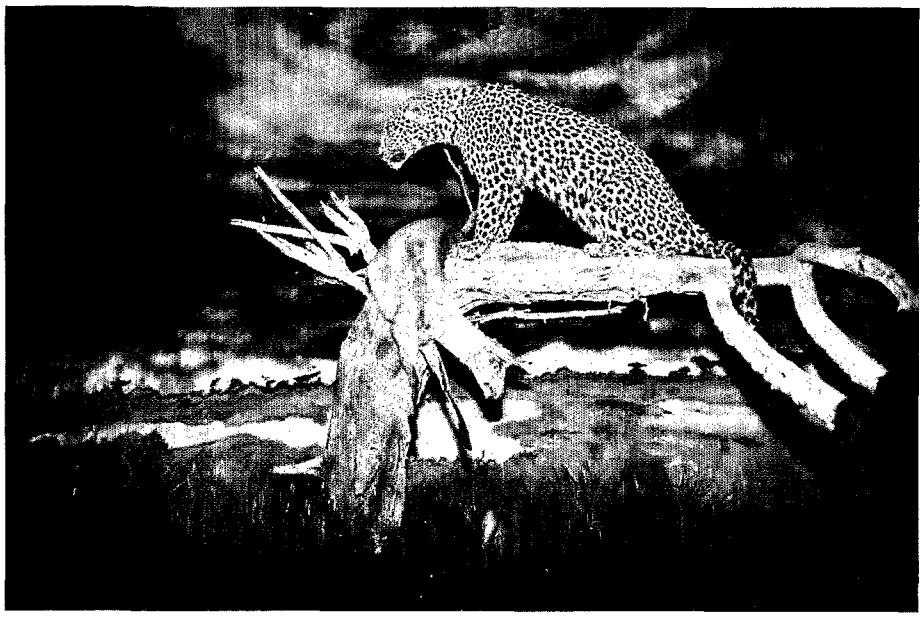
When independence came to Botswana in 1966 after eighty years as a British Protectorate, there can have been few countries apparently so poorly endowed as this vast tract of semi-arid, flat, scrub-covered land set far from the seas and high on the central plateau of southern Africa. The population, still numbering less than 750,000 people, lived mainly on the harder and better watered soils in the east, while much of the Kalahari Desert to the west supported a few scattered communities and a large, but fluctuating, wildlife population.

The proposal to start a museum, made by a private source a few months before independence, was received gladly, but with the stipulation that financial support from the government could not be expected. At this time there was no other museum, a private venture by one of the chiefs having failed owing to lack of proper accomodation for his not inconsiderable collection.

The National Museum and Art Gallery came into being in 1967 with an enabling act of parliament, a board appointed by the Minister of Home Affairs, a gift of one-and-a-half hectares of land in the centre of the capital, Gaborone, and an honorary staff of one. Although the disadvantages were many, they were outweighed by the advantages, chief of which was the fact that the institution's future policy could be geared to national aspirations at a time when they were undergoing intensive re-direction; this was a new venture, without the necessity to remodel a traditional institution; it came at a time when the whole position of museums in developing countries was being re-thought; and finally, freedom from traditional control allowed great flexibility in planning.

By September 1968 the equivalent of US$40,000 had been raised through appeal, the first phase of the final building constructed, a temporary display erected and opened, and the first paid staff-member employed and sent abroad for training. At this stage the board presented its proposals for the future policy of the institution. Before describing these it is necessary to look more closely at the land.

More than 85 per cent of the population lived in rural areas growing such crops as the low rainfall (about 450 mm) permitted and raising cattle. Intermittent droughts, some lasting for five years or more, the lack of permanent



73
Diorama of the Kalahari Desert with leopard and oryx.

surface water and the difficulties of finding groundwater below the sands of the Kalahari had inhibited ranching expansion, so that much of the land then occupied was heavily over-utilized. With vast distances over sandy terrain and a small and scattered population, communications were rudimentary; other than the public service there was little paid employment and many people went abroad to work, particularly in the South African mines. National expenditure far exceeded local income and the country existed on a grant-in-aid from the United Kingdom.

The two first aims of the independent government were to achieve a measure of economic freedom and to raise the general standard of living. A crash programme of development started, with education, increased beef production, communications and mineral exploration as priorities. By 1972 local revenue covered the recurrent budget, student numbers had vastly increased and diamond and copper discoveries augured well for the future. All these changes naturally had a considerable effect both on the people and the land. Two major effects were a slow move from agriculture to more urban living by the young, and new pressure on fragile habitats by ranching expansion.

In formulating its policy, the museum board took note of the many changes that were occurring and tried to assess the educational needs of the people from cultural, economic and ecological points of view. At the same time it recognized the difficulties involved in raising funds for development, obtaining and training suitable staff and providing a programme that would have real impact on a largely illiterate population, unaccustomed to anything except formal schooling. The original policy was made as flexible as possible.

It was decided that the main emphasis would be placed on erecting a display building, the more expensive areas of which would be constructed to last for forty years. This would be the shop-window in the early years; later would come the scientific collections, branching into rural areas and conducting research. Because people do not normally see things in compartments, and because they understand them better when they see them in their own environment, it was decided that the display building would not follow traditional patterns, with halls of ornithology, history, geology and traditional culture. Rather, it would form a mosaic, people being related to their surroundings and history, and emphasizing the changes made in the land. The policy was to depict man in his environment seen through history.

The display building was planned as one unit with only two doors, for entrance and exit. The showcases are placed along a winding path with, as far as possible, few visible at any one time and then only those closely related. The form of display varies as much as possible so as to maintain interest, but no case is allowed to reach into the unnatural. For instance, there are no rows of

mounted butterflies and beetles; rather there are dioramas depicting natural scenes in which butterflies and beetles can be observed, many partly concealed, as in nature, so that the more observant the visitor, the more he perceives.

The main display area (already built) (Fig. *71*) consists of seven rooms, each 100 square metres interlinked by arcades 25 square metres in extent. The cases are so constructed that the visitor is unaware that he is moving from one gallery to the next, just that sometimes the ceiling is lower than at other times. The first two galleries introduce the visitor to Botswana and bring him from the time of the dinosaurs up to the present. The first cases give some impression of the land in the past and emphasize the changes that have taken place. The technique of archaeological excavation is explained, so that the later historical cases are more explicit. San peoples (Bushmen) are shown living their traditional way of life (still practised by a few small groups) and are compared to Stone Age peoples. The arrival of the blacks (Bantu) is shown in terms of their effects on the San, themselves and their new environment. Later white (European) penetration is displayed and the effects of new technology, culture and invasion are explained. One gallery is devoted to traditional means of subsistence, hunting and cattle-raising being mixed with crop-production, mining and trade.

74
Diorama of a Bakgalagadi dwelling.

75
View of an exhibition of archaeological material.

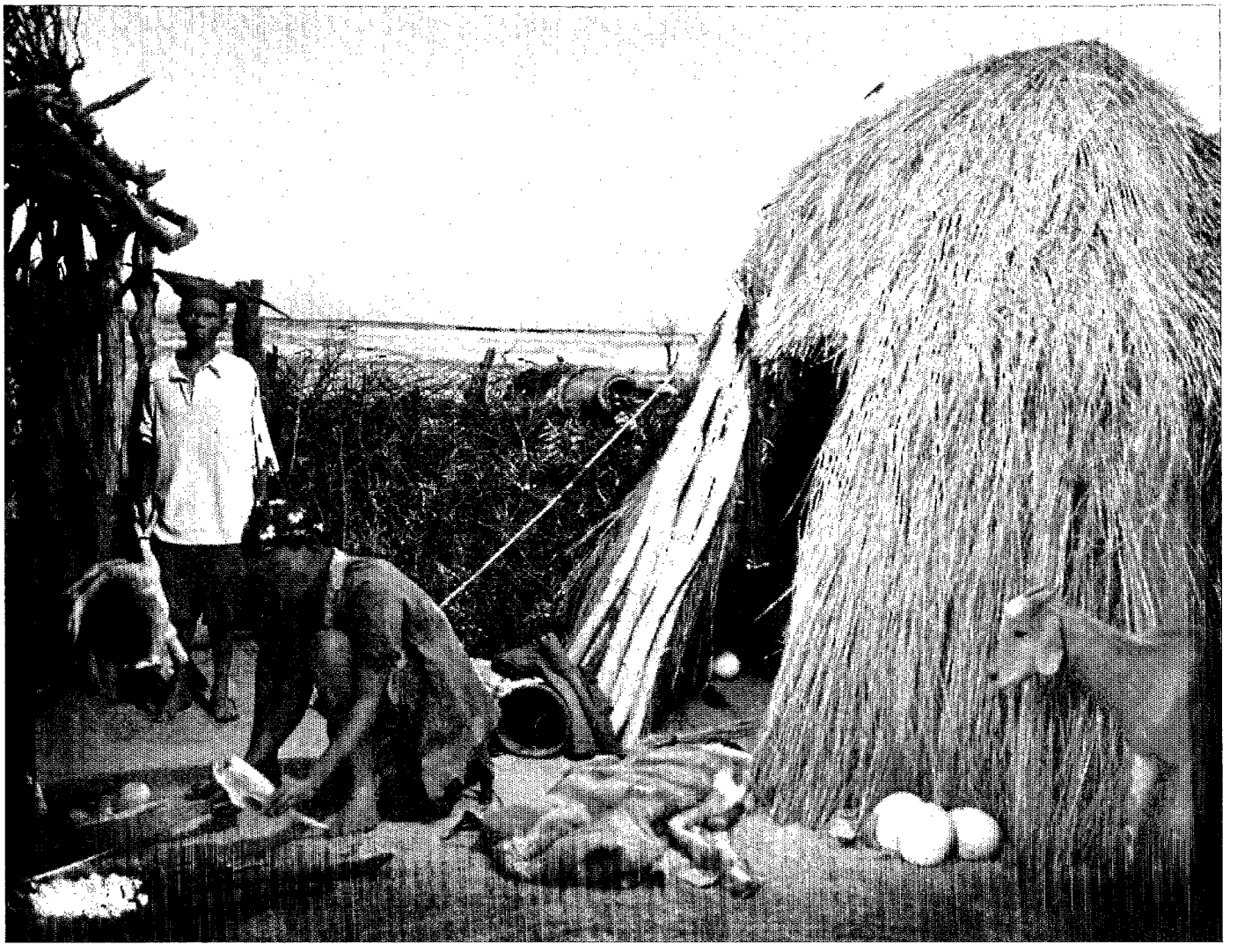
Each of the next three galleries treats one major environment: the hard land in the east, the Kalahari Desert and the wetland of the Okavango Delta. In each, at least one large diorama shows the natural environment with wild animals such as lions, gemsboks (oryx), lechwes, wild dogs, vultures and other birds (Figs. *72*, *73*). Other displays depict how man lives and utilizes these environments and carries out research on problems such as foot-and-mouth disease, tsetse-fly eradication, water-development and so on. The final gallery will show the current development plans for the next five years, and will include models of village development, mining, communications, etc.

Although all the displays will be labelled, every effort is being made to make them explicit in themselves. For the more complicated ones, taped explanations will be provided through headphones. Adjacent displays try to complement each other. It is believed that even the visitor who is quite unable to read will gain much, whatever the length of his visit. The idea of having a single path to travel is to ensure that the visitor in a hurry must glance at almost everything and will, it is hoped, be drawn back at a later time to see what he only glimpsed before.

The art gallery has slowly built up a collection of works representative of Africa south of the Sahara, though most emphasis is placed on the southern part. The works bought or acquired are not necessarily the best, although good work is preferred; rather they depict through history the development of art. There are the traditional masks, statuettes and bronzes of the west, drawings and paintings made by early white travellers depicting the country nearly two centuries ago, stone sculptures from Southern Rhodesia, modern basket and beadwork, and the work of modern artists of all races. The intention is to try to show what was, and is, produced in Africa, and inspire particularly the young. To this end, an art centre, which will teach both child and adult, is planned for the future.

The museum is also in charge of the country's historic sites. At present little has been done to either investigate or develop these; what little excavation has taken place has been conducted by foreign researchers. The importance of the cultural heritage is recognized, but past methods of natural resource utilization and the interrelationship between people and the environment are also seen as essential. The present programme involves locating historic sites on a map, making collections of material and examining them, and attempting to gain some understanding of previous populations and their ways of life. More than 500 sites have been located and a start has been made on analysing the material collected from them. The historical cases in the museum are so planned that they may be changed to keep abreast with new understanding as it is gained.

By January 1979, half the museum and the whole of the art gallery had been constructed, and about two-fifths of the permanent display completed.



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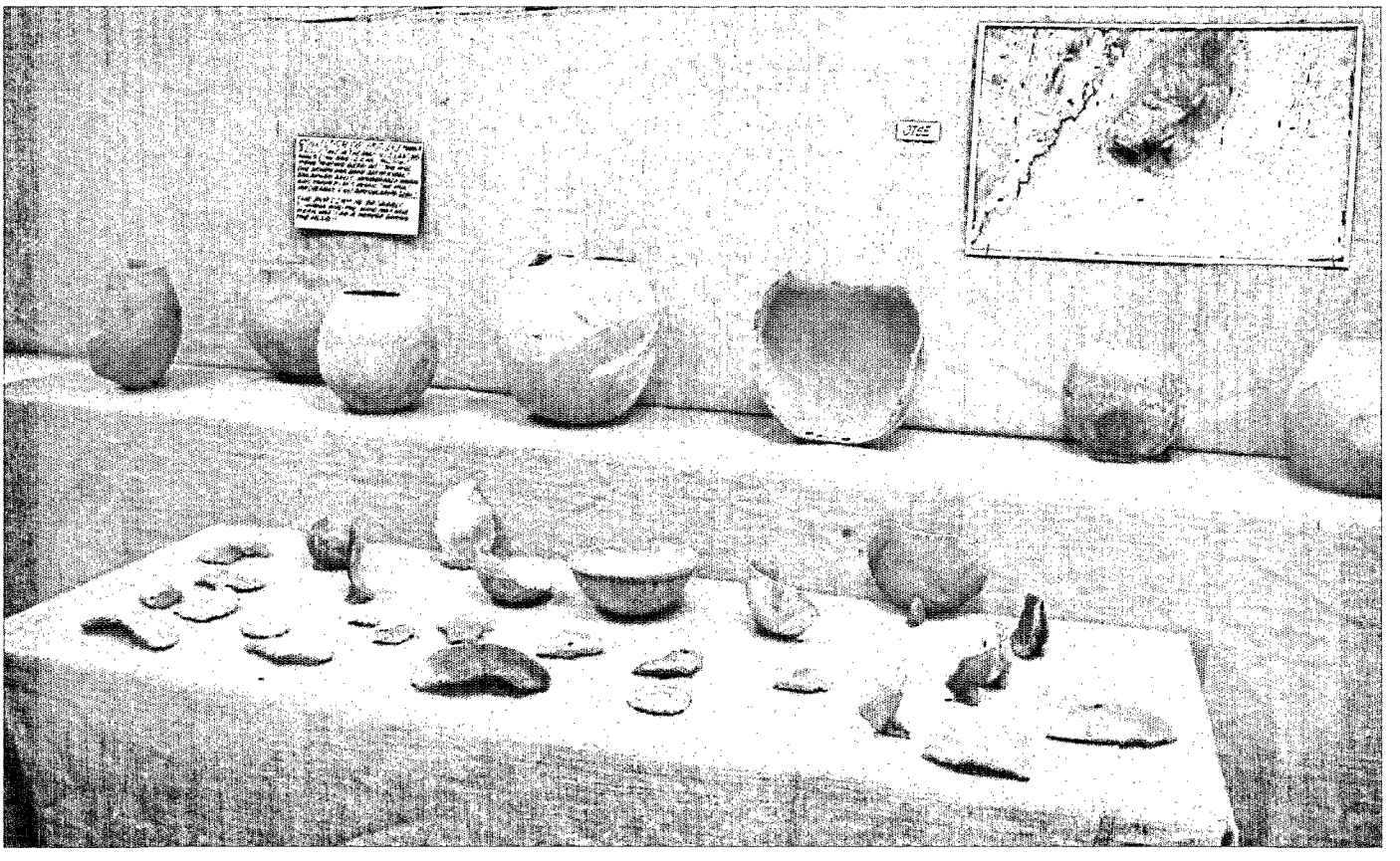

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This was started in the middle, and depicted the three main environments of present-day Botswana, the subject of most interest to younger visitors (Fig. 74). As each group of cases is completed, it is opened to the public; it is expected that the main display area will be completed by 1981. Already permanent collections are being made, mostly of ethnographic and archaeological material (Fig. 75), but also animal remains, to help with identification in archaeological excavation, historic material and, of course, art work. Museums in neighbouring countries have already made extensive natural-history collections and, for the time being, the national museum does not intend to try to duplicate these, owing to the enormous costs of collection and storage, but particularly because of other priorities.

In 1974, the museum appointed one of its staff members 'Curator of Education' and settled down to develop in earnest the teaching side of the museum. Today, schools from all over the country bring their classes to visit the museum and the museum staff deliver lectures in neighbouring institutions, including the university. In 1979, a mobile museum service started operating in rural areas. Small displays will be set up in schools, and trained staff will describe the exhibits, give slide lectures and show films to students and local people in the neighbourhood. One day it is hoped that district museums will be established throughout the country, and will emphasize local history, culture and environment; one has already been opened in Mochudi, forty kilometres from the capital.

The national museum itself will retain its present direction, providing a picture of the country past and present, its peoples and how they exist, together with their environment. Future research is planned in the same way and, while some of it may become fairly specialized, the ultimate object will never be lost: to illustrate man in his environment.

The Goethe Museum, Weimar, German Democratic Republic

Dieter Eckhardt

Theoretical considerations

In preparation for the 150th anniversary of Goethe's death in 1832 the National Research and Memorial Centres for Classical German Literature (NFG), Weimar, are planning to reorganize the Goethe Museum, which has existed in its present form since 1960.

A team, comprising specialists in literature, museology, social sciences, architecture, preservation of monuments, archives work, librarianship and education, was set to work on this task under the supervision of the director of the National Goethe Museum.

The aim of this reorganization is to make use of museum techniques so as to present the heritage of Goethe in a manner consonant with contemporary conditions in the German Democratic Republic. From the standpoint of cultural policy, the new museum's tasks are to reflect the present state of the art in regard to presentation of the historical and cultural heritage, and to meet the new requirements which stem from a constantly evolving society. At the same time the new Goethe Museum will take into account the most recent developments in literature studies and museology at national and international levels.

The need to reorganize the Goethe Museum on an entirely new basis stems from two objective considerations:

The guiding principle of the museum created in 1960 was taken from Goethe himself: 'to present the individual in the context of his times, to show how far the whole works against him and how far it assists him, how he creates from the whole a picture of the world and of man, a picture which, if he is an artist, poet or writer, he projects outwards once again.'[1]

On the basis of this principle, the organizers of the museum set themselves the following task: 'to illustrate the writer's exceptional life story and his work by means of documentary exhibits and present in a tangible form both the interaction between Goethe and his times and in general the social and political situation in Germany between 1749 and 1832.'[2] As a result millions of visitors to the museum have been able to gain a more intimate knowledge of the life and work of Goethe the writer, artist, man of science and politician, as well as seeking to elucidate the dialectical interplay of personality, work and environment. From this point of view, the museum has fulfilled its educational purpose and made its contribution to the formation of a progressive approach to literature.

But the museum is no longer able to meet the demands of present and

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GOETHE MUSEUM, Weimar
Portrait of Johann Wolfgang Goethe by H.C. Kolbe, 1826.

1. J. W. Goethe, *Dichtung und Wahrheit* (Poetry and Truth), Weimar Edition, Vol 26, Weimar, 1889, p. 7.
2. Helmut Holtzhauer, *Das Goethe-Museum in Weimar*, p. 4, Weimar, NFG, 1977.

future visitors. In the context of general social development, the last twenty years have seen an improvement in standards of education, greater differentiation in respect of cultural demands and needs, and new expectations regarding the way in which a subject is presented.[3] Attitudes to the cultural heritage have thus become more diversified. This is particularly true of classical German litterature, which is now seen as less homogeneous and harmonious than formerly, an understanding of which is none the less essential for the development of an awareness of history and for continuing the links with the tradition and art of the German Democratic Republic.

The reorganized Goethe Museum must take account of new realities, ways of thinking and the habits of the public. To judge from experience and the results of socio-cultural surveys, this means coping with new expectations and greatly increased demands, making better use of possibilities for more thorough exploitation of historical content and the present-day context, making the presentation more attractive, and bringing the exhibition more into line with the visitor's ability and willingness to receive new impressions. This involves, *inter alia*, an examination of the relationship between expectation and availability, visual appeal and information value, the visitor's preparedness (time available and psychological receptivity), and size of the exhibition.

The literary museum must, therefore, apprehend the personality on which its attention is focused as a socially determined entity, a social individual. And, *mutatis mutandis*, the same is true of the museum visitor. In other words, the person visiting a museum devoted to the biographical and historical presentation of a literary figure is, as much as the latter, socially determined, a product of the convergence of concrete temporal relationships.

The need to reorganize the Goethe Museum also results from the development of a progressive approach to literature studies and the writing of literary history, and in particular to classical literature and Goethe's works. Literary studies in the German Democratic Republic, particularly the theory and methods for a contemporary critico-historical approach to the literary heritage, have further developed and, since the early 1970s, a less cut-and-dried monochrome picture of Goethe has emerged. This means that in presenting the heritage of Goethe, museums cannot achieve their goal either by transforming themselves into places of worship or by invoking with no regard for history the 'timeless, universal essence of humanity'.

The point of departure for this realization is, in fact, a maxim by Goethe to the effect that 'from time to time world history must be rewritten... as new insights are given, as those living in an age of progress are led to vantage points from which the past can be seen and judged in a different way... The same is true of science'.[4]

What degree of understanding of Goethe's aesthetic and artistic uniqueness—or indeed that of other historically significant personalities—can be conveyed by a museum, and how much the museum can contribute to constructive analysis of the cultural and artistic heritage in general, depend in fact on how successful it is in using the resources and methods of modern museology to project and disseminate the scientifically based picture of Goethe we now have.

This entails setting the real greatness and dialectical richness of classical German literature in the context of the universal heritage and the process of world history. Essentially, therefore, the museum organizer has to apply Goethe's maxim which has lost none of its relevance: 'We know of no world but in relation to people; we wish for no art other than one which reflects this relationship.'[5]

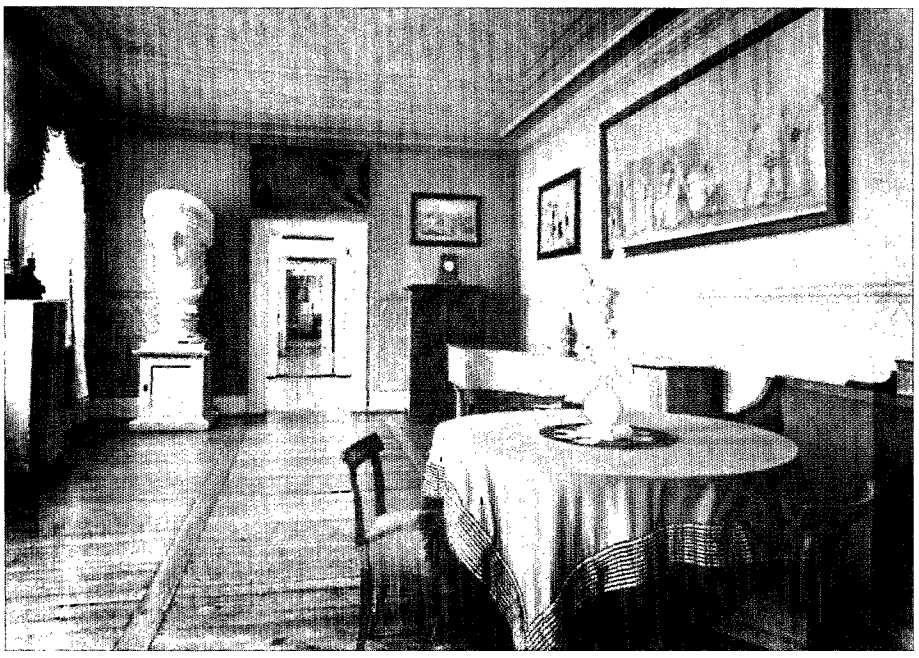
The museum thus has to translate the links forged with literature into visual terms, which means that the museum exhibit, the basic material, must be related to social phenomena in such a way as to make it an integral link in the historical process of social evolution.

The objective is to make the work of art (the basic material with which the museum has to work) and, in the final analysis, the museum itself into something that can be applied and used

3. For example, the combined effect of modern communication media (television, films, newspapers, books, etc.) is to promote particular visual habits and particular models for the presentation of information, and these must be taken into account in the reorganization of a museum.

4. J. W. Goethe, *Naturwissenschaftliche Schriften* (Scientific Papers), Weimar Edition, Section II, Vol. 3, p. 239, Weimar, 1893.

5. J. W. Goethe, *Maximen und Reflexionen über Kunst* (Maxims and Reflections on Art), Weimar Edition, Vol. 48, p. 203, Weimar, 1897.



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Goethe's house: the Juno room.

78
Goethe's house: his study.

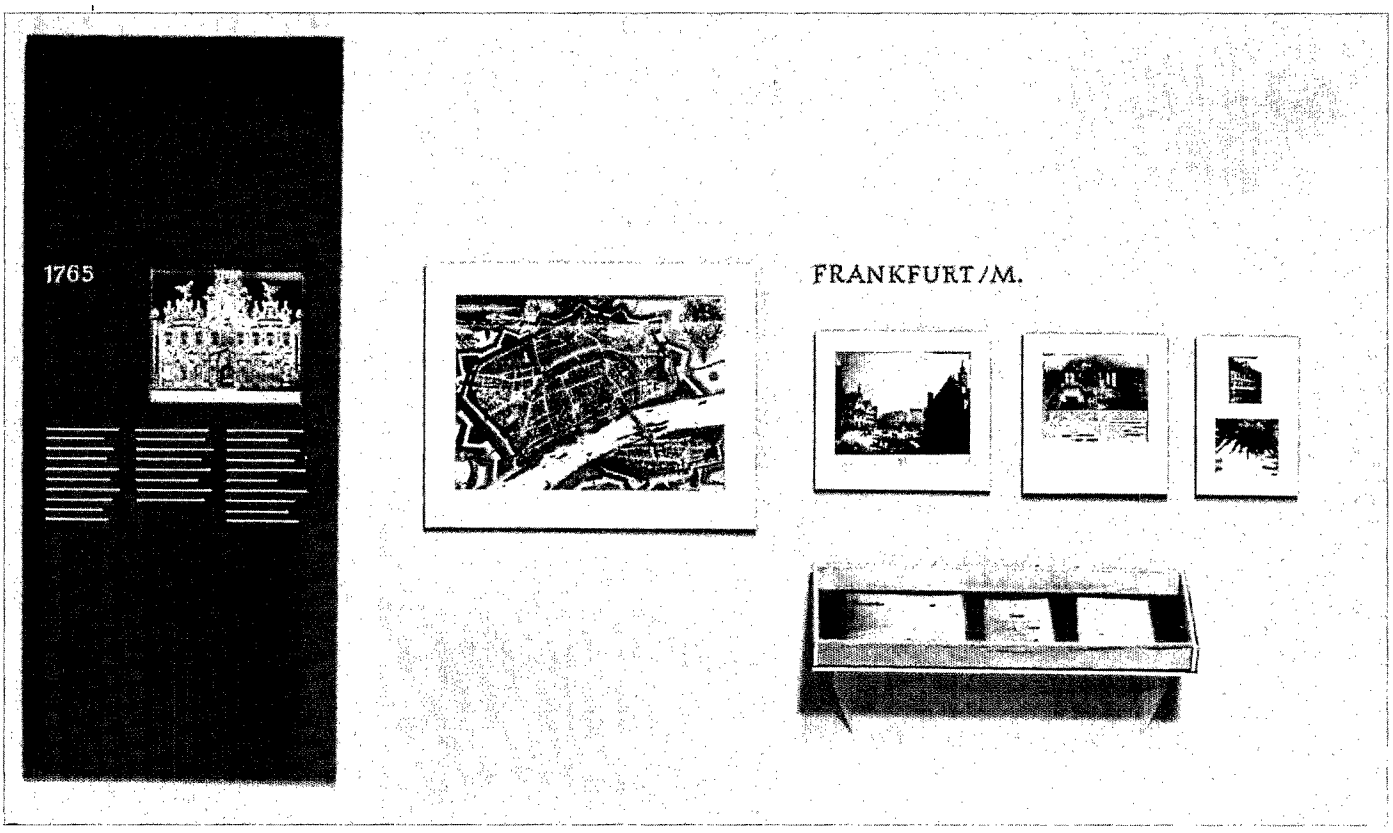
by a restructured form of society, in short, to take the needs of the public seriously, and to make these needs evolve in such a way that they also include the need for individual involvement in artistic activity (depending on the type of museum), for a dialogue with the subjectivity of the at times isolated artist (the personality presented in the exhibition) and the museum organizer, and also the need to be taken by surprise and challenged by artistic innovation.[6]

Present social conditions, requirements and responsibilities in regard to cultural policy, and cultural and aesthetic considerations, have made reorganization of the Goethe Museum necessary; and the principles underlying it are those of Marxist-Leninist teaching as regards assimilation of one's cultural heritage and the development of tradition.

The theoretical and practical approach of the present museum is based mainly on Goethe's life history. This approach does not fully bring out the contradictions in his work as a creative artist or in his world-view and ideological positions.

Of course the story of Goethe's life must occupy an important place in the new museum too, as it reflects the development of his personality and his confrontation with historical realities and problems, and because reference to the circumstances of his life can provide deeper insights into his work.

6. Peter H. Feist, 'Funktionen und Wirkungsweisen der Kunst in der sozialistischen Gesellschaft' (The Functions and Workings of Art in a Socialist Society), *Bildende Kunst*, June, 1978, p. 264, Berlin, Verband bildender Künstler der DDR (Union of Pictorial Artists of the GDR).



79
Plan of presentation for a room in the new museum on the theme *Goethe in Frankfurt.*

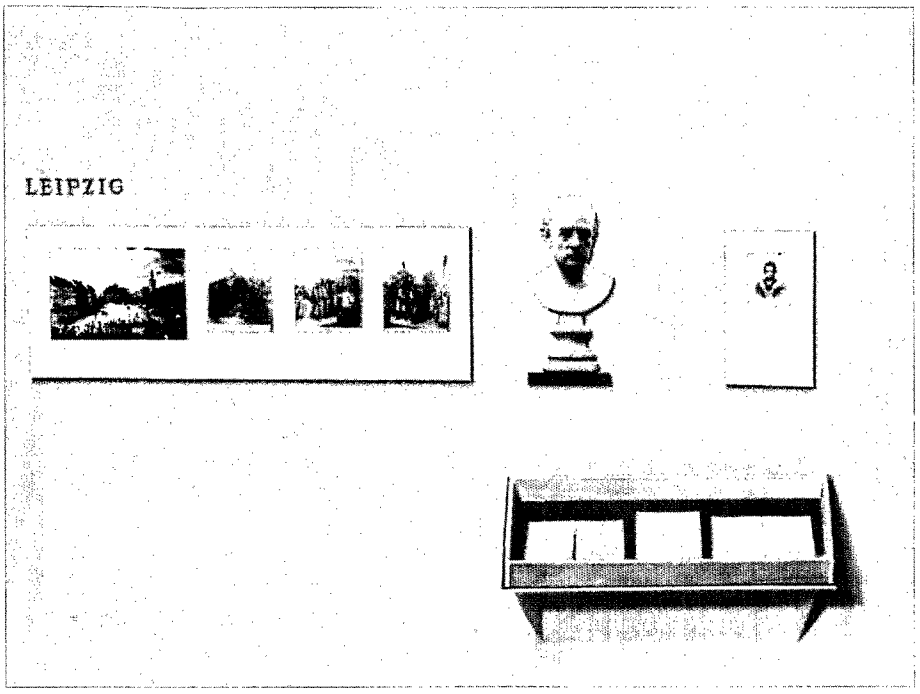
The biographical basis for subjective elements in Goethe's work must therefore be provided and the uniqueness of his personality investigated from the most varied angles. However, biographical facts can only serve the overall purpose of the museum to the extent and in the way that they reflect and highlight social conditions at a particular time in a particular territory.

The new feature of the museum's approach will consist in focusing on those of Goethe's achievements which—albeit stemming from the relationship between his times, his personality, his actual work and his influence—are still an abiding factor in contemporary cultural life, and stimulate reactions that have a constructive contribution to make today. An underlying and systematically applied principle will be the presentation of these achievements against the background of contemporary events in world history and in relation to them, with special attention to achieving a judicious balance between documentation and interpretation. This principle will be applied above all to the poetic and journalistic works through which Goethe exercised a direct influence on later generations. Presentation of the development of Goethe's personality in a complex historical context will serve as an introduction to his work; the biographical and historical approaches will thus be assigned a specific, derivative function.

It will be the primary objective of the museum to present the origins and the influence of Goethe's work in the context of a process of historical and literary, social and individual development which is rich in dialectical contradictions and in so doing to bring the visitor into contact with an important element of our cultural and literary heritage. Priority must therefore be given to a thematic approach to Goethe's work as illustrated by events in his life.

The increase in the new Goethe Museum's capacity for communication must not, however, be confused either with a superficial 'updating' or with a rigid application of formal trends in museological methods.

The fact that the house in which Goethe lived is in the close vicinity of the museum is of particular importance for its reorganization. Bearing in mind that the visitor usually visits the house first and there receives a multiplicity of impressions and information regarding Goethe's way of life, working conditions, etc. (Fig. 77, 78), arrangement of the museum along thematic lines—involving the deliberate selection and assessment of particular achievements



80
Plan of presentation for a room in the new museum on the theme *Goethe in Leipzig.*

and problems—will enable the visitor to benefit from his encounter with the Goethe 'phenomenon'.

The problems arising from a thematic approach to the Goethe Museum can no longer be solved by museologists alone; they necessitate co-operation with experts in literary studies, cultural sociology, education, philosophy, architecture, etc.

If it is assumed that the literary museum as a cultural institution in the broadest sense of the word has a part to play in raising mankind to a higher social level, this claim can only be made good by virtue of the museum's ability to communicate. This depends in the main on its success in fulfilling two functions: one internal, serving the purpose of research, and the other external, concerned with the exercise of influence.

Whereas the former function involves presenting the results of current research in a material form, the latter is geared to transmitting information, knowledge and experience. The more successful the museum is in satisfying the varying cultural and artistic needs of a wide range of museum visitors, the greater its ability to communicate will be. But in order to do this its basic functions must be consciously planned and made organizationally effective.

The functions of a museum are: (a) to increase knowledge, ideological education, value judgements, communication and enjoyment; (b) to develop a visitor's receptivity (sensibility); and (c) to obtain a psychological effect by stressing the associations between the various exhibits.[7]

It is accordingly also essential to define clearly the limits of a literary museum: it cannot replace knowledge of Goethe's work, but should rather introduce the visitor to it, deepen existing knowledge and insights, lead to new discoveries in the museum itself and in the writer's work and create an aesthetic impression.

Bearing these considerations in mind, the Goethe Museum is resolved to make its contribution towards a more dynamic presentation of the cultural heritage, to use its own specific facilities to promote Goethe's work and thus to increase its ability to communicate. As already indicated, the raising of a museum's ability to communicate should not be confused with a superficial 'updating' in the sense of a slavish adherence to the latest trends in museology.

This kind of forced updating of the classical heritage, designed to bring it closer to the 'modern' museum visitor, very soon proves unproductive. Experience has shown that artificially imposed associations which may have caught the fancy of an individual museum organizer do justice neither to

7. H. Redecker, 'Zur Systematik von Abbildung, Erkenntnis und Wahrheit in der Kunst' (Towards a General Theory of Illustration, Perception and Truth in Art); P. Feist, 'Funktionen und Wirkungsweisen der Kunst in der sozialistischen Gesellschaft' (Functions and Operations of Art in Socialist Society); *Zeitschrift für Literaturwissenschaft, Ästhetik und Kulturtheorie* (Journal for Literary Studies, Aesthetics and the Theory of Culture), Berlin (Weimarer Beiträge, 1/78).

present-day problems nor to the lasting values of the classics. With their many other features, the classics still bear the stamp of the period in which they were produced; they live and breathe by virtue of their image of man, the pathos of their humanism, the dreams of social justice and the moral doctrines underlying the writer's approach to his work at that time. This means that the stimulus for a modern, deeper interpretation—deviating from the previous one inasmuch as it carries it further—must be sought nowhere else but in the work of art itself. However, this is something that can no longer be successfully carried out by museologists working in isolation. Our relationship to the writers of the classical period in fact obliges us to make a 'collective' approach to the task, penetrating the essence of their work and finding new points of emotional contact with the ethical and social problems with which they were concerned. It is this kind of approach that should be adopted in defining the conceptual framework of a new museum, and should be mandatory for museum authorities who wish to reorganize their museums on an entirely new basis.

But before this work can be started some further basic methodological questions, which determine the general climate of the whole exhibition, must be clarified.

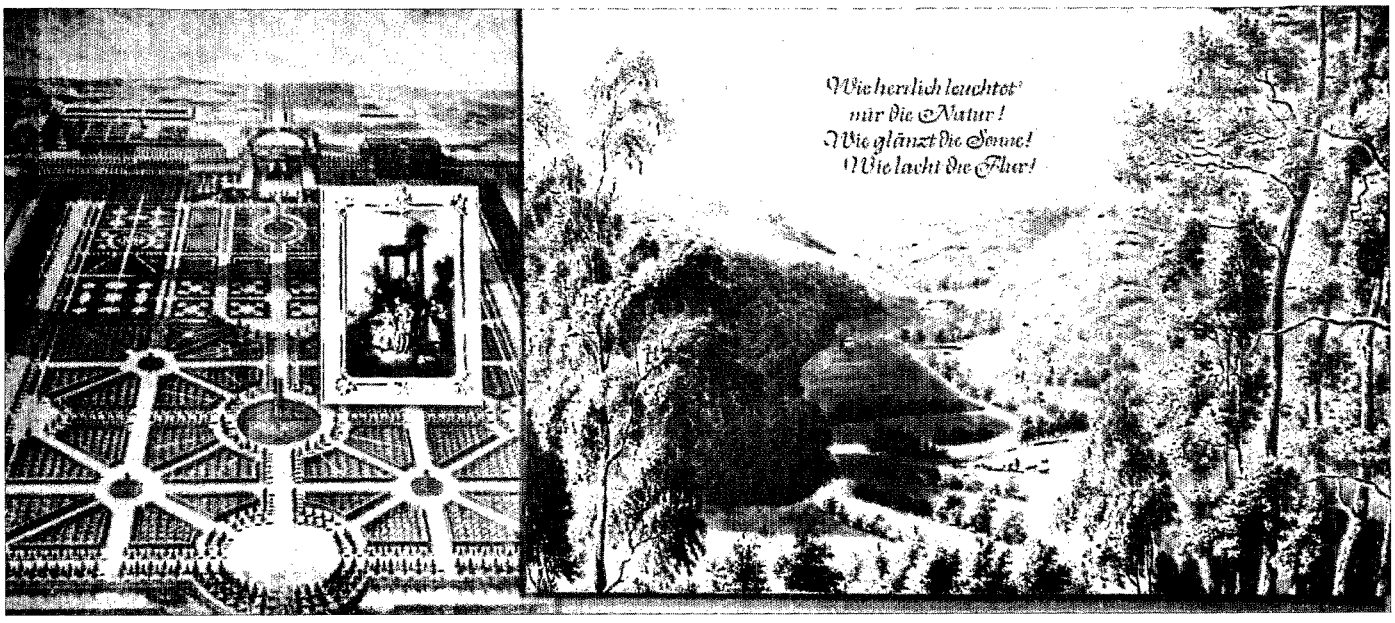
While the style of a new museum or type of museum cannot be copied, there are outstandingly well-organized literary museums in widely differing countries whose experience and problems should serve as reference. Even if museum work is agreed to be primarily scientific and artistic in nature it should be no less evident that it must always be measured against the latest advances in museology and museum planning. This makes a series of demands on those concerned with the reorganization.

They must first acquire specialized knowledge on the subject of the exhibition, but study of the latest experience in museology and museum planning comes close behind. The only guarantee for successful museum work is willingness to take an intensive interest in this aspect.

As already explained, this involves taking account both of the latest research findings and of the present relationship between a clearly defined social individual and the cultural heritage.

Agreement between museologists and museum visitors on the main objectives of exhibition content and arrangement is very important at every stage of planning. This makes it possible to determine the museum's ability to communicate (hence the need for socio-cultural surveys). This agreement must be based on a common conception of cultural policy and a certain level of assimilation of the cultural heritage, from which the objectives assigned to the museum derive. In this way unduly subjective types of interpretation and organization will be avoided.

The relationship between detachment and identification is one of the most important organizational principles of any museum, and must stem from the way in which the museum is conceived. The visitor must not only receive factual or emotional information, but also be brought into a confrontation rich in creative tension. This can only be achieved when he is in a position both to identify himself with, and also to stand back or 'distance' himself from, the material presented. Identification results from the endorsement of his own experience by values conveyed through the exhibition, in other words from a willingness to concur with the interpretations proposed. Distancing results from an inability or immediate refusal to follow new associations of ideas or interpretations which deviate from accepted models. The museum organizer should use these reactions to enter into a dialogue with the visitor, mainly about the exhibition. In other words, this dialectic of distancing and identification, though admittedly difficult to keep under control, must be borne in mind in the choice, arrangement and organization of the material, even to the point where it can incite the visitor to oppose vehemently the views put forward.



81
Plan of presentation for a room in the new museum illustrating Goethe's concepts of nature.

Physical harmony

A museum of the size of the Goethe Museum (twenty-four rooms) requires considerable physical effort and sustained attention on the part of every visitor. Experiments have demonstrated that receptivity decreases by some 50 per cent after only half an hour. In the planning and organization of the museum particular attention should therefore be given to factors relating to a correct balance between intellectual stimulation and reflection, or conducive to increasing receptivity, and a sense of physical well-being: (a) clearly recognizable room sequence; (b) clear methods of presentation and information (arrangement of display cases, type and arrangement of labelling, use of colour to convey information); and (c) rhythmic alternation of exhibition rooms and space for movement, rest and communication (café, areas for experiment in the natural sciences, reading zones, audio-visual rooms).

Consideration of the basic methodological questions makes it clear that the Goethe Museum can only be reorganized by means of intensive interdisciplinary exchanges of experience and in co-operation with specialists in various disciplines. Within the team of specialists basic orientations have in fact already emerged, serving as a starting-point for reorganizing the museum on thematic lines.

The present idea—inspired by the nature of the museum, its objectives and the space available—is to identify a number of main themes around which the exhibition will be organized. The primary concern is to present the writer's major literary achievements and to trace the development of his personality and work within their historical context.

Goethe's life and the history of the period should not be treated independently. The chronological sequence will sometimes be broken in order to introduce a *leitmotif* or a particular main theme spanning a considerable period of time (Fig. *79*, *80*, *81*).

The exhibition begins and ends with exibits referring to Goethe's *Faust*, his most important work from the point of view of the philosophy of life it portrays, its literary quality and historical vision. It is also the most widely known work at the present day. The aim of these exhibits, and many others referring to this epic work, is to make the problems it reflects, crucial ones for mankind and for the period in which Goethe lived, the *leitmotif* of the whole exhibition.

In this way attention will be focused on the development of Goethe's personality and work, in its inner consistency as well as in its perpetual movement, in its cohesion as well as in the dialectical contradictions which imbue it. However, full attention is also given to the inherent value of other works

and particular stages in the writer's life, in all their variety and complexity. The aim is to reveal each stage in Goethe's development from the standpoint of the new features and the contradictions manifest in it, thus encouraging the visitor to feel his way into the historical context and make historical judgements. It is one of the museum's basic principles, in general and in particular instances, to show both positive and negative aspects, unsolved problems as well as lasting achievements.

Within the framework of the general theme, which is primarily that of *Faust*, various specific themes are elaborated, refined, and particularized, with reference to a number of key areas. Presented here in random order are some examples: relationship with nature, nature and art, philosophy of life, criticism of religion and secularization of the view of the world, political history at world and national level, social history and the history of art, Goethe's life, chronological sequence of his works, literary relationships, minor literary works.

The impact of the exhibition should be intensified through the use of recurring images. The organization of the museum will be based on the need for clarity and a striking visual impact. In particular it is proposed to explore and use the visual images contained in Goethe's work; thus poetic metaphor —as it is developed, for example, in *Prometheus* and *Faust*—will provide the central nucleus around elements of this presentation.

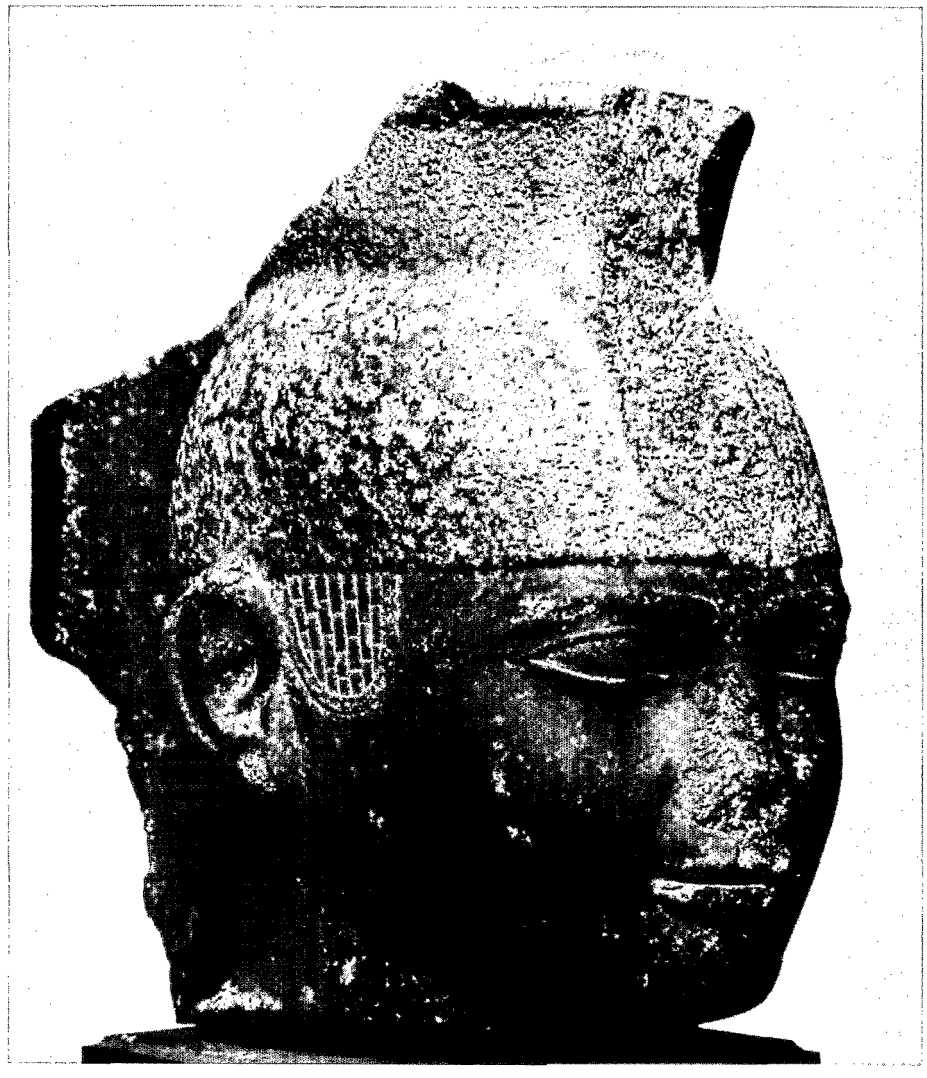
These are the principles which will guide the working group in its preparation for the 1982 reorganization of the Goethe Museum.

[*Translated from German*]

The Nubia Museum, Aswan Commemoration of the twentieth anniversary of the Nubia campaign

Shehata Adam

82
Partial view of the Pearl of the Nile Park in Aswan where the Nubia Museum will be built.



83(a)

83 (a), (b)
A few objects, at present in the Cairo Museum, will be transferred to the Nubia Museum when it has been built: *(a)* portrait of the Nubian King Taharga (Khounefertoumrê), 25th dynasty, 690-664 B.C. in black granite; *(b) ba* sculpture representing a man with bird's wings, Meroitic era (third century B.C. to third century A.D.) from the necropolis of Karanog, in limestone.

The foundation stone of the Nubia Museum was laid in Aswan early in March 1980, to coincide with the official opening of the Philae temples on Agilkia Island where they have been relocated and restored, and with the twentieth anniversary of the start of the international compaign for the salvage of the monuments of Nubia. Viewed in a historical perspective, this action for the preservation of the monuments and movable archaeological heritage of a given region appears as the most successful example of international co-operation under the aegis of Unesco. Threatened by the construction of the Aswan High Dam, the rich Nubian heritage—in the southernmost part of Egypt—was examined and transferred by scientific missions from forty countries.

The initiative to house the objects discovered during the Nubia campaign and previous archaeological excavations in a single museum emanated from the author, as President of the Egyptian Antiquities Organization, and the Unesco Executive Committee for the Preservation of Nubian Monuments at its meeting in March 1978. The General Conference of Unesco at its twentieth session (October-November 1978), having been informed by the Egyptian Government of this project, requested the Director-General to 'continue to co-operate with the Government of the Arab Republic of Egypt and to submit to the General Conference proposals for the extension of this co-operation' and expressed its hope that the Unesco Executive Committee for Nubia would 'play an important part in this new phase of international action' (resolution 4/7.6/12). In view of this, the Egyptian Government requested Unesco's assistance to proceed with this project and a team of consultants was formed under arrangement with the International Council of Museums (ICOM) which included Torgny Säve-Söderbergh, Egyptologist; Manfred Lehmbruck, museum architect; and Luis Monreal, museologist. This team prepared an initial project proposal[1] which was then elaborated on by the

83(b)

Egyptian Antiquities Organization. Dr Mahmoud El-Hakim is the author of the architectural project, whilst the engineering aspects of the museum construction have been entrusted to Arab Engineering and Planning, consultants to the Ministry of Housing. An international panel of museum specialists will be charged with the supervision of the project. Once adopted, an international bid will be called for by the government with a view to its implementation.

The Nubia Museum will be housed in a 6,000-square-metre building erected in the Pearl of the Nile park, at the northern end of Aswan (Fig. *82*). This location has a panoramic view of the western bank of the river and the associated tombs of the Aswan noblemen who played an important role in Egyptian history, as explorers of Africa and governors of Aswan.

The Nubia Museum will illustrate the history of man and his environment, from prehistoric times to the latest phase of the Nubian campaign. The display will take into account the particular geographical, sociological, and cultural features of this region which played an important part as a link between the Mediterranean and African civilizations. Phenomena such as cross fertilization between civilizations at different levels—a problem not unknown in modern times in developing countries—will be illustrated by the exhibits and an interdisciplinary approach will be used in planning exhibitions.

The project of establishing this museum responds to the obvious need to

1. M. Lehmbruck, L. Monreal, T. Säve-Söderbergh, *The Nubia Museum, Aswan,* Paris, Unesco, 1979.

give, within a single institution, an overall picture of a region that has its own well-defined cultural patterns and a very rich heritage—both movable and immovable.

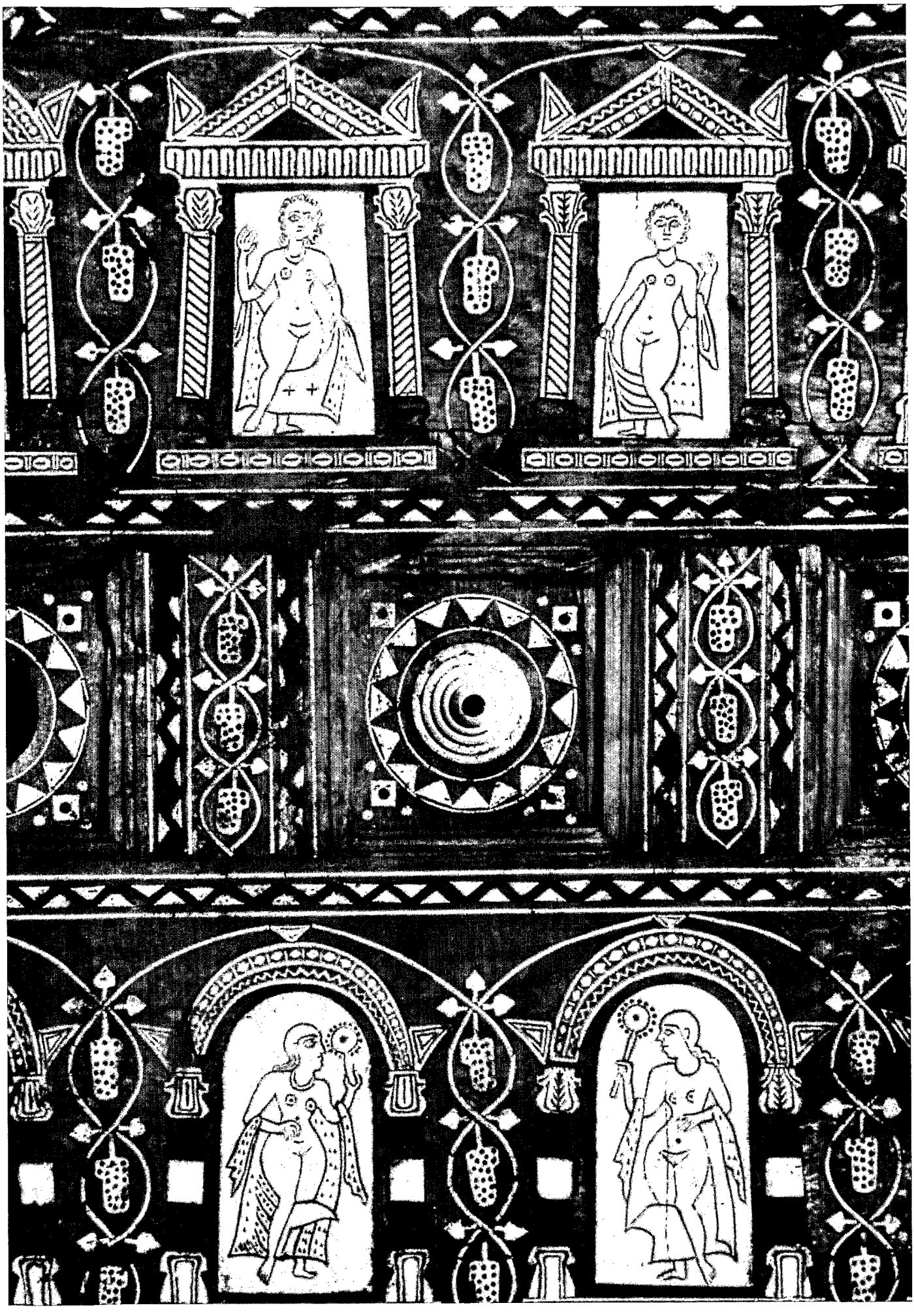
The main goals of the Nubia Museum will be to act as a repository for Nubian archaeology, a centre for the documentation and conservation of the collections entrusted to its custody—a 'bank of objects' for the specialists, as well as an educational institution.

It is the intention of the Egyptian Antiquities Organization to transfer to Aswan a representative collection of objects belonging to all Nubian cultures (Fig. *83 (a)—(c)*), many of which are now in the Egyptian Museum in Cairo. The important findings from the royal tombs of Ballana and Questul (fourth and fifth centuries A. D.), for example, will in future be presented in the Nubia Museum, as well as, naturally, a large number of objects from the Meroitic period, samples of prehistoric rock art, architectural elements from different epochs and a large variety of objects from prehistoric and historic times.

In order to fulfil its function, the museum will be equipped with a conservation and restoration workshop; an education service; photographic and documentary services; and facilities such as an auditorium, library and research rooms, a central control room, a maintenance workshop, and storage premises, etc.

With regard to display, the museum building layout will ensure maximum flexibility in order to present objects in a setting showing their relationships in an 'ecological' manner, thus relating them to human life and to its context (domestic, religious, ritual, political, etc.) in each period. Exhibits will be, as much as possible, arranged in a setting suggesting their original daily use and purpose. On the other hand, the general chronological order will be interpreted by exhibits aimed at establishing a link between the past and modern times. Special emphasis will be placed on the results achieved in the preservation of the monumental and movable heritage by the international campaign launched in Nubia twenty years ago under the auspices of Unesco. Thus, the Nubia Museum will be a perennial reminder of this outstanding example of international solidarity, which contributed to the rescue of a heritage which belongs not only to Egypt but to the whole world.

83 (c)
Chest decorated with inlaid ivory (detail) from the necropolis of *Questul*, group X (fourth to fifth centuries A.D.).



The peoples of the world dance a ring around a tree as the dove flies overhead to the olive tree. From the space viewpoint, interdisciplinarity in the museum depends on respect for each person's independence and understanding of all cultures.

84
Vive la Paix, drawing by Picasso, Musée de Saint-Denis, France.

Recent Unesco publications

The Organization of Museums—Practical Advice. A collective work published by Unesco, Paris, 1960, fourth printing 1978.

First published in 1960, as No. IX in Unesco's 'Museums and Monuments' series, this basic text has proved so popular among all those involved with museums the world over that a fourth impression was recently brought out. The Foreword to the first edition, written by Dr Luther Evans, Unesco's Director-General at the time, underlined that the book was 'designed to give practical advice to smaller museums with limited budgets or to museums which are just beginning to enlarge the scope of their activities' and went on to hope that it would 'also be valued by members of the profession working in museums that are already well established'. That aim and that hope have been fulfilled. The book is still considered relevant by those qualified to judge, despite the many changes that have occurred in the museum world.

The durability of a text such as this lies precisely in the fact that, regardless of advances in knowledge and techniques or changing fashions and shifts in sensibility, which make certain details out of date, museum organization must comply with certain basic rules if it is to achieve the aims of the institution. The museum's purposes may have broadened and its place in the modern community may have increased considerably in recent years, but this evolution is one that Unesco and ICOM have encouraged and it was indeed emphasized in the pages of *The Organization of Museums.*

The volume begins with a survey of the museum's functions and continues with sections on museum administration, staff organization, research, relations with visitors, education, the museum laboratory, conservation and storage of collections, display and, finally, museum architecture. A collective work, the book brings together chapters written by museologists from Belgium, France, Italy, the United Kingdom and the United States.

Museum Collection Storage, by E. Verner Johnson and Joanne C. Horgan. Paris, 1979. (Technical Handbooks, 2.)

Unesco has long shown an interest in and concern about the problems of museum collection storage. In December 1976, it co-sponsored the first International Conference on Museum Storage, held in Washington, D.C., where one of the authors of the present volume joined twenty other participants interested in finding solutions to the complex problems of storing the valuable objects housed in museums throughout the world. The conference recommended that a technical handbook on museum-collection storage, based on current research and technology, should be prepared. Its publication is indeed overdue, for museum professionals throughout the world have been concerned about the inadequate attention given to the intricate problems of collection storage. Ideal storage systems can be prohibitively expensive, but with some application and imagination a range of intermediary solutions can be devised, provided that knowledge and ideas can be exchanged and compared among specialists in this field throughout the world.

E. Verner Johnson and Joanne C. Horgan are principals of the architectural and planning firm of E. Verner Johnson and Associates, Inc., Boston, Massachusetts, United States, which has undertaken many museum planning and research projects over the past thirteen years. As they point out, 'collection storage involves more than a physical facility. It reflects the museum's roles and programmes in exhibition, education and research'. Their book is therefore divided into five sections devoted respectively to: the museum's overall planning and its effect on storage systems and areas; records, accessibility and retrieval; security problems in relation to storage; conservation questions in the storage area; and finally the design of particular storage systems to house museum collections. Many different generic types of system are described and illustrated, including fixed,

mobile, simple, complex and sophisticated systems. Both commercially manufactured systems and those that can be made by museum staff are included.

The book is illustrated with line drawings and tables and contains a select bibliography prepared by the Unesco-ICOM Documentation Centre.

Conservation Standards For Works of Art in Transit and on Exhibition, by Nathan Stolow. Paris, 1979. (Museums and Monuments, 17.)

This book is intended to be a practical guide for curators, registrars, administrators and museum and gallery workers on the care, handling, packing and transport of objects and works of art for exhibition and travel. It emphasizes conservation principles and looks closely at the physical environment and deterioration phenomena. The understanding of these principles is important for the development and maintenance of good standards in the care of collections. A primary standard is to maintain the object or work of art under optimum conditions at all times: in storage, in the gallery, during travel, and on exhibition elsewhere.

The care of exhibitions in transit must be considered as part of a 'care continuum' integrated in an overall programme of conservation standards. The number of exhibitions and museum exchanges has increased dramatically over the last two decades, and the rate is not diminishing. Cries of alarm are sounded from time to time, urging that the pace be slowed down and that the purposes of such exchanges be re-evaluated. At times, it is difficult to see the museological importance of an exhibition, organized at great cost and at extreme risk, and presented in a show-business fashion. The conservation requirements for the object are barely met in the hectic atmosphere generated by such displays. At the same time it is difficult, indeed undesirable, for the conservator to resist the requirement that works should be seen by the greatest number of people, and contribute to a rich flow of cultural exchanges throughout the world. Some compromise can be found where the damages from exhibition and travel can be minimized, so that collections will survive for future generations to enjoy.

Unesco's concern for the prevention of risks incurred by cultural property has been marked, *inter alia*, by the adoption by the General Conference of Unesco at its ninth session, in 1956, of a Recommendation on International Principles Applicable to Archaeological Excavations, followed by a Recommendation and a Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, which were adopted in 1964 and 1970 respectively. Simultaneously, studies of various aspects of museum organization have been made, including the training and status of guardians, the organization of exhibitions and of international exchanges of cultural objects, the re-assembly of dismembered works of art, and conservation in tropical climates.

In recent years, museum specialists have been led to give greater consideration to the conservation of works of art when they are on exhibition or in transit, and have evolved methods and techniques for ensuring that works of art are protected as far as possible from the hazards of human error and unfavourable physical and climatic conditions at such times. This book describes these methods and techniques. It covers deterioration and conservation of objects, examination and preparation, case design and packing techniques, transportation, and finally guidelines and standards of care. Its author, Dr Nathan Stolow, is now an independent conservation consultant on works of art and lives in Ottawa, Canada, after a distinguished career in museum conservation in Canada, and at international level.

The book is illustrated with black-and-white photographs, line drawings and tables and contains an index.

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Born in 1919 in London. From 1947 to 1953, B. A., M. A. and Ph. D. in Social Anthropology at Oxford University. 1957-69 Visiting Professor, Chicago University. 1964-71 Director of Studies (Associate) at the Ecole Pratique des Hautes Etudes, Paris, 6th Section. 1972-77: Professor of Anthropology at the London School of Economics; 1977-78: Associate Professor at the Université d'Aix en Provence-Marseille I, and 1978-79 at the University of Paris X, Nanterre, France. Recent articles: 1971: 'Thomas Gage parmi les naguales; conceptions européenne et maya de la sorcellerie', *L'Homme,* Vol. 11, No. 1, p. 5-31; 1973: 'Race in Latin America: the Concept of "Raza"', *Archives européennes de sociologie,* No. 14, p. 3-31; 1979: Réplique à Françoise Zonabend, 'Anthropologie du soi et anthropologie de l'autre', in G. Condominas and S. Dreyfus-Gamelon (eds.). *Situation actuelle de l'anthropologie en France,* Paris, Editions du CNRS. In press: 'Quand nos aînés n'y seront plus', in H. Mendras (ed.). *Tendances et incertitudes de la société française,* Paris, Gallimard; 'Le désordre vestimentaire', *Actes du colloque: vêtement et société,* Musée de l'Homme, March 1979. Has written numerous articles in specialized periodicals.

ALEXANDRE VALTCHEV

Born in 1941. Higher technical education, after which he worked as an engineer and later became an official in the educational system. Since 1969 is the Director of the National Museum of Polytechnics in Sofia. Since 1972 Secretary of the Bulgarian National Committee for ICOM and since 1973 Member of the Bureau of the ICOM International Committee for Science and Technology. From 1977 Member of the Bureau of the International Committee on History of Technology. Since 1979 senior scientific worker with the Committee for Culture. Publications on museology, history of technology, etc.

GÜNTER VIOHL

Born in 1938 in Berlin. He studied geology and palaeontology at Freiburg-im-Breisgau, and at Erlangen, where he obtained a degree in geology in 1963 and a doctorate in 1969 with a thesis on 'The Keuper-Lias Boundary in Southern Franconia'. From 1968 to 1972, scientific assistant in the Faculty of Moral Psychology and the relationship between science and theology at the Eichstätt College of Philosophy and Theology. In 1972 was appointed curator on the staff of the Bavarian State Department for Natural History Collections and was given the responsibility of planning the Jura Museum. Scientific director of the museum since its opening in 1976. In 1977 he was appointed to chief curator.

Picture credits

1, Cliché Agraci, Paris; *2*, Pitt-Rivers Museum, Oxford; *3*, M. Hoedt, Eichstätt; *4*, *5*, *7*, *10*, *11*, *12*, *13*, I. Voth-Amslinger, Eichstätt; *6*, H. Ehrenkäufer, Eichstätt; *8*, J. Tischlinger, Eichstätt; *9*, *14*, G. Viohl, Eichstätt; *15-24*, Erich Sutherland, Minneapolis; *25-35*, Musée Camarguais, Arles; *36*, *37*, Gérard Fraissenet, Arles; *38-46*, Forges du Saint-Maurice, Trois-Rivières, Quebec; *47*, *52*, *57*, J. Fröhlich, La Chaux-de-Fonds; *48*, *49*, *50*, *53*, *55*, *56*, S. Tcherdyne, Pully; *51*, V. Studer, Berne; *54*, *58*, International Clockmaking Museum, La Chaux-de-Fonds; *59*, *60*, *61*, Erkki Salmela, Helsinki; *62*, Lòslò Lelkes, Helsinki; *63*, Patrick Oras, Helsinki; *64*, Helsingin Kaupunginmuseon Kuvakokoelmat, Helsinki; *65*, *66*, *69*, *70*, Musée Historique Départemental, Pernik; *67*, *68*, Kowatschewzi; *71-75*, National Museum and Art Gallery of Botswana, Gaborone; *76-81*, Nationale Forschung und Gedenkstätten, Weimar; *83 a* to *c*, Egyptian Museum, Cairo; *84*, Editions Combat pour la Paix, Paris.