

The combination of traditional and interactive objects in science museums

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Interactive Exhibit measuring time



■ The questions posed by the theme of the CIMUSSET Conference in Barcelona (July 2001) imply a discussion about objects in science museums and interactivity. This presentation analyzes the possibilities of articulating traditional objects (generally with a historical value) and so-called interactive ones and examining the types of objects present in museums. The presentation also describes the different strategies used to achieve efficient communication and to implement education by means of such objects.

In order to offer a clearer understanding of the development of our communication, we would like to point out that in our analysis of questions linked to Science Museums and their presentation to the public, we base ourselves on the principle that the museum as communicator is expanding its educational role.

First, we shall look at the environment/ambience in which science and technology museums have been implemented. Within this context, we present some aspects of these museums and their objects. Finally, some aspects are suggested for a possible discussion relating to a different statute of the science museum object that goes beyond conservation by including the intangible, touched on in the exhibition narratives.

The environment / ambience

The 20th century saw the relation between science and technical skills - and their unforeseeable advances - become a social question. This is especially true after the Second World War, when the introduction of controlled nuclear energy occurred simultaneously with the prevalence of economic models based on development and progress. In the 1950s and 1960s the image of science and scientists was gradually fixed in society: institutionalized science and professionalized scientists. During this period, the launch of the Sputnik (1957) was the crowning achievement of Soviet scientific progress and had an enormous social impact by making explicit within the field of education the chiasm between society and the understanding of the role of science.

This last event resulted in a process with worldwide ramifications, promoting an intense discussion that led to a transformation of the practices and the social role of museums. Science and technology museums played a leading part at the center of this movement. Their aims went beyond the preservation of important objects from the history of science, to concentrate

However, we live in a context of great complexity. This occurs because opportunities and risks present themselves in such a fashion that there is no way to foresee or control in such a terministic fashion the result of the processes under way. This complexity is increased when we take into account questions of territoriality, with the tendency within globalization for States to preserve themselves in this new environment as nations therefore, what is implied is the introduction of a *geographic area*.

By broadening the educational dimension of museums, as spaces of preservation and guardians of the past, they come closer to those aspects in contemporary science that are inserted in a vision of history as a relevant characteristic of scientific thought, in other words, the universe is subject to permanent change and therefore has a history. In this instance, museums have emphasized the association of natural phenomena with history. History enables one to understand the process of events. It is this history that narrows the gap between the layman and knowledge as preserved and presented in the museum.

Education has been highlighted as an important resource to confront the new challenges posed by globalization and by technological advances in the age of information. For this reason, the concept of education, which in the past focused mainly on teaching and learning exclusively linked to a formal school setting, has broadened. Thus it transcends the walls of the classroom and spreads into spaces such as home, work, leisure, etc. resulting in the birth of a new field of education: the non-formal education. Today, several spaces contribute towards the same educational goal of filling gaps in society's knowledge. Within this context, museums are considered to be important sources of learning by contributing to an elevation in the level of culture of those who did not have such an opportunity and those who are no longer part of the school system.

Based on public opinion polls about the interest of individuals in knowing about science-related matters, two distinct groups appear within society. One group is formed by those who are interested in the fields of science and technology, in order to understand by themselves to act as informed citizens. The other one is formed by individuals who demonstrate a low level of understanding of scientific and technological themes (nuclear energy, chemicals additives, environmental control, genetic engineering etc.). Evidence suggests that there is congruence between the need to improve the level of understanding of science and the guarantee of lifelong education. Thus, one can see the vital role in this strengthening process of non-formal instances of education, especially science museums.

Within this context, science and technology museums received a new impetus. This impulse is so strong that it is perceivable all over the world. Museums arose in response to a demand and as a resource for improving the relationship of individuals with science and technology. However, one must note that this growth is still associated with educational measures intended to stimulate competitiveness and greater productivity, in which the many with the needs of business and industry, in which the logic of profit prevails over social questions.

On the other hand, science has found in technology a very productive partner to work with in society in a global manner and we can observe a change in the scale of the effects of science and technology on society (the impact of computers, robotics, nanotechnology etc.). Until the 1980s, physics occupied the place of paradigm in the description of nature. Today, biology is taking an increasing place.

If we are able to distinguish in the immediate post-war period a moment that can be characterized as the Age of Science², in the last twenty years a different movement is perceptible. From 1980 onwards, we have entered a new era: the Age of Technology³. The questions raised in society, which was until 1980 dominated by social movements in the field of political, economic, social and cultural rights as well as the construction of citizenship through education, also modelled the role of the institutions whose main mission is communication and socializing knowledge. This has a special effect on science museums, which must pay a greater attention to the implications of this new context.

During this period, a new appromiximation of science occurred with the social role of technology (the marriage of scientific methods with technical skills becomes technology) that was able to find a variety of solutions to the practical problems that affect peoples' daily lives. Regarding the great capacity of storing, processing, interpreting and accumulating information and the imposition of theoretical limits, science has partially abandoned its initial aims and becomes more pragmatic. No longer does research for a hidden truth guide scientific efforts, but instead something practical, that permits goals to be achieved with greater efficiency, whether by simulation models or virtual

In the 1970s, more precisely, interest in environmental education was intensified by reports of damage to the environment and by the awareness that society had a low level of ecological consciousness, with the objective of making society reflect on the social implications of scientific development.

During the 1960s and 1970s, the dominant discourse emphasized technological advance at any cost. Interest was focused on science and technical museums, which were seen as means to bridge the gap between people, science and technology. By returning to the past this instrument was also used to modernize urban centres that, in addition to their own status, served to make the achievements of science and technique more dynamic.

on the popularization of scientific principles, in order to encourage young people to enter careers linked to science and technology. Among their principles was a belief in the necessity of exposure to scientific method for the formation of citizens and not solely for the preparation of future scientists. So, a multidisciplinary museum arose that integrates science, technology and art and that uses interactive techniques of an experimental nature. These are the so-called Science Centres: a provocative space that attracts, seduces and motivates the visitor to make contact with the fundamentals of Science and Technology based on an invitation to "do it yourself".

According to Santos, 'places fulfill and reveal the world, by 'historifying' and 'geographizing' it'⁶.

Within this viewpoint, science also sees itself as unpredictable to the extent in which today it is no longer expected to cope with everything. These are elements of a new atmosphere requiring a new behaviour from society and also involving new demands on science education and popularization. If the beginning of the 20th century is marked by the mystification of science, by the end of the century the trend in education is to demystify it.

During the 1980s, many nations and the United Nations Organization for Education, Science and Culture (UNESCO) pledged themselves to fulfill an international commitment with respect to science education and to spread the idea of 'science for all' and throughout life, based on democratic principles and the respect for human rights. 'The scientific education of all students, for their roles as future citizens, was placed on an equal footing with the original and traditional objective of formal education in the sciences, related to the selection and preparation of future scientists'⁷. The same author further affirms that the knowledge of the adult public about most current and relevant scientific questions is not derived from experiences in school, but from the actions of scientific popularization (the great popularisers of science), from high quality electronic media and from science museums that bring to their exhibitions both classic scientific/technological knowledge and current or controversial themes.

The objective of these new museums and centres is to provide access to all by inviting the participation of the layman. Today, the individual is required to show a greater capacity to operate in different areas and an easiness of adaptation. All over the world, specialists in the area of science education have sought to implement science programs that can contribute to the formation of critical citizens, capable of appreciating science as part of culture, constantly seeking their own enrichment with regard to scientific culture, questioning the knowledge spread by the media and interacting consciously with the world around them⁸.

These are some of the aspects that underlie the new forms of conceiving the spaces of museums and science centres. So, these new spaces now deal with current and controversial themes presented in such a way that individuals can participate as citizens, possibly by influencing political decisions.

The museum objects

Upon activating the popularizing role of the museum, it will be guided by a specific concept of science, based on a representation of science that will then be displayed in exhibitions where objects are present. These objects may be associated with presentations where science is portrayed as a crystallized knowledge, as an obstacle to the understanding of the visitor. And, in other cases, the objects are presented in such a way as to enhance the understanding of science as a process in transformation. Therefore, in order to discuss the articulation of traditional objects with so-called interactive ones, it is nec-

essary to examine more closely the types of objects found in museums. A relevant bibliography on this subject already exists and several approaches have been proposed with regard to communication and education by use of objects⁹. Our presentation highlights the work of two authors.

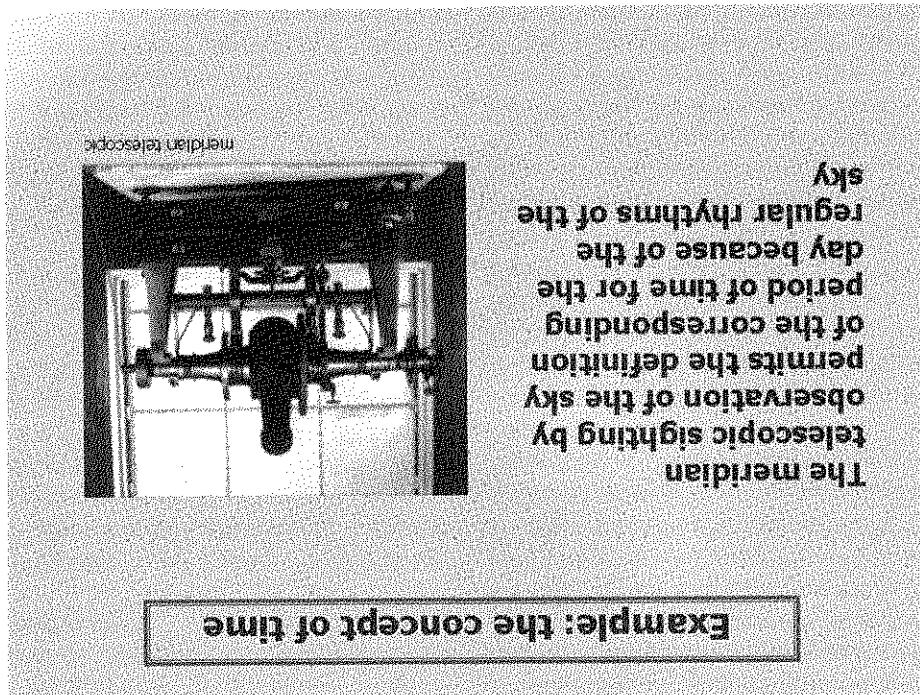
Lourenço's study¹⁰ proposes a system for the classification of objects for scientific and technical museums comprising three main types of objects: scientific objects, built for the purpose of scientific investigation; pedagogic objects, built for the purpose of teaching science; objects that popularize science, built for the purpose of presenting scientific principles to a wider audience. The first two types of objects are incorporated to collections because they are no longer used for their original purposes - and are commonly named 'historical objects' - and the third type of objects is built specifically to be manipulated within the context of an exhibition - these are currently named 'interactive objects'.

However, the author makes a reservation with regard to these designations; since in her view the attributes of 'history' and 'participation' are not intrinsic to objects - for instance, an historical object may, under certain conditions, become interactive and vice versa. Thus, historic value and interactivity are external characteristics that may be present in all objects, in different contexts. According to Lourenço it is the purpose for which the object was built – an internal criterion – that confers on it some objectivity and internal coherence. On the contrary, criteria based on external characteristics, such as interactivity or historical value, do not allow an objective approach to the problem, since these attributes are conferred during the appropriation of the objects and, in her view, are incapable of being controlled a priori.

From a different perspective based on the possibilities for presenting objects in exhibitions, Schärer¹¹ proposes seven approaches that indicate the intentions behind the display of an object, from the function attributed to it. The author defines types of exhibitive languages, such as aesthetic, didactic, theatrical and associative. In his opinion, objects in exhibitions may be mute, as in deposit-museums; seductive, as in dream-museums; illustrative, as in history book-museums; disorganized, as in theater-museums; educational, as in school-museums; significant, as in debate-museums; witnesses, as in narrative-museums.

Referring to these authors, one can affirm the existence of different forms of choice of the criteria for the classification of the types of objects in museums. If the choice is made according to internal attributes, the classification is, in general, more objective and generalist, and therefore independent of the context in which the object finds itself. On the other hand, a classification that takes into account the context, the object on display, tends to be less objective and as many criteria as situations in which the object can be displayed may exist. Nevertheless, the latter classification reveals the different forms in which the objects can be presented and interpreted by visitors, an important element for the communications process of museums.

In either classification, however, one can see that 'historic' and



How can the historical dimension be introduced in a scientific exhibition without falling into a traditional technological approach?

Scientific instruments help to introduce the relation between science and technical skills helping the public to give meaning to scientific content; but, the presentation to lay visitors of an instrument in isolation inevitably offers a very limited understanding of scientific thought. To the contrary, the instrument should be shown inserted within a context of interdisciplinary science, helping to bring science closer to the visitor if she or he is familiar, to a certain degree, with what is on display.

The exploration of scientific questions by means of the present-
ation of a historic process linking social and cultural aspects
helps to promote a view of science as a collective human con-
struction. It also contributes to the understanding of the hypo-
thesisical nature of the trial and error of scientific research. And it
allows the visitor to understand that knowledge is reached by
overcoming preconceived notions and obstacles by means of
a dialog and complex discussions taking place over time. In ad-
dition, the presentation of scientific questions by articulating
different viewpoints enables a widening of the understanding
of science, technology and social relations, bringing the public
and scientific matters closer together and facilitating the under-
standing of science in a more ample fashion.

Facilitating interactivity in the museum

do be based on the history of science.

The term hands-on is also often proposed as being almost synonymous of interaction. However, the basic limitation of this level of communication would be that hands-on does not necessarily mean hands-on, in other words, the user may not, a posteriori, be able to build a meaning out of the experience. The authors quote Lucas, who criticizes the notion that any intellectual engagement. Thus, interactivity must be joined with physical manipulation whatever of an apparatus promotes a clear pedagogic conception that takes into consideration the specific characteristics of the spaces of non-formal education, especially with regard to the nature of learning that occurs in such places. If not, the interaction is lost in an innocuous attempt to publicize science to the general public.

So, we can see that the term 'interactive' has different nuances and that the fact that an object possesses the characteristics of traditional objects does not mean that it cannot have some degree of interactivity, here understood as a quality not restricted to exhibits of the hands-on type. Thus, the most important point is the manner in which the object is displayed and the approach used to propose the discourse about the object (meta-discourse). In our view, in the case of science museums,

"interactive", attributes are not inherent to the objects. Above all regarding the question of interactivity in objects, several authors have discussed the way in which this term is being used in the museum environment. According to Falcao et al., the understanding of the concept of interactivity requires an analysis of the situations in which this term is usually used. Initially, this arose as a counterpoint to contemplation, this last usually being common in museums that present objects which cannot be manipulated, inviting the visitor to behave in a reactive way while interacting with the equipment on display.

(an exhaustive exhibition of objects with emphasis on great deeds by great men)? An example may be to use the concept of time. Without introducing cyclical time and considering only linear time one can introduce the question by looking at techniques for the measurement of time. The meridian telescopic sighting by observation of the sky allows to define the corresponding period of time for the day because of the regular rhythms of the sky. This measure serves to calibrate a pendulum after transfer to a pressure chronometer. However, after the introduction of the atomic clock, time is no longer measured by the Earth's rotation but by the frequency of oscillation of a crystal. The first instrument – a telescope – gives us the key to understanding how we know our local time, by observing the passage of a certain star through a certain meridian. After the introduction of the atomic clock, time becomes a concept that can no longer be associated with any event of daily life and is now an abstraction. So, one can perceive the evolution of techniques for the measurement of time and the change in the conception of the notion of time as a function of the introduction of new elements of precision and frequency. This knowledge must be presented in a museographically conceived environment so as to facilitate understanding and, as pointed out by Lins de Barros without dispensing with the elements of cognition (intellectual interaction), communication (beyond the interaction of manipulation) and affect (emotional interaction). These aspects, according to the author, are essential for the total interaction of the visitor with the theme of the exhibition.

Therefore, the introduction of history in science museums allows to show science as a process of permanent research and to reduce the gaps in knowledge that are present in contemporary society. Science has changed our view of the world drastically and the function of the historian becomes more complex than the compilation of facts or the dedication to the exclusive memory of certain persons. Each generation rewrites the history of the world in light of new ideas and of the established knowledge of each era. The perception of this transformation enables the establishment of links between past and present concepts, reducing the gap between historical moments and incorporating cultural changes.

Until now we have discussed those museums that deal with objects, objects that have witnessed experiments that, while seen as technical, can be perceived as reflections of scientific thought. But if we shift to another side, what can be said about Science Centres that present equipment for the demonstration of scientific laws and phenomena? In spite of their great attraction for the public, they generally provide fragmented and incomplete knowledge, because of the lack of historical perspective. Here also the history of science has a role in linking abstract knowledge with the evolution of scientific thought.

While traditional Science and Technical Museums have difficulties in communicating a comprehensive view of current scientific knowledge, Science Centres present science devoid of relations, without background and outside a cultural context. However, the two approaches have a common goal: to stimulate scientific and technical education, for its intrinsic value

and for what it represents as a conditioning factor in modern society. Thus, and as Bragança Gil¹³ has suggested, it seems that the knowledge present in both would be better put to use if the two versions merged their positive aspects in a coherent museological combination. Then, Science Centers would also be interested in the past and Science and Technical Museums would be interested in experimental science and in contemporary technology, both showing the changes in scientific and technological thought and as a product of transformations in contemporary and past human relations.

Reflecting about objects

Above, we saw how objects have intrinsic historic and phenomenological meanings. From the point of view mentioned above, we analyzed the processes and the phenomenon, something that lies outside the physical concreteness of the objects as part of its intangibility.

Nature and the environment create links with museums that are submitted to the scientific and social representations of our society, be they about nature, objects and, of course, about the museum. The current dimension of the museum as a place of communication cannot obscure this element.

According to Van-Præet¹⁴, at the end of the 19th century, it was considered to be of fundamental importance for the museum to no longer be limited to an inventory and description of each element in our natural and cultural universe, but, on the contrary, also to explore natural and social processes as a way in which to extend our knowledge of nature and of how knowledge is produced. The emergence of new representations and 'disciplines had an impact, at the end of that 19th century, in the concepts and working of museums, especially science museums. On the one hand, the large scientific instruments that constitute these institutions should not be put at risk, a danger always present in exhibitions. But, at the same time, actions of popularization are seen as indispensable, both to spread new concepts, such as evolution, ecology etc., and to avoid the isolation of the scientific community from society. This dilemma - maintaining the research instrument in a collection and organizing exhibitions - will be solved by the creation of the modern concept of museum, which divides the museum's space into a reserve collection (henceforth the sole domain of specialists) and exhibition galleries.

For over a century, museum and heritage professionals have been pondering the question of how to progress from the principles of conservation and exhibition of material evidence (naturalized species, fossils, instruments, works etc.) to those, still under elaboration, of conservation and presentation of natural, cultural, technical and other processes, which originate in the intangible. This question implies the consideration of, in addition to the traditional assets of the museum, intangible assets, not only in the spheres of museums of ethnology, history etc., but also in scientific and technical ones. Reflections about intangible heritage are linked to aspects related to the conservation of processes and phenomena. This heritage includes culture and nature, and, within nature,

many exhibitions, but, above all, the notion of real and substantial on the other.

The use of models and sculptures is developed in parallel invents/creates the fossil on the one hand and the creative art-of the exhibition, with a living creator: the palaeontologist who fact that the museographer is confronted, during the assembly concept of an 'installation' in contemporary art, including the display in the field of palaeontology spontaneously evokes the arts. As Van-Praet shows, the work to assemble pieces for originality itself is not identical to the one that can be defined for or the original must be called into question, since the statute of the domain of the human construction and, therefore, belongings to All heritage is a human concept in this specific field. Aesthetic objects are pertinent concepts in this specific field, the analysis of collections of natural history, both substitute and Therefore, it is of fundamental importance to emphasize that, in

the methodology of science.

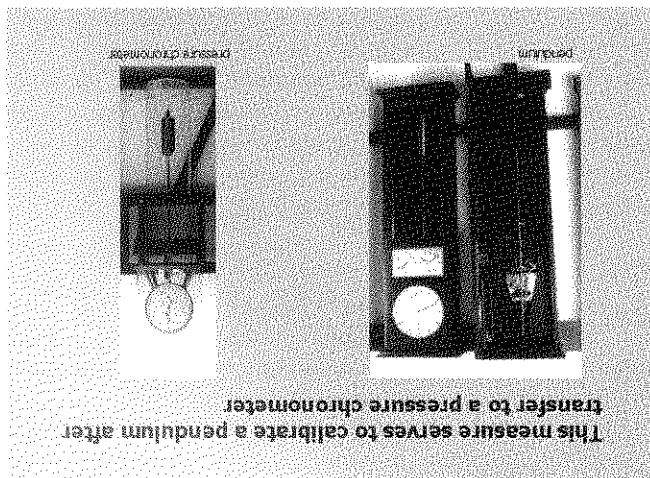
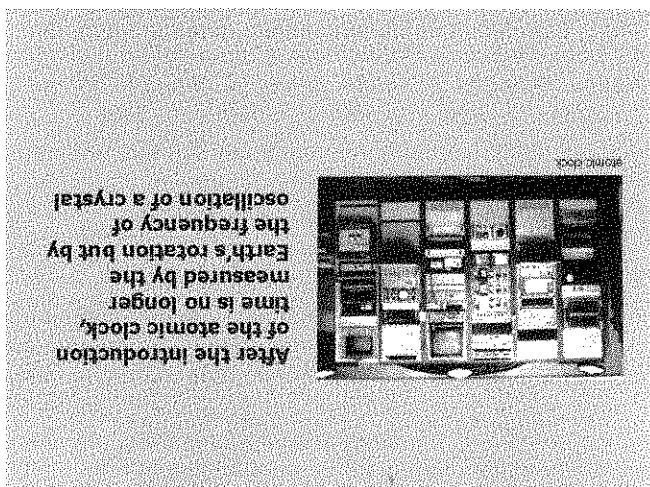
reciting the intangible heritage, including that which originates in support the effort (which is not opposed to the pleasure) of production in the making and, therefore, one must risk emotion and that is in the making and knowledge, but of a knowledge collections, not only of a past knowledge, but of objects in muséology of science to make explicit the function of objects in that are the fruit of several centuries of the use of objects in the here and now. In addition, one cannot renounce competencies heritage is not only submitted to the interactions visible in the greater than what is exhibited in museums; (ii) that the natural standard, for the development of scientific creation is much visits museums; (i) that the heritage of science from this be established, so that the visitor with regard to the public that Van-Praet shows some alternative paths that are yet to during the time of one visit to a natural space or to an exhibition, Van-Praet shows implicitly in telling the public that this standard, for the development of scientific domains perceivable cannot show only the natural or scientific creation is much relates the visitor with regard to the exhibition. In addition, they participation, emotion and aesthetics, so long as this stimulates Thus, scientific exhibitions, of whatever genre, must mobilize

ment, by the quality of life etc.

intangible heritage imposed by society, by economic development, to answer the challenges of communication of the of mediation, to overcome the current forms fundamentally important today to affirm the way as the leading to the creation of science centres and nature parks, it is museum as an institution, transforming science museums and arrival of the intangible heritage profoundly restyled the and form combine several procedures. In the same way as the network of conceptions in which the development of content and form wish to present the intangible heritage constituted by and form of an exhibition is, above all, in the operationalization of a however, we agree with Van-Praet in considering that the suc-

tion have been developed in these spaces.

innovative strategies of animation, demonstration and innovation- heritage comprised by scientific and technical creativity, and constitute a reply to the desire to propagate this intangible scientific creation. It is thus possible to affirm that these places the same wish to present the intangible heritage constituted by the Science Centres also arose from the 1930s onwards from reflecting about investigating this intangible heritage¹⁵. The Science Centres also arose from the 1930s onwards from reflecting about investigating this intangible heritage¹⁵. Thus, encompasses all acts of creation, including Science. Thus,



tute come up, like in paleontology, against limits that must be mentioned to visitors. Therefore, though the use of models is frequent in fields such as paleontology and, to a lesser extent, in zoology and anatomy, in the physical sciences, among other fields, the use of substitutes is examined from a viewpoint different from the debate on authenticity and fiction.

In this instance from the field of natural history, the fact that should probably be most emphasized to visitors is that none of the specimens displayed are 'truly natural'. All are substitutes, or more precisely the product of knowledge, which does not prevent the visitor from feeling emotion when confronted with the paleontological assemblage or with a naturalized specimen. This approach promotes the idea that museum objects, as well as exhibitions, are social constructs.

So, although the discussion presented by Van-Præet is inserted in the context of natural history museums, this case helps the discussion presented herein since it calls into question the statute of authentic and substitute objects in museums. If we consider that science centres use objects that are mainly models, therefore substitutes and representations, questions about the adequacy of these objects for the popularization of science become irrelevant. Once again, the most important thing is communication with the public to further the understanding of science as a social and historical process, which can be accomplished by historical or interactive objects.

Finally and bringing together the different points raised in this work, we would like to add that museums have close ties to society and are vehicles for its representations and, thus, the museum in its communicative and educational dimension cannot neglect its relation with the public. The demands of society today assume the restructuring of museum culture by adapting new ideas to the existing institution without, at the same time, disregarding the latter's historic potential. Therefore, there is now a tendency to seek a balance between the interest in historic objects and the interest in the demands of society. In the words of Eileen Hooper-Greenhill¹⁶ 'the old principles of conservation must now share their predominant role with the new concept of negotiation'. The act of collecting, as an end in itself, is no longer sufficient in itself; on the contrary, it must be seen as a way in which to reach out to people and their interests.

Résumé

Cet article reprend la communication présentée lors du colloque du CIMUSET (Comité International pour les musées des sciences et des techniques) à l'occasion de la Conference générale de l'ICOM à Barcelone (2001). Il se veut une réflexion sur le rôle des objets dans les musées des sciences et des centres scientifiques. Les auteurs analysent l'évolution depuis le XIX^e siècle du concept de la communication envers le public des notions scientifiques ainsi que la place de l'interactivité et de l'implication des visiteurs dans les prises de conscience des problèmes liés à l'environnement.

Resumen

Este artículo trata sobre la ponencia que se presentó en la conferencia del CIMUSET (Comité Internacional para los Museos de Ciencia y Tecnología) durante la Conferencia General del ICOM en Barcelona (2001). Es una reflexión sobre el papel que juegan los objetos en los museos de ciencias y en los centros científicos. Los autores analizan la evolución en el concepto de la comunicación de nociones científicas hacia el público que tuvo lugar desde el siglo XIX, así como el lugar que ocupa hoy en día la interactividad, y la manera en que los visitantes se involucran en la toma de conciencia de problemas con relación al medio ambiente.

■ NOTES

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LA RELATION HOMME-OBJET EXPOSÉE : THEORIE ET PRATIQUE D'UNE EXPERIENCE MUSEOLOGIQUE

MARTIN R. SCHARR

Par le processus de la muséalisation, des objets sont décontextualisés de leur fonction primaire, chargés de nouvelles valeurs, puis intégrés dans des collections pour être ensuite recanalysés et ainsi visualisés dans une exposition. Une relation spécifique entre l'homme et son patrimoine est au centre de ces démarches et les régit. Ce «phénomène muséal» est aussi au cœur de toute réflexion muséologique qui s'autoposent et proposent ainsi un métadiscours.

C'est pourquoi il nous a semblé intéressant et opportun de créer des temps voir les coulisses et réflexions muséologiques – soit en même temps qu'il nous a été mis à disposition par l'administration / musée de Lausanne à Vevey (Suisse). Une première en 1991-1992, dans le cadre de ce que l'on a appelé le sept-centième anniversaire de la Confédération helvétique, avec un titre programmatique: *700 ans au menu, 7 expositions exposées. L'affirmation en Suisse du bas Moyen Âge* à nos jours: *7 suggestions de présenter l'histoire au musée. Une deuxième Internationale*. Les deux similitudes dans le contexte d'un colloque internationale: en 1991 celle du Comité international pour la muséologie (COM-ICOM) sur le langage de l'exposition, en 1995 celle de la Commission internationale pour la culture européenne et la culture matérielle.

Nous aimions dans cet article exposer d'abord des considérations théoriques, axées sur les musées de société (donc pas applicables aux beaux-arts) et donner ensuite le descriptif des deux expositions pour présenter ainsi notre manière de visualiser des faits muséolo-

légue. Pour commencer, il faut préciser ce que nous entendons par *museo-
logie*. Nous privilégions un champ de recherche défini très largement et
qui englobe une altitude spécifique de l'homme face aux objets (ou à
ceux qui les utilisent). Celle altitude incite les procédés de conservation
(«musealisation»), de recherche, de communication («visualisation»). Ce
type d'altitude se reconnaît toujours et partout. Institutionnalise et ana-
lyse au musée, ce phénomène en a très son nom, ce qui induit souvent
des malentendus dans la mesure où on assimile la museologie à la
science du musée, uniquelement.

Il nous semble judicieux de mettre l'objet au centre de nos considé-
rations ou plutôt l'homme dans ses rapports avec les objets, et ceci de
manière très générale. Nous évogurons ensuite la muséalisation des
objets et avant tout la fragilité historique peut être visualisée par ceux
qui se pose donc la question de savoir comment les objets se transforment au
cours de leur vie. Nous entendons par *objets* tout ce que l'homme peut per-
mettre à un autre. Les objets sont universels et omniprésents. L'une culture
point de départ. Les objets sont universels et omniprésents. L'une culture
les mêmes objets que l'autre. Les objets sont universels et omniprésents.
Les millions d'objets qu'il entoure constituent chaque individu constitutif le
point de départ. Les objets sont universels et omniprésents. L'une culture
dans les objets aussi les idées qui sont universelles, et les évidem-
pétition permettra de visualiser ces trois phénomènes. L'expo-
sition mettra aussi les idées qui sont universelles, et les évidem-
ents jusqu'à ce que l'homme soit matérialisé une fois, y compris des élé-
ments par ses sens et qui sont matérialisés une fois, y compris des élé-
ments larges, nous entendons par *objets* tout ce que l'homme peut per-
mettre à un autre. Les objets sont universels et omniprésents. L'une culture
de l'homme dans la réflexion humaine sur le monde de l'art qui est celle
qui émanent l'homme, puisqu'en dehors de l'entendement humain et de
la réflexion, les objets n'existent ni pour l'individu, ni pour la société. Les
objets n'ont donc de signification que dans leur rapport avec l'individu et
la société. Ce rapport est double : il est déterminé par la fonction d'usage
des objets et par les valeurs qui leur sont attribuées. Même si l'usage
des objets a sa nature, ces deux aspects coexistent tousjours.

On peut définir la fonction d'usage comme l'utilisation des objets
pour atteindre un but précis (instrumentalisation). Bien entendu, il faut
la visualisation ne peut être portée par les partenaires... .

Tant l'individu que la fonction d'usage ont donc un contexte im-
portant. Pour comprendre, il faut préciser ce que nous entendons par *museo-
logie*.

De par sa tonalité de communication, le musée, par le biais de l'exposition, visualise des failles absentes (et passées) à l'aide d'objets muséaux. A propos des valeurs attribuées à chaque objet, il est important de renvoyer à sa fondation de signe. Par principe, les objets exposés sont toujours des signes, sans qu'il la communauté servent impossible. L'interprétation d'un signe dépend toujours de la biographie individuelle (code personnel) et de l'environnement culturel (code social) de l'individu. Ces objets ne représentent toutefois qu'une infime fraction des objets, passés ou présents, du monde. Comme l'histoire ne peut être reconstruite, et que les objets conservés nous fournissent tout au plus des renseignements d'ordre matériel (informations structurées) mais ne nous apprennent rien sur la manière dont on les utilise autrefois (information culturelle), la visualisation ne peut que être une simple présentation; il faut une explication du contexte initial.

Non seulement des objets nous entourent mais nous les conservons également, c'est pour leur fonction d'usage (aspect qui n'intéresse pas la muséologie) ou pour les valeurs qui leur sont attribuées. La muséalisation définitie comme la «conservation des valeurs idéelles attachées aux objets» est un aspect fondamental. Un exemple simple pour illustrer ce propos: si l'on conserve une casseroles pour pouvoir la réutiliser, elle reste un produit d'utilisation quotidien mais conserve sa fonction de la cuisine, la vaisselle au-dessus de la cuisine, la vaisselle muséalisée pour sa valeur de souvenir. Cet exemple montre bien que ce sont toujours les deux aspects (fonction d'usage et valeurs attribuées) qui déterminent simultanément l'attribution à l'objet des autres (personnes). En effet, pendant la période utilitaire, les casseroles. Très rapidement, d'autres personnes peuvent s'y joindre: la valeur esthétique - on trouve la casseroles «tout simplement belle» -, la valeur de symbole - grâce à cette casseroles-miracle, j'ai déjà assez avec ses casseroles. L'individu commence à développer des rapports personnels avec ses casseroles. Très rapidement des objets. En effet, pendant la période utilitaire la casseroles devient quelque chose de très rapidement, grâce à l'usage et vaillent tout simplement la personne qui détermine la périodes utilitaire.

Tant l'individu que la société attribuent des valeurs à tout objet selon sa fonction d'usage ou indépendamment d'elle. Ces valeurs peuvent en outre constamment changer. Si bien sûr, le même objet peut endosser des valeurs totalement différentes, voire contradictoires, si l'on voulait classifier ces valeurs, dont l'ennumération ne sera jamais exhaustive, il faut distinguer entre valeur matérielle et valeur idéelle, comme par exemple la valeur matérielle d'un lingot d'or, la valeur esthéétique d'un cristal poli du dix-huitième siècle, la valeur symbolique d'un autociseur doté d'un nouveau type de soufflage, la valeur héritage d'un ancêtre (malle à pique-nique en argent transmis de génération en génération).

L'exposition transmet toujours des interprétations, des valeurs, des représentations du monde et de l'histoire. Toutefois, chaque société est formellement marquée par le fait que la transmission de l'information est le plus souvent indirecte, et tout particulièrement la note. Le danger est grand que la réalisation imaginaire soit prise pour la vraie réalité. On comprend ici le rôle déterminant que jouent les objets originaux dans la construction de ces mondes fictifs : eux « ne sont pas fiction », eux stimulent la réalité, eux ont « l'autorité de l'autenticité ». Une telle authenticité est rarement définie par la définition d'un « caractère authentique ». Une telle densité de l'authenticité est rarement définie par la définition d'un « caractère authentique ».

Tous objets sont présentés très主公, comme ils sont parvenus au musée, pelé-mêlé, sans légende. Le visiteur cherche des informations car il s'encourage à leur fonction dans la vie quotidienne. Mais ces objets en eux-mêmes ne lui révèlent rien de leur histoire. Mais il s'encourage à leur fonction dans la vie quotidienne, et à la nouvelle idéne (objet utilitaire, de presse, de collection, etc.)

l) l'objet est muté : le musée-depot

Dans la salle principale de l'exposition, on présente sept réalisations possibles, en fait sept expositions qui sont toutes différentes dans leur intention de vouloir montrer ce qu'est l'almérialisation en Suisse. En effet, elles n'en montrent bien sûr que des aspects partiels. La somme de ces sept approches n'en donne pas non plus une image complète. Même un nombre infini d'expositions n'aurait pu le faire! Les intuves de ces espèces d'expositions partielles indiquent les intentions de chaque mise en scène par la fonction attribuée à l'objet. C'est celle-ci qui détermine le type de langues expographiques, soit esthétique, didactique, théâtrale ou associative.

En introducțion, la mezzanine, la copie colossale și parafită din su-
pările, lăs muzees ne peuvant pas representer le sens et la fonctiun originale. lăs muzees "objet en soi", la copie colossale și parafită din su-
au-dessous de la souplie ne montre que du vide, et n'est pas éclairee
n'importe plus (pour éviter de mettre en scene ce vide). Tout autreou, huit
vitines donnent d'autres dimensions possibles à l'objet. Celui-ci exerce
un certain effet sur le visiteur (réalite personnelle) et est interprété dans le
contexte artistichel du musée (réalite imagee). Dans la réalite person-
nelle, l'individu détracche physiquement ou intellectuellement l'objet de
son contexte original. L'objet peut se déduire, raviver des souvenirs, évoquer un
un savoir, inciter à la réflexion; il acquiert ainsi une nouvelle dimension.
Dans la réalite imagee, le musee détache l'objet physiquement et intel-
lectuellement de son contexte original et le transfere dans le contexte arti-
stical de l'exposition. Ainsi apprête pour le visiteur, l'objet est analysé, l'
analyse interprète et compare (on ne peut pas dire des conclusions in situ).

de l'almérialion en Suisse de la fin du Moyen Âge jusqu'à nos jours; d'autre part, elle se propose, à côté du contenu, de nous dispenser la forme, c'est-à-dire le phénomène «exposition historique», et par ce fait aussi le média musée». Elle traite donc simultanément de l'histoire suisse de l'âge médiéval au musée.

This section highlights the significant achievements in terms of deep explorations of the ocean floor, including the use of double hulls, the deployment of scientific equipment, and the analysis of geological samples.

exposition peut stimuler une réflexion personnelle. Donc, à chaque visite son exposition, chaque fois une autre! Peut-être nous faudra-t-il donc élargir la définition de la transmission d'un message, en insistant sur le rôle rencontré par l'artiste dans la communication : l'exposition crée un lieu de rencontre plus que le simple espace / les objets et le visiteur. Ainsi on pourra définir l'exposition mieux comme un forum que comme un lieu d'enseignement.

La rosiéme partie, *les objets de la collection*,
salle, classes par ordre et
tiree d'lementaire visuelle
matière à mettre en évid-
gatrer un lien thématique
avec le café. Comme les
au musee, le visiteur tou-
ment et d'une manière vi-

L'expansion organisationnelle dans la mise en scène d'une usine desservie par un accès sur la valeur symbolique de l'objet, sur sa signification qui transcende sa fonction primaire. Deux ensembles d'objets, dont la composition inhérente à la valeur est plus forte que celle de l'ensemble, sont la cause et la conséquence d'un état de choses qui, au Moyen Âge et jusqu'au XVIII^e siècle, a été considéré comme normal. La préparation de l'un des plus grands événements du monde : la soupe. Le visiteur est convié à abstraire du contexte initial des objets ainsi individués et nouvellement recontextualisés et à découvrir la situation sociale.

6) L'objet signifie : le musee-discuss

ment le visiteur attend et studie à travers l'histoire de l'allumation en Suisse. Des phrases à retenir insistent sur les faits importants, une bibliothèque destinée à approfondir les connaissances est à disposition. On accorde à l'objet un rôle intermédiaire : l'observation active et didactique des objets utilitaires, dont l'aspect fonctionnel est recherché, ainsi que le contact direct avec l'objet devraient mieux faire comprendre l'histoire.

Beaucoup de jeux, électroniques

L'histoire, «telle qu'elle a réellement existé», est représentée d'une manière réaliste; une modeste famille de paysans du dix-septième siècle est reine au tour d'un repas frugal. La scène (portant sans personnage, ceux-ci sont visibles seulement dans un film) témoigne également de la stabilité des structures du quotidien. Cette présentation des choses part de l'idée rompusse que l'on pourrait restituer le passé et que l'histoire pourrait être répétée. On idéale ainsi le «bon vieux temps». L'objet est donc le moyen par lequel on catalyse les sentiments et les projets dans le passé.

4) L'objet émet : le musée-théâtre

Ici, seule l'information est importante. Textes, graphiques et petites illustrations sont la base de cette conception. Elles comme un musée présentent généralement des objets, on a choisi quelques-uns plus ou moins au hasard. Ils ne sont toutefois là que pour illustrer le texte, car l'objet est considéré comme un témoin accessoire du passé qui ne peut rien révéler des grandes évolutions et des continuités historiques.

3) L'objet illustré : le musée-livre d'histoire

Dans la salle d'exposition du château maginaire sont présentées avec réalième, quelques objets choisis avec soin et mis en valeur par des techniques modernes. Les légendes, qui dans ce cadre dérangént, sont reduites au minimum et subtilement intégrées à l'ensemblle. Telle est l'idée génératrice de ce type d'exposition : la beauté des objets interpellent directement le visiteur plongé dans la contemplation et fait naître une sensation unique. Sa visite terminée, il retrouve (ou l'espère), enfin, son quotidien.

2) L'objet seduit : le musee-reve

signature d'un musée. Quoique les acquisitions expo-sition-langue soient quelque peu risquées, on pourra définit une telle présentation comme une sorte de «dictionnaire» métallant à disposition des éléments qui sont ensuite combinés et arrangeés selon les «règles grammaticales» des différentes langues d'exposition.

phénomène importait de l'histoires d'objets sont racontées, aussi bien par les guides du musée que par les visiteurs eux-mêmes. Par ce biais, il est possible de renouer avec la tension à virail, parce qu'aujourd'hui, aussi bien avant que dans les rapports vers l'externe (exploitation). Ces constatations nous amènent à la tension entre théorie et pratique - double tension à virail, qui ouvre la porte à la conception de deux expositions « muséologiques », soit à l'intérieur du musée (pendant la conception, la préparation et l'exécution), soit dans les rapports vers l'externe (exploitation).

Tout d'abord il est nécessaire de concevoir une exposition qui ne s'organise pas autour d'une collection, ni autour d'un thème, mais avec des mises en scènes abstraites : visualiser l'histoire par le « média exposition » dans les pré-sages, et la relation entre l'homme et l'objet pour la deuxième fois (partie II). Part le plaisir indéniable d'absorber l'information qui ne s'organise pas comme un tableau statique, mais qui se déroule dans l'espace et le temps, le média passe à la deuxième fois dans le rôle de l'objet.

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Dans l'exposition 700 ans au menu, il y a une lecture au deuxième degré d'objets misé, d'une manière similaire, sur des grands titres écrits par une telle alléation, la percevoir comme entité distinque. Histoires d'objets avec un libelle répétitif : « L'objet est considéré comme... » (« ...utile », « ...beau », « ...précieux », « ...souvenir », « ...témoin », « ...symbolique »). En outre, des juxtapositions intitulées d'objets dans ces éléments de culture, qu'il ne peuvent donc jamais être confondues avec une intention de récits, mais également avec une intention de « variés » cuiśines, ont le même effet de distanciation et d'incitation à la réflexion. Aussi le visiteur trouve-t-il dans chaque « cuisiñe » un miroir, dans lequel il peut se voir lui-même et stimuler un objet-phare pour la « valeur » exposée. Ceci aussi, bien sûr, pour visualiser une relation, celle entre l'homme et l'objet, est en jeu. Une installation qui invite le visiteur à observer une fourchette potentielle, « absente » , par un oculte astucieux - vislon qui crée une fourchette, « absente » et d'autre part, regard crée l'objet, écrit dans la direction du regard et dans plusieurs langues (pour symboliser ainsi l'individualité du regard), et d'autre part, une panneau. A l'attention, exposition intellectuelle ! ... Critique prononcée, si vous êtes, à sorte des sentinelles battus, à osier l'expérience, se déclare à pleinte car il rencontre une approche inhérente. Ceux qui sont près à inviter le visiteur à une certaine perspective, aussi bien par les guides du musée que

Alimentarium, Vevey
M. S.

