

SCIENCE AND CITIZENS: THE CASE OF ROME

Luigi Campanella

University of Rome "La Sapienza"

F. Borruso – MUSIS (Museum of Science and Scientific Information)

Through his capacity of transforming what exists, man can claim the role of freedom in the constitutional order and in human rights. Particularly as it concerns science the problems of freedom were seen for long time only as depending on the guarantee to society of a science and a teaching not dependent on political and economic powers, but not related to any aspiration to yield mankind a specific further right.

Only in a second time when man was presumed to be the center of society did the meaning of freedom of science become related to the more general creative power of a single human being.

When this occurred, scientific museums were touted as expressions of mind, brain and creativity, looking for a direct interaction with citizens and for an influence on them in order to avoid the risk that science, being committed to an "elite", becomes the vehicle of corporative interests, almost an autonomous instrument of power and conservatorism. On the other hand the recent attacks against certain expressions of the freedom of science seem not to justify an upsetting of the parameters on which the freedom right is based, almost if it could lead to a more planned management of science able to debate the value, as means and as expressions, of the ideas of the singleness of his inventive power.

At the basis of this process, there is a reflection of the aims, ways and limits of the promoting action and of the programming activity itself exerted on research, especially when intended as culture which on one hand presents aspects not easily quantified and on the other hand quantitatively must be able to get over the limits and the national borders by means of absolutely universal forms of communication and education, among which the scientific museum surely occupy a primary position.

But unfortunately Rome does not have a Science Museum of its own, and this is a glaring contradiction when the huge variety of places and scientific tradition in which the city abounds are taken into consideration. So the project Musis (Museum of Science and Scientific Information) was launched in 1991 in response to the growing interest in and strong demand for the dissemination of culture, research and the considerable scientific heritage of the city of Rome.

The extraordinary thing is that the concrete nature of the project, the numerous initiatives involved in it and the results obtained despite the short time that has passed, have largely exceeded all expectations.

What was actually quite unexpected was in fact that the project method, which had been designed to satisfy the needs of the city of Rome, would become exportable, which is exactly what happened. We now have two offshoots and some offers.

- 1) MUSIS MAGNA GRECIA; in southern Italy, in the regions where the ancient autochthonous and Greek civilizations mingled to produce extraordinary cultural results, which survived throughout the centuries.
- 2) BABY MUSIS; a museum project for children and younger citizens.
- 3) MUSIS BOLOGNA in one of the most cultural cities of Italy.

However, I shall deal with these latest frontiers of ours later.

The project was thus rapidly turned into a concrete, present object instead of an abstract, absent object (The Science Palace).

Absence, as we know, is disappointing and paralysing. The decision was made, not to surrender to it but to move faster and outpace the heavy steps of disenchantment.

The idea underlying the MUSIS project is that the future museum should consist of a central structure, still to be constructed, as well as of a series of scientific poles located in different parts of the city, hence the name "Multipolar Museum", a sort

of Scientific Museum of 5th generation after the Universal Museum, the Celebrating Disciplinary Museum, the Historical Museum, the Wunderkammer.

This configuration, spread over the area of Rome and province, satisfies the first aim of the project, namely to proceed in a concrete fashion.

As the central structure has still to be built, we have started from the scientific poles, which consist of scientific and technological research laboratories open to the general public for the first time, as well as of small museums that already exist in the urban area and are to be resuscitated and coordinated. As we have already seen, the city of Rome and its province abound in often ill-known scientific "places".

We shrugged off all the idle chatter about possible and ultimate architectural achievement. Instead of attempting to stun the audience with billion-lire projects (there aren't any), and using the two billion lire we had, we have carried out fifty or so main initiatives, subdivided into five operational groups:

- 1) Plans for the construction of the central structure in the campus of the Second University of Rome (Tor Vergata).
- 2) Prototype showing the features of the future museum.
- 3) Science exhibitions (five have already been set up in the different branches of science) in order to educate people with regard to science and social problems.
- 4) Culturally homogeneous scientific itineraries, thematic seminars and conference cycles outlining the multipolar structure of MUSIS, are addressed in particular to students. The demand for scientific information is in fact very strong and the itineraries allow young people to be confronted with problems that were once the privilege of specialists remote from the public at large.

It is thus possible to develop a different critical conscience in the new generations, without concessions to banal and superficial popularizing.

- 5) Numerous popularizing initiatives, training and informing (we have published books, specialist publications, and the appointment with the scientific itineraries has become a permanent one, being run each year during the scientific culture week).

I, as Chairman of the MUSIS Project, have stressed on several occasions that initiatives that are solidly constructed in the present have, to a much greater extent than projects to be realized in the future, strong possibilities of forecasting, planning and organizing the future.

Furthermore, the birth of such an undertaking accompanied by the existence in the city of Rome of the three universities lays a particularly strong emphasis on a very important aspect, i.e., that of the new professions required for the management and future development of the initiative.

Young people have on numerous occasions displayed growing interest and strong receptiveness to issues involving museums, their history, management and development. Their enthusiasm must not be dampened: for this reason we have linked the organizational and strictly propositive work to an activity of training and dissemination in which the three universities obviously play a role of primary importance.

In the conviction that the two aspects cannot and must not be developed separately, although in some cases, by means of partial implementations (which nevertheless mark the beginning of an unitary action plan), we have set up a research doctorate in Museum Science, a specialist school of Scientific Museology and a Diploma for Museum Management Technicians.

However, at the same time we have offered to the public at large lectures and seminars on topics of Scientific Dissemination, Experimental Didactics, Science History and Philosophy, Industrial Archaeology and on transforming what preexists through Art and Science.

The MUSIS Project has never withdrawn into splendid isolation in order to make a titanic effort that, however admirable, would be separated from the rest of the

world. We have never tried to raise the curtain and astonish spectators with our Wunderkammer, in the illusory and hazardous quest for an epiphany of science.

What has happened is that, far from being only a temporary support until such time as the undertaking was completed, the project method actually became its bearing structure.

So it was not difficult to create a network of science sites open to citizens in order to decrease the distances between Science and Society. We have introduced the terms scientific tour and tourism just to say to make tourism in the city but with reference to scientific sites more than to the artistic or natural ones. So scholars, pupils, children, and citizens have the possibility of making trips dedicated to visiting labs, scientific institutions, instrument halls, museums, industries. One of the most successful ideas concerned the tour we called "Art and Science" where the scientific and humanistic cultures are combined on visiting the scientific Cabinet of Cappella Sistina and other sites and places in the name of the unity of culture.

In the past, we used to measure the greatness of countries through the dimensions of their territories and of the colonies. In the present, the new parameters take into account the primary role of scientific activities so that the possession of advanced technologies becomes the sign of the international predominant role. In the future, probably the service activity which is markedly increasing nowadays will become so prevailing that the ability to be connected with other countries and to realize enterprises able to help citizens in their education and formation processes will be one of the most requested characteristics of a modern society. Scientific tourism seems an instrument and a tool of primary consideration in this trend.

Even though it must be admitted that, among those working on the project, some initially suffered from a kind of intellectual long-sightedness and were incapable of seeing what was under their very noses: the importance of the working method.

From the outset, MUSIS became part of an ongoing process in this country which, like many other industrial societies, has plumped for a gradual re-equilibration of the balance of scientific and technological research, after the latter had been shifted

too far in the direction of production to the detriment of cultural and social development.

This process gives rise to ever-growing interest in the archives and in the collections of scientific instruments. These are no longer considered as mere documentation but actually as essentially representative of a discipline in which theory and experiment, ideas and facts, are closely related.

The project also benefited from the collaboration of the largest Italian and international research agencies, CNR, ENEA and INFN. Here we should like to emphasize the peculiarity of this interaction: the approach was not one of sponsorship but rather of partnership. A few examples: according to the scientific and operational guidelines of the MUSIS project, ENEL and INFN disseminated information at grassroots level among secondary school teachers and the general public attending exhibitions. It was thus possible to merge "UNIVERSITY MUSEUMS" with "INDUSTRIAL MUSEUMS". We consider that only in the second hypothesis, i.e., that of partnership, it is possible to achieve profitable and lasting collaboration.

We were favoured in this undertaking by the exceptionally wide range of opportunities offered by the city. Some 25% of the national scientific research budget is spent in Rome; in Rome there are three universities with a total of 200,000 (two hundred thousand) students; some 25,000 (twenty-five thousand) researchers from the largest Italian and international research organizations work in Rome; lastly, some important high-tech academies and industries are located in Rome.

It is extremely significant that this interaction was achieved through initiatives originating in the secondary school. This led to two important results:

- 1) The upper secondary school (twenty establishments) has opened up to the outside world, using advanced technology to set up: laboratory demonstrations, guided visits, lectures, exhibitions and meetings with the general public.

- 2) Linkage between the secondary school and the primary school was achieved through joint participation in the scientific itineraries and the independent development of future itineraries.

The result has been the advent of a new sensitivity to science and its links with everyday life. The following are several of the itineraries and exhibitions that have already been put on, which give some idea of the range of topics explored:

ITINERARIES

- 1) "From atom to quark"
- 2) "Herbs, remedies and drugs"
- 3) "Chemistry for production and for cultural assets"
- 4) "Energy: alternative sources and the economy"
- 5) "A journey amid the stars".

EXHIBITIONS

- 1) "Communicating science"
- 2) "The colours of chemistry"
- 3) "Dinosaurs: from China to Europe"
- 4) "Tous parents, tous différents" (All related but all different)
- 5) The mass-diggers.

Currently sitting on the Scientific and Steering Committee of MUSIS are representatives from the three Rome Universities, from other Universities in the Region, from two Ministries (Ministry of University and Scientific Research and the Ministry of Cultural Assets), from as well as from the local authorities (region, province, municipality) and the major scientific academies of the city, the Consorzio Scuola Lavoro and the main National Associations of Industry.

In conclusion, a few words should be said about the new offshoots, MUSIS MAGNA GRECIA and BABY MUSIS, on the scientific collaboration with several foreign museums, in particular with the Musée de l'Homme in Paris for the Rome edition of the exhibition "Tous parents, tous différents», on the dissemination of the project throughout Italy and on the European Scientific Itineraries.

The first Scientific-Artistic Itinerary MUSIS MAGNA GRECIA is in preparation: The thread runs from the School of Pythagoras at Crotona, through the places characterizing the century-long history of the south of Italy, the topics related to the relationship between Science, Art and Environment, down to the present burning issues concerning the impact of industry on the territory.

For BABY MUSIS, a prototype project of the "Children's City" is being prepared; it is characterized by different structures in which younger children can familiarize themselves with the techniques and resources of our age, i.e., energy, environment, communications, by means of games involving simulations and manipulation. Our industrial partners in this project range from the largest Italian food cooperative chain (COOP) to ALITALIA.

Collaboration with the Musée de l'Homme in Paris has enabled us to put on the first foreign version of the exhibition "Tous parents, tous différents". I wish to thank once again Prof. André Langaney, Ninian Hubert Van Blijenburgh, Mrs. Jacques de Beaumarchais, President of the Société des Amis du Musée de l'Homme, as well as the French Ambassador to Italy, Philip de Cuviller. All these combined forces and the enthusiasm of our collaborators ensured that the exhibition was a roaring success.

It is expected that this success will continue in the other cities of Italy where the exhibition will travel.

The most recent projects under way are the EUROPEAN SCIENTIFIC ITINERARIES, which have already been accepted by the European Community (EC). The first, entitled: "ALL THE SALT IN EUROPE: FROM THE MEDITERRANEAN TO THE NORTH SEA", spans the history from Magna Graecia up to present-day Brussels. The linking thread is the relationship between the natural philosophers of the 6th cent. B.C. to current research on time and space,

although these universal problems are concretely treated through their historical correlations and the impact of Art and Science on the transformation of what exists.

Through different scientific and artistic sites in Greece, Italy, Spain, France, England, Portugal, Germany, Belgium, the travels want to be an expression of European culture and of the mutual influences with the near and boundary regions.

This project has yet to be finalized and is still open to enhancement from other contributions. The problem of the relationship between science and the environment is one of the most important of our times, and the science and technology parks are the places where discussion and research can best be carried on. We invite you to collaborate and are at your disposal for any further information you may need.

We have already identified the next itinerary, which will be developed between Italy, the North African countries, Spain and France.

We are also considering some possible thematic itineraries by which particular subjects are dealt with on visiting different sites of different countries, each one able to illustrate some aspects of the considered subject. For instance, as in Rome we activated the itineraries dedicated to the environment, space, plants and drugs, two other hypotheses for this model of European itineraries could be "Matter and Fire" and "Science and Communication": you can imagine how many interdisciplinary starting points can be suggested by both!

September 1994 will also see the start of a programme of didactic cooperation with Rome provincial authorities. This will consist of travelling exhibitions, videos, interactive programs, publications and questionnaires on Art and Science topics with special reference to city dwellers who did not complete their studies.

An aspect of particular interest concerns the coordination of MUSIS with the institutional agencies and ministries: the danger was that because of the wish of assuming a prevailing role these could produce resistance and obstacles to the activities of MUSIS. We are very happy that this didn't occur: on the contrary, a

general enthusiasm was observed as demonstration that if you are able to present a non-bureaucratic cooperation scheme and if you succeed in offering some new reliable models of organisation you can get the help of any one. Special thanks are due to school and the cultural community, to Roman industry and to university and research ministers and vice ministers: they understood that a project able to become an active program without the need of any overstructure and bureaucratic offices was something in which to believe.

Lastly we presented two other points:

- 1) To reduce the interactions with the primary school that must become a sort of diffusing center: so we realised what we call the school poles of MUSIS where the normal activities of the schools on one side are addressed to processes of diffusion of culture and on the other are helped by exhibitions, seminars, videos, booklets and so on produced by MUSIS.
- 2) To involve industries and manufacturers: when we speak of business culture, we refer to two different frontiers of direction, one inside the plants and the other outside of them: following the former higher cultural levels of staff and citizens can be reached, following the latter one industrial archaeological museums and technological and scientific parks can be stimulated and realized.

I should like to conclude also by mentioning the errors made in the past, current problems and hopes for the future.

Also in the cultural field, and more specifically in that of cultural sponsorship, there have been scandals in our country.

At this point, what MUSIS has done with a minimum of material resources and a maximum of intellectual energy and social forces, its results and its initiatives, all truly represent a concrete opportunity; they represent the other side of the coin of which we may be quite proud!