# Aspects of Design of Exhibitions and Museums

HERBERT BAYER

In the present article I give attention to some of the more fundamental ideas as they have crystallized in my concern with the subject of exhibition design and as I see them now, partly in retrospect. It is also my intention to shed light on the history of some of the innovations that today are integral parts of a design language for exhibitions and museums.

Exhibitions are usually designs in space. As such, architectural elements define the major spaces and serve the structural requirements. The elements of communication and display must be incorporated and integrated into a scheme that conforms to a desired sequence of impressions and to the visitor's abilities of perception. The organization of the floor plan should insure an uninterrupted flow of traffic and permit and induce the visitor to view all exhibits.

The designer's aim here must be to improve and to intensify communication. The human being is mercilessly exposed today to a neverending attack of influences, messages, and impressions. We cannot readily reduce the quantity of these attacks, but we must learn how to concentrate the messages, how to omit the non-essential, and, above all, how to improve our techniques of communication.

Exhibitions are, generally speaking, of a temporary nature. They are often of an experimental character. Their content may vary from a presentation of the beer industry to the history of transportation to mankind's religious aspirations. There are commercial exhibitions; there are educational and cultural exhibitions; museums with special problems of presentation; and art exhibitions. There are street-window displays and trade fairs. Each of these categories poses different problems and demands different handling.

Exhibition design has evolved as a new discipline, as an apex of all

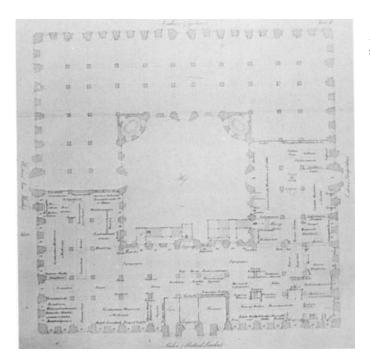


Fig. 1. Floor plan of exhibition in Berlin in 1844.

media and powers of communication and of collective efforts and effects. The combined means of visual communication constitutes a remarkable complexity: language as visible printing or as sound, pictures as symbols, paintings, and photographs, sculptural media, materials and surfaces, color, light, movement (of the display as well as of the visitor), film, diagrams, and charts. The total application of all plastic and psychological means (more than anything else) makes exhibition design an intensified and new language. It becomes integrated use of graphics with architectural structure, of advertising psychology with space concepts, of light and color with motion and sound. To play successfully with this modern instrument of possibilities is the task of the exhibition designer.

# ORGANIZATION OF THE FLOOR PLAN

In an exhibition in the newly opened Zeughaus, in Berlin, 1844, it was evidently deemed necessary to guide the visiting public along a predetermined path. Lacking other means in the rigidly symmetrical museum building, the visitors were moved in the desired direction in a Prussian soldierly fashion, by spoken commands.

The first attempt to organize an exhibition space was made during the World Exhibition of 1867 in Paris. The exhibits were arranged on an oval floor plan with corresponding galleries. This organization of the interior was expressed in the architecture of the building.

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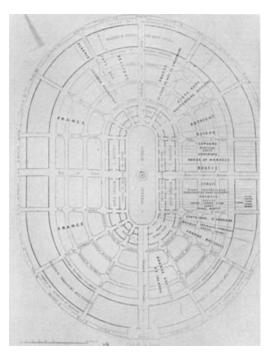


Fig. 2

Figs. 2 and 3. Central oval building at the World Exhibition of 1867 in Paris.

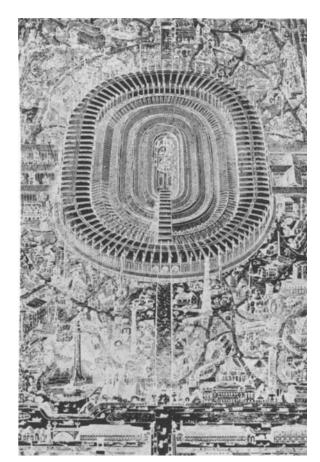


Fig. 3

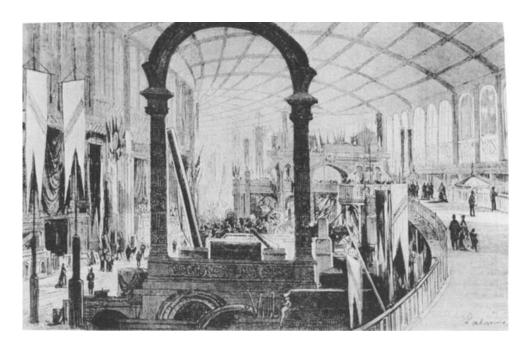


Fig. 4. The gallery of heavy industry, World Exhibition of 1867 in Paris.

Many years later, in a typical exhibition hall in England in 1935, we observe that the need for an organic floor plan had not yet been recognized and that confusion still prevailed.

The isometric drawing of an exhibition in 1936 in Berlin exemplifies the fact that symmetry still was an effective medium towards order, but, employed to produce an organic traffic flow of the visiting public, the symmetry appeared too rigid and inflexible.

Figure 7 from the same exhibition, on the other hand, is an example of an asymmetrical floor plan of displays arranged freely. It is equally inadequate, as orientation and direction are absent.

Two simple diagrams make the difference between disorder and an organized flow obvious. They suggest that designs for museums and exhibitions must, at an early stage of planning, cope with the problems of traffic control.

One of the first attempts known to me to organize an exhibition according to an organic flow and sequence of exhibits was in the German Werkbund Exhibition in Paris in 1930. A serviceable plan of circulation proved difficult here, as the use of space, cut up into several rooms, was conditioned by the old building in which the exhibit was housed (Exhibition des Arts Decoratifs, Grand Palais). An exceptional feature was a bridge (by Gropius) over which the circulation flowed and from which one gained a bird's-eye view over part of the show (collaborative exhibition design by W. Gropius, H. Bayer, M. Breuer, Moholy-Nagy).

Added fluidity was introduced by a curved wall, as the diagram of figure 9 demonstrates. This was effectively utilized as a new feature in the exhibition above, by Moholy-Nagy.

Similar principles were carried out successfully in the exhibition of the Building Workers' Unions in Berlin in 1931. A more elaborate bridge was introduced here to raise the visitor to a higher level for an over-all view of the entire space. Viewing from above provided the opportunity for the design of special displays. Figure 11 shows a general view of the bridge and the exhibits. Many new techniques were developed for this project.

The movement of the public in a planned direction was the central theme of the plastic concept for the exhibition "The Community" in Berlin in 1936. The model shows the special form and space concept created by exploiting the idea of circulation. The exhibits were placed on large overhead panels under which the visitor passed towards the core of the exhibit.

An exhibition, "Bauhaus 1919–1928," was staged in temporary quarters of the Museum of Modern Art in New York in 1938. The experiment was made here to suggest walking directions with directional and decorative shapes and footprints painted on the floor. The sequence of the exhibits

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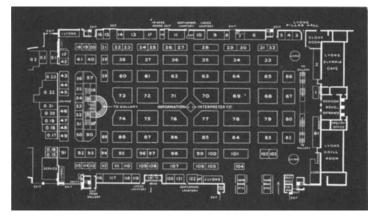
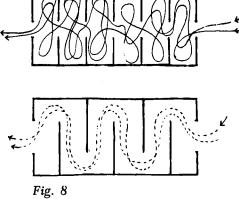


Fig. 5



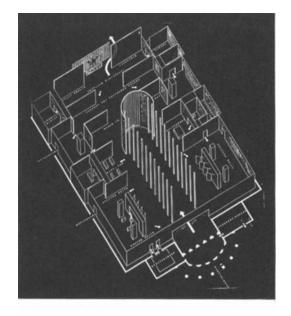
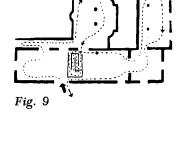


Fig. 6



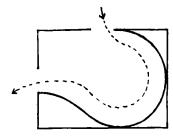


Fig. 10

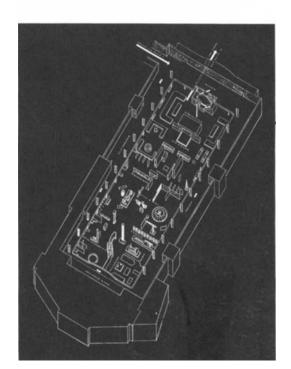


Fig. 7

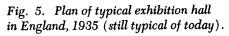


Fig. 6. Symmetry in an exhibition in Berlin, 1936.

Fig. 7. Assymmetry in an exhibition in Berlin, 1936.

Fig. 8. Disorder and organization of traffic.

Fig. 9. Plan of circulation, Werkbund Exhibition, Grand Palais, Paris, 1930.

Fig. 10. Curved wall.



Fig. 11

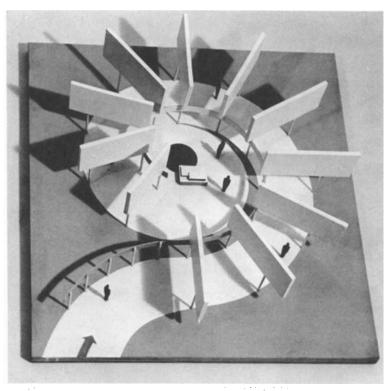
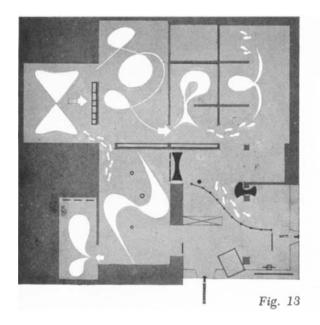


Fig. 12



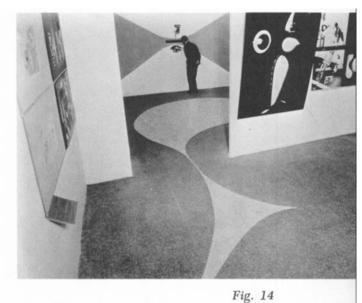


Fig. 11. Exhibition of the Building Workers' Unions in Berlin, 1931. Bridge and structures: Walter Gropius; exhibits: Herbert Bayer and Moholy-Nagy.

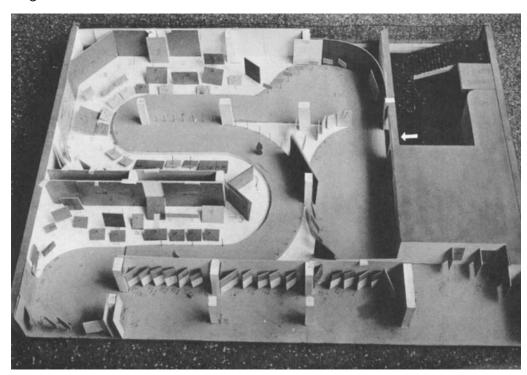
Fig. 12. Model of exhibition "The Community" in Berlin in 1936. Herbert Bayer.

Fig. 13. Floor plan of the exhibition "Bauhaus 1919–1928," at the Museum of Modern Art in New York in 1938. Herbert Bayer.

Fig. 14. Partial view of the exhibition "Bauhaus 1919–1928" in New York in 1938. Herbert Bayer.

Fig. 15. Model of the exhibition Road to Victory, New York, 1942. Herbert Bayer.

Fig. 15



had to be adjusted to the given layout and the sizes of the rooms. Two illustrations show parts of the floor treatment.

A photographic exhibition, "Road to Victory," depicting the life of the American nation during the war, was installed at the Museum of Modern Art in New York in 1942. The complete dependence of the layout on the directional flow of the visitor, so that he could pass through the exhibition and look upon the displays in the desired sequence, is evident from the model. More than half of the linear length of the visitor's walk was over a ramp which enabled him to get long views as well as close views of small and giant photographs. By raising the viewing point it became possible to place many of the exhibits on the floor.

The idea of a planned circulation was carried so far that it became the central motif for an entire building in Le Corbusier's Musée d'Art Moderne. The design motif of an endless spiral is appropriate in its use when, as in this case, it serves to demonstrate a historical development. A similar idea was the basis for the Guggenheim Museum in New York by Frank Lloyd Wright. Here, however, the arrangement of exhibits along a predetermined path is inappropriate, as this museum is not primarily historical. The path itself in this case over a continuous ramp is confining in effect.

The diagrams of two exhibition buildings at the World's Fair in Paris in 1937 induce us to assume that by this time the concept of a planned circulation had been generally accepted as one of the fundamentals of exhibition design.

A more playful design along the same lines is the children's labyrinth at the Triennale in Milan, 1954, a very attractive solution derived directly from the idea of a continuous and leisurely movement while the viewer is looking at the presentations along the varied curved spaces. Curved walls were used again in the United States pavilion at the Brussels World's Fair in 1958. Here, the curved wall does not have the appeal as in the previous example. Furthermore, curved surfaces are not well suited to display the precision of architecture's straight lines, as they cause distortion.

## DISPLAY AND EXHIBITS

In the imitative Beaux Arts style of early exhibitions, displays were usually designed as decorative stage sets, oblivious of purpose and character of the displayed objects; as long as they were "beautiful," they apparently were satisfactory. Today it would be considered a misconception if the subject itself were not put forth convincingly, while the auxiliaries necessary to this end would assume no more than the required importance. Any analysis as to purpose and content of a projected exhibit will result in a specific solution. The subject must be brought close to the spectator

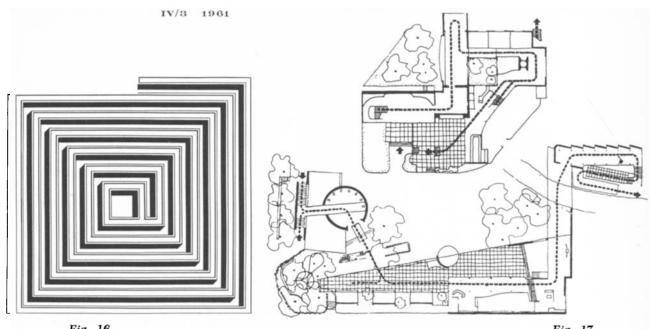


Fig. 16



Fig. 18

Fig. 16. Model of the Musée d'Art Moderne. Le Corbusier.

Fig. 17. Plans of two buildings at the World's Fair in Paris in 1937.

Fig. 18. Children's labyrinth at the Triennale in Milan, 1954. Belgiojoso, Peressutti, and Rogers.

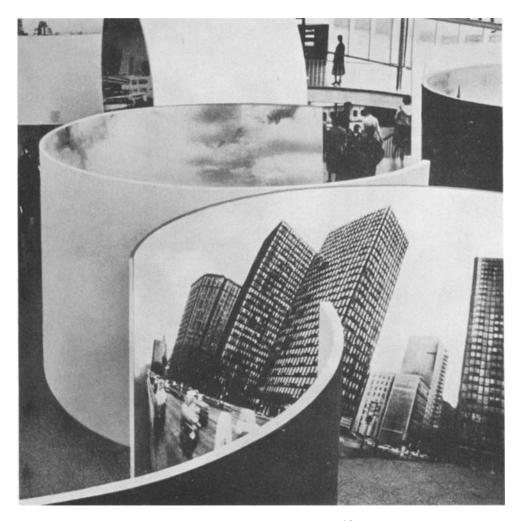


Fig. 19. Exhibit of architecture, United States pavilion, World's Fair, Brussels, 1958.

and leave an impression on him. It must explain, demonstrate, and persuade him, and even lead to a planned reaction. The presentation must serve in support of the subject. The Italian designer Carboni says, ". . . tutto viene subordinato all'idea centrale espressa in sintesi . . ."

We have today for our convenience an elaborate and diverse language with which to operate in the expression and spacial formulation of any exhibition topic. A brief historical review will serve to explain some aspects of its development.

The picture of the Crystal Palace, London, 1851, shows an orderly arrangement of many small displays within the elegant architectural structure. If we take a closer look at some individual displays of the Gewerbe Ausstellung in Berlin, 1896, we can hardly identify the nature of the exhibits. They are, in themselves, overpowering to the degree of subordinating the exhibited material. The purpose of the pompous attempt to lift the exhibited products onto a higher plane of beauty seems to be to add an air of dignity by means of autocratic, architectural creations.

The tower of 1871 built with matches and matchboxes also suggests that the exhibit was designed for its own design's sake and that the product itself, used as building stones, was reduced to a secondary role. This sort of superficial beautification and historical eclecticism ruled exhibition design of the nineteenth century, and it was not until the 1920's that the tide turned towards analytical methods.

The display productions of recent years would be different were it not for experiments and inventions of some of the art "isms." In the exhibition of the Russian constructivists in Moscow in 1921, we notice that a radical elimination of the unessential took place. Space and sculpture were created with elements of construction, largely linear members, in the pursuit of lightness and weightlessness with a minimum use of matter. A revolutionary turning point came when El Lissitzky applied new constructivist ideas to a concrete project of communication at the "Pressa" Exhibition in Cologne in 1928. The innovation is in the use of a dynamic space design instead of unyielding symmetry, in the unconventional use of various materials (introduction of new materials such as cellophane for curved transparency), and in the application of a new scale, as in the use of giant photographs. At the "Pressa" and subsequently at the Trade Fair in Leipzig El Lissitzky first used montage techniques with photoenlargements.

Exhibition techniques and new concepts in graphic design in conjunction with a new architecture were actively pioneered in Germany from the mid 1920's on. Italy and countries such as Switzerland and Sweden have further developed this new medium and have had occasion to practice it extensively.

#### VISUAL COMMUNICATION

In the sign of the Sicilian blacksmith painted on the wall of his workshop, what the blacksmith is doing and what product he is manufacturing become precisely clear without the use of one word. This is communication by picture language at its simplest. It has been stated above that communication in museums and exhibitions must be governed by directness, simplicity, brevity, and by ways allowing for precision and ease of perception. A great variety of techniques is at our disposal to this end, as the following discussion of a few successful examples will point out.

The advertising folder for a ski resort illustrates the freedom in the use and in the combination of various media. Not only are photographs and photo-montages used here, but also a map projection and other illustrations. But the traditional static point of view towards a perspective space illusion has been abandoned in favor of altogether different viewpoints. The result is a dynamic design which captures the reader's attention and retains his interest.

The designer is often faced with the task of making non-visual ideas visible. In a folder for a biology exhibition, "Das Wunder des Lebens," one of the problems was to explain the physical power of the human heart. The illustration shows that the heart beat, transformed into electric power, can generate sufficient strength to operate the elevator of the Funkturm, a landmark of Berlin.

One of the important areas of work for the graphic designer today is in the service of science. There are innumerable problems which require the gifted visual communicator. This is a field of much greater import than advertising to which most graphic designers turn because of the existing demand and because of monetary advantages. Good graphics in support of science and education will in the future receive increasing attention. The abbreviated visual explanation of how television works only touches on the multitude of scientific subjects that need the artist in the task of the dissemination of knowledge.

A chart of the organization of a large chemical concern is expressed with suggestive, decorative forms and colors in an attempt to make a chart more attractive than is usually seen.

The function of the human brain by way of electromagnetic streams was explained in *Life* magazine. The event of an approaching car and a pedestrian's reaction to avoid being run over were pictorially reconstructed. The series of immediate electric impulses in the brain leading to the automatic reaction of the pedestrian are shown in consecutive stages.

The diagrammatic drawing of traffic control by radio beams and the stacking of airplanes over a crowded airfield demonstrates the necessity for this kind of visualization in the service of our complex technology.

Statistics often lack imagination, but they too can be made graphic and arresting, as was illustrated by a photograph that appeared in a British magazine showing a densely massed crowd of 7250 people, equivalent to the number killed in Great Britain's road accidents in 1934.

The amount of food that one man consumes in an average lifetime of fifty-five years is presented in exact relation to the man's own size, another visual interpretation of statistical content.

These examples of effective visual communication have by no means exhausted the possibilities, but call attention to an important subject.

#### FIELD OF VISION

Traditionally the direction of viewing in museums and exhibitions is horizontal. During the design of the exhibition of the German Werkbund in Paris in 1929, the author explored possibilities of extending the field of vision in order to utilize other than vertical areas and activate them with new interest. The normal field of vision becomes larger by turns of



Fig. 20

- Fig. 20. Exhibits in the Crystal Palace, London, 1851.
- Fig. 21. Displays at the Gewerbe Ausstellung, Berlin, 1896.
- Fig. 22. Display of match products, 1871.

Fig. 21





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Fig. 22

the head and body, whereby the direction of viewing and the relative position of exhibits gain new possibilities.

The first application of the principle of extended vision is shown in the photograph from the exhibition "Deutscher Werkbund" in Paris in 1930. The freedom gained from this theory is also demonstrated in the unorthodox display of chairs on the wall. That the field of vision can be further extended by raising the visitor up to a higher viewing and walking level becomes evident in a diagram of later origin.

The idea of the visitor's improved vision has also led to the concept of the "outside-in" world globe of the exhibition "Airways to Peace" at the Museum of Modern Art in New York in 1943. The larger a globe is, the less is the surface area that can be seen from one point. The outside surface of the globe was for this reason projected onto the inside of a hollow globe into which the visitor could walk. Here he could more easily get a composite picture of the world map and the true relationship of land and sea areas. Flat maps are always distorted, whatever kind of projection is used. To show the real facts of given geographic situations, concave semiglobes were devised in the same exhibition to produce a true vision. It is known that many strategic errors were made in wars and that grave misconceptions were the result of consulting distorted maps instead of globes.

#### MEANS OF DISPLAY

It has been expressed above that in most exhibitions and displays of the late nineteenth and the beginning of the twentieth century, the subject of the exhibition itself was often overpowered and suppressed by the design of the display.

Every subject is conditioned by its individual nature, by content, size, or special limitations. Out of these conditions, concepts of display will develop in a different manner in every case. Originality often follows in the course of an analytical working process. This logical approach represents no monopoly of the exhibition designer but is the basis of all good design. It may be said, however, that this is, unfortunately, not sufficiently understood. Each subject calls for and suggests evocative expressions which are exclusively derived from this particular subject. The physical means by which the content of exhibits is brought to the attention of the visitor should not in themselves be autocratic or domineering. They are employed to serve the intent of the exhibition in the best possible manner and are, therefore, not the primary elements.

In an exhibition of giant photographs depicting the American nation at work, the photographs were placed without frames and without visible supports. It was possible here to eliminate all elements, structural and otherwise, that might detract from or interfere with the images themselves. The ultimate solution of this train of thought would be displays

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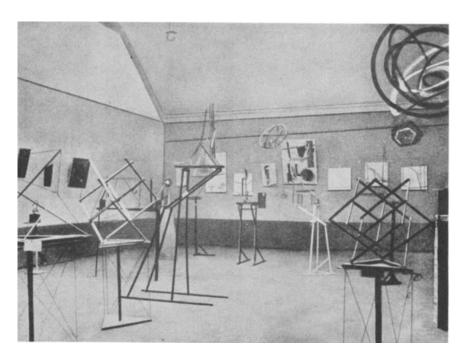


Fig. 23. Constructivist art exhibition in Moscow in 1921.



Fig. 24. Russian exhibit, "Pressa" book show, Cologne, 1928. El Lissitzky.

# CURATOR



Fig. 25

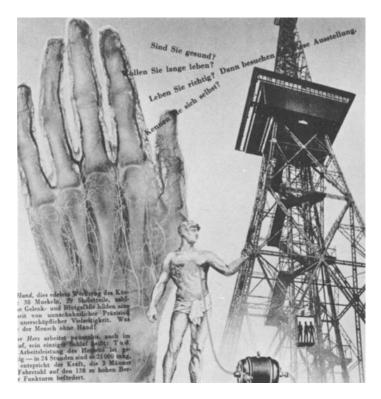


Fig. 26

Fig. 25. Shop sign for a blacksmith, Sicily, 1923.

Fig. 26. The power of the human heart, from a booklet "Das Wunder des Lebens," 1934. Herbert Bayer.

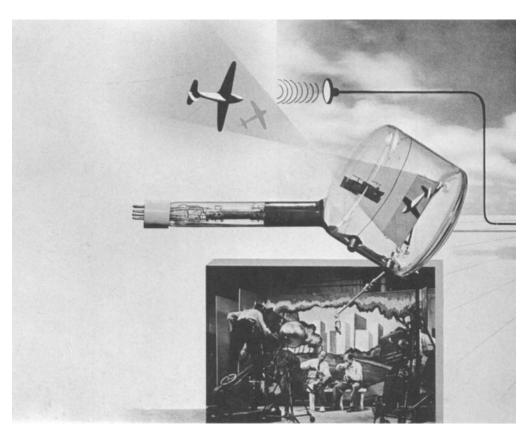




Fig. 27

Fig. 27. Advertising folder for ski resort, Mont Tremblant, Canada, 1939. Herbert Bayer.

Fig. 28. Television, from a booklet "Electronics," General Electric Company, 1941. Herbert Bayer.

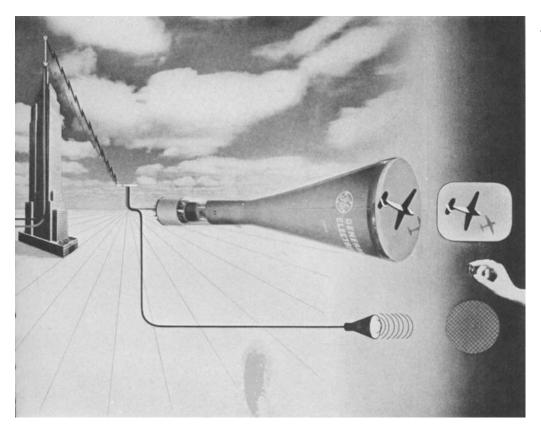
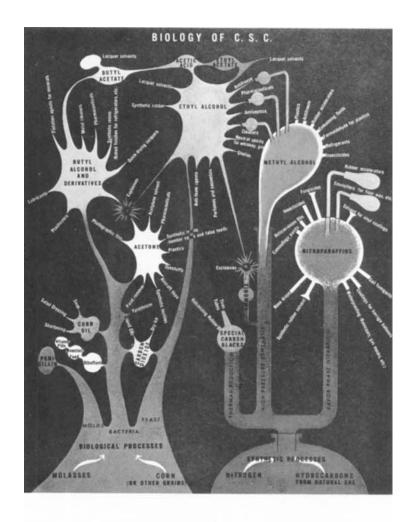
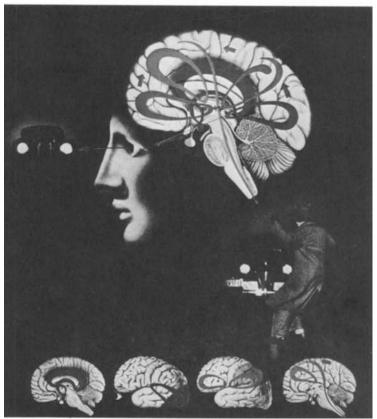


Fig. 28





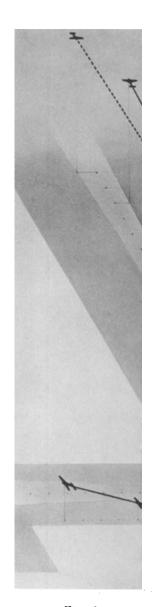


Fig. 31

Fig. 30

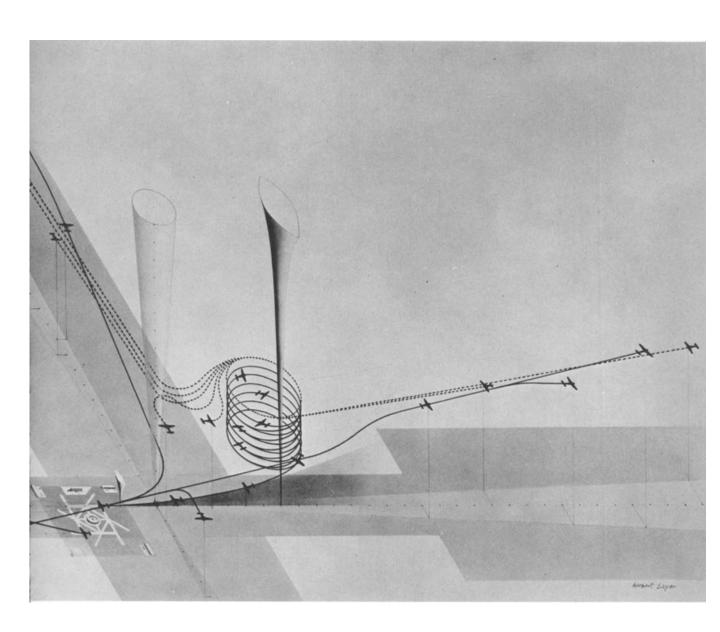


Fig. 29. Chart prepared for Fortune magazine, October, 1944. Herbert Bayer.

Fig. 30. The human brain, from Life magazine, 1939. Herbert Bayer.

Fig. 31. Airport traffic control, 1942. Herbert Bayer.

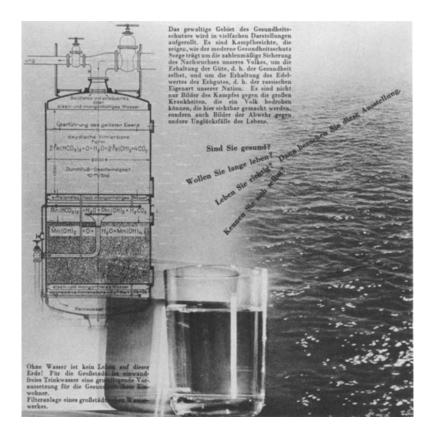


Fig. 32. Statistics of human food consumption, from "Das Wunder des Lebens," 1934. Herbert Bayer.

created without any material effort or visible support, placed in midair by methods of the future.

#### SEQUENCE AND WALKING DIRECTION

An exhibition can be compared with a book insofar as the pages of a book are moved to pass by the reader's eye, while in an exhibition the visitor moves in the process of viewing the displays. Reading a book, however, is a more restful occupation as compared to the physical efforts that are necessary for perceiving communications simultaneously with the act of walking. Attempts to ease perception must, therefore, be made in exhibition design. The reading method of Western man is from left to right. The walking direction in exhibitions must, logically, also be from left to right. Even a succession of displays in depth implies a movement from left to right. Only if presentations are executed with pictures or by picture language can a succession of images or a story in sequence be told while a viewer is moving from the right to the left.

# LIGHTING

Lighting of exhibitions is often complex, but it is of great importance. The accompanying figures show some of the principles of lighting in museums, where the problem is largely that of an over-all illumination. However, direct spotlights and individual brighter sources of light must

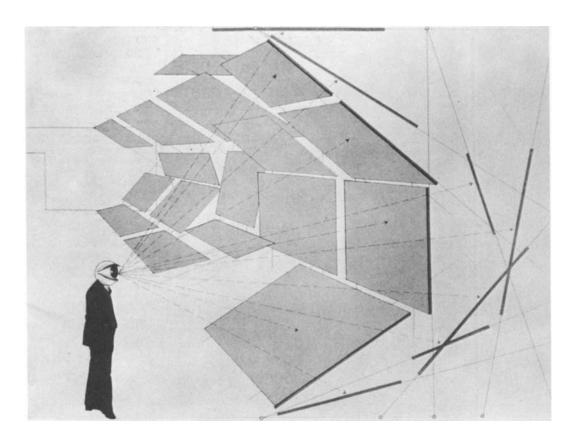


Fig. 33



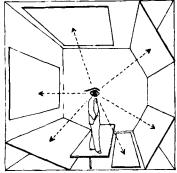


Fig. 35

Fig. 34

Fig. 33. Extended vision, from the catalogue of the Werkbund Exhibition, Paris, 1929. Herbert Bayer.

Fig. 34. Display of architecture and standard furniture, Werkbund Exhibition, Paris, 1930. Herbert Bayer.

Fig.~35.~ Diagram of extended vision, 1936.~ Herbert Bayer.

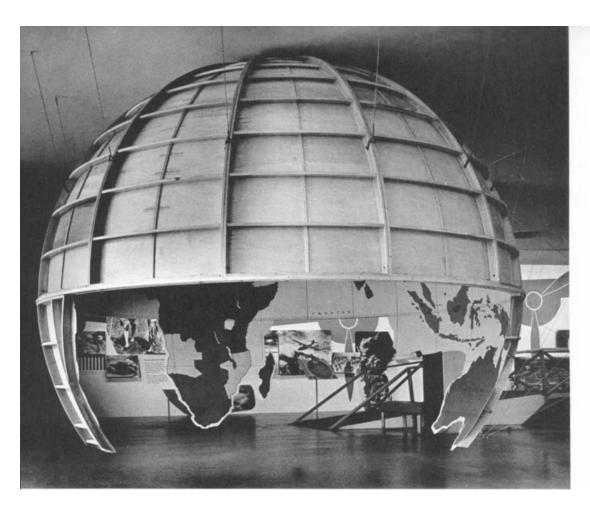




Fig. 36

be used to break the monotony of an even illumination in a lower key, to emphasize individual exhibits. Above all, changes in light intensity are desirable to keep the visitor's interests alive. Museums and exhibitions have largely become independent from daylight, for the simple reason

Fig. 36. "Outside-in" world globe, in exhibition "Airways to Peace," New York, 1943. Herbert Bayer.

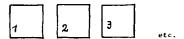
Fig. 37. Interior view of "outside-in" globe, also showing concave semi-globes.

Fig. 38. "Road to Victory" exhibition, 1942. Herbert Bayer.

Fig. 39. Reading direction.

Fig. 40. Walking direction.

Fig. 41. Succession in depth.



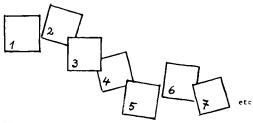


Fig. 39



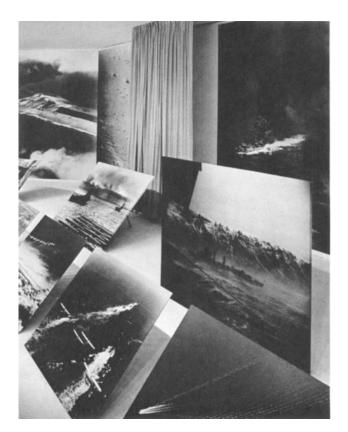


Fig. 38

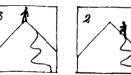
Fig. 37

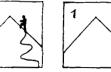
that artificial light can be better controlled towards the intended purpose. A sectional drawing of Le Corbusier's Museum of Modern Art in Tokyo shows the utilization of diffused daylight plus the use of indirect and direct lighting systems.

# Great Adventures in a Happy Time



Fig. 40





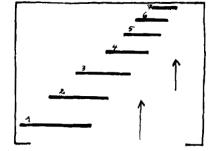
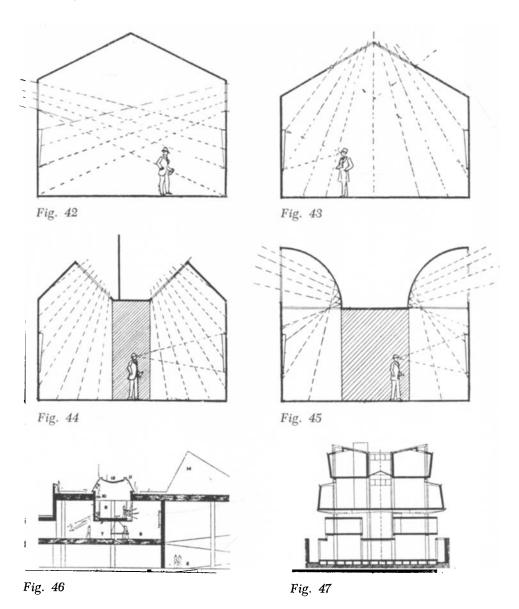




Fig. 41



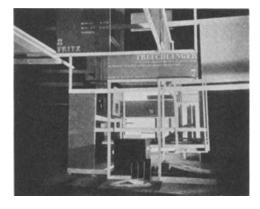


Fig. 48

Figs. 42–45. Methods of museum lighting, from the catalogue of the Exposition Internationale de 1937 in Paris.

Fig. 46. Section, Museum of Modern Art, Tokyo, 1957. Le Corbusier.

Fig. 47. Section, Museum of Modern Art, Turin. Bassi and Boschetti.

Fig. 48. Austrian theater exhibition at the Exposition Internationale des Arts Decoratifs, Paris, 1925. Frederick Kiesler.

The section of the Museum of Modern Art in Turin suggests that the architectural concept of this building has been guided by the efficient utilization of diffused daylight.

#### **EXHIBITION STRUCTURES**

The ever-increasing dissemination of information and exchange of thought has produced a new traveling form of exhibition which is no longer localized in permanent buildings but consists of light-weight, standardized, flexible, movable, structural units which can be erected independent from walls or any floor space.

These structures were initially influenced by the art theories of De Stijl as well as by works of constructivism. The former fathered innumerable versions of demountable frameworks for traveling shows initiated by Frederick Kiesler's Austrian theater exhibition at the Exposition Internationale des Arts Decoratifs in Paris in 1925. This is, to the author's knowledge, the first known space definition by a structural skeleton and is an extension of the art theories of De Stijl into the three dimensional—an exposed framework supporting exhibits and text on various colored panels.

A prefabricated system of tubular members was used in 1934 in Milan as a large framework to support exhibits. In the exhibition "Studies of Proportion" in Milan, 1951, a more elegant framework was used in the author's sense of "extended vision" and thereby added new dimensions to the definition of open spaces.

Since then many systems of demountable frameworks have been devised for the purpose of traveling exhibitions. Of more recent origin are two connector systems, one for round tubes and one for square tubular members. In general, however, it must be stated that most of these systems are as yet too complicated to erect and to take apart. Even industrial systems such as the American "Unistrut" product require too much labor for larger structures to be economical.

Probably one of the simplest systems is that of round posts onto which panels are hooked. The exhibit is stabilized through the pleated arrangement.

One of the first wooden structures for demountable traveling exhibitions was that of the Container Corporation of America in 1945.

In the design of the United States Air Force Museum, an attempt was made to incorporate the previously made observations. Most museums are traditionally monumental structures and rigid in their layout. I believe, however, that the museum exists to serve the visitor, not only to impress him. It must, therefore, be on a human scale. The Air Force Museum was limited to a size which would not overtax the visitor's strength nor tire his capacity of perception.

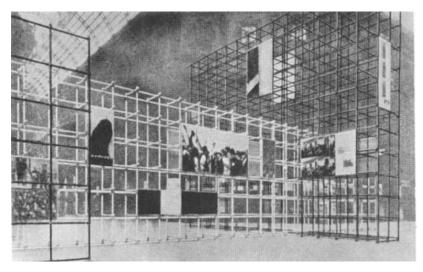
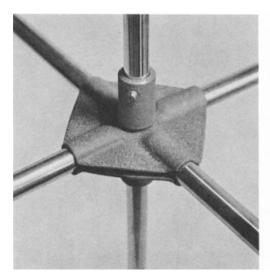


Fig. 49



Fig. 50



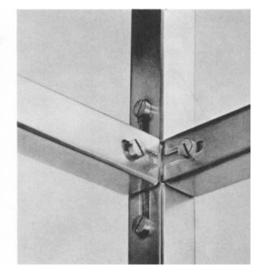
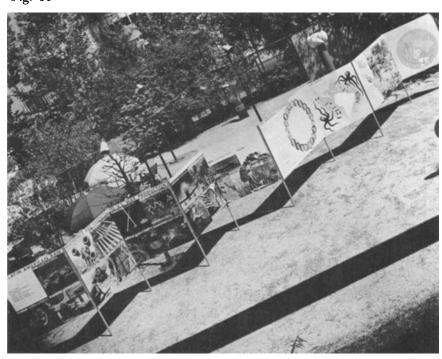


Fig. 51 Fig. 52

- Fig. 49. Tubular structure, Milan, 1934. E. Persico and M. Nizzoli.
- Fig. 50. Exhibition "Studies of Proportion," Triennale, Milan, 1951. F. G. Ruscone.
- Fig. 51. Connecting system for tubular structure, Zürich, 1959. Fritz Keller.
- Fig. 52. Tubular connecting system, Zürich, 1959. Fritz Keller.
- Fig. 53. Traveling exhibition "United Nations," 1943, for the Coordinator of Inter-American Affairs. Herbert Bayer.

Fig. 53



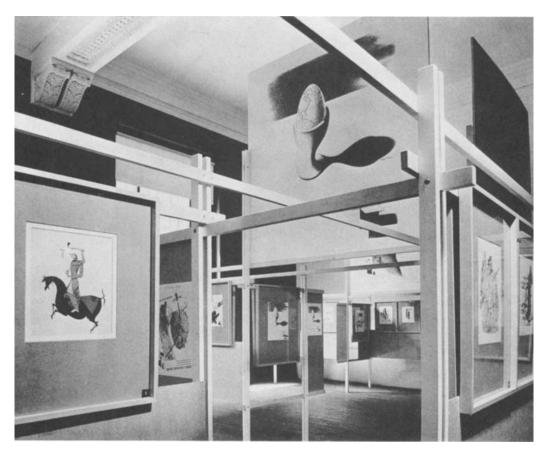


Fig. 54

A major attraction in this museum will be the many interesting historical aircraft that have been collected here. Displaying very large objects such as these next to very small ones presented a problem. To prevent exhibits from being touched or mishandled, they must be placed beyond reach or protected in showcases. To comply with these facts a ramp has been designed for the purpose of leading the visitor clearly in chronological order through the museum. The ramp will raise him to a viewing point that will be adjusted to large and small objects. It will extend his vision by including the floor as exhibit area and by permitting him to view objects not only horizontally but in all directions. The ramp also will keep him at a distance from valuable objects, and restricting the walking area mostly to the ramp will facilitate maintenance and cleaning. Floor areas that are not to be walked on will be painted white.

The focus and interest will be directed to the displays themselves. Structures that support exhibits and objects will be as inconspicuous as possible

and will let the subjects speak for themselves.

A grid ceiling of a large module will diffuse and reasonably well conceal the over-all illumination suspended above. This will be supplemented by spotlights and other light sources for special exhibits.

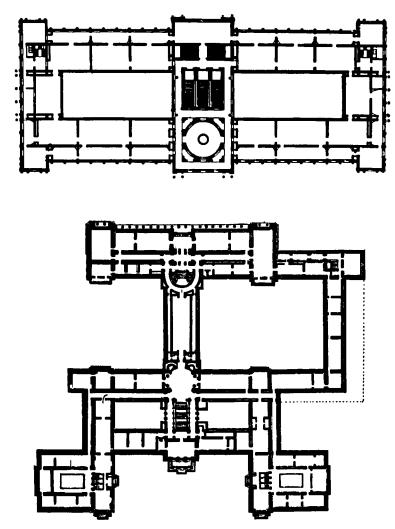


Fig. 55

Fig. 54. Traveling exhibition "Art in Industry," Container Corporation of America, 1945. Herbert Bayer.

Fig. 55. Plans of the Kunsthistorisches Museum in Vienna, 1872–1891, and of the Museum of Fine Arts in Boston, 1907–1928.

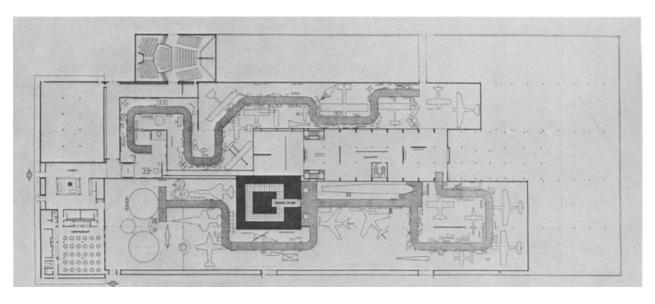
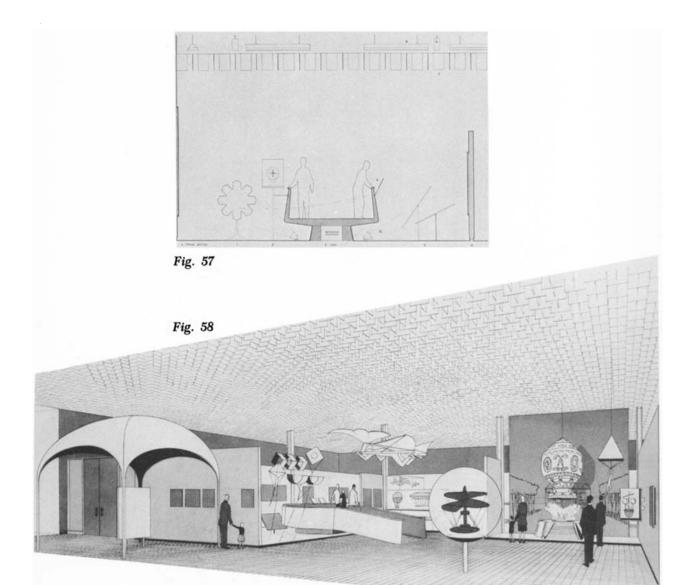


Fig. 56



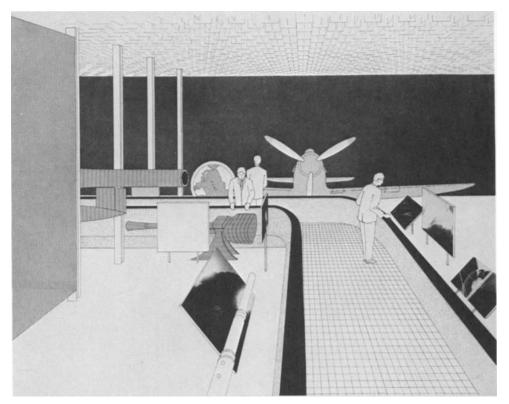
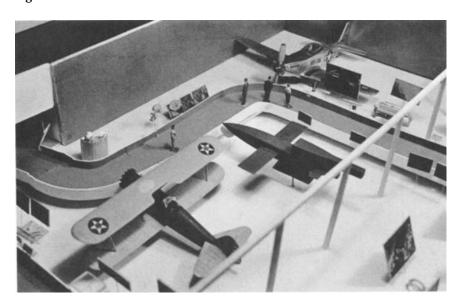


Fig. 59

- Fig. 56. Plan of United States Air Force Museum, Wright-Patterson Air Force Base, Ohio, 1960. Herbert Bayer.
- Fig. 57. Typical section of the United States Air Force Museum, 1960.
- Fig. 58. Partial view of Theme I, "Fantasy of Flight," Air Force Museum, 1960.
- Fig. 59. Typical view of ramp and exhibits, Air Force Museum, 1960.
- Fig. 60. Photograph of model Air Force Museum, 1960.

Fig. 60



# PICTURE CREDITS

Page 203, figure 2, page 205, page 206, figures 5 and 6, page 207, figures 7 and 8, page 208, figures 9 and 10, page 210, figure 12, and pages 220, 223, and 227, The American Museum of Natural History; page 203, figure 3, Museum of Science, Boston; page 210, figure 11, California Academy of Sciences (Gabriel Moulin Studios, San Francisco); page 213, figures 14 and 15, Biologiska Museet, Uppsala; page 214, figures 16 and 17, Zoologisk Museum, Copenhagen; pages 232 and 233, Idaho State College Museum; all illustrations in article beginning on page 234, Museum of Education, The Hague; page 244, page 245, figure 2, and pages 246, 247, 250, and 251, Baltazar Korab, Birmingham, Michigan; page 259, figure 2, from S. Giedion, "Space, Time, and Architecture," Oxford University Press; page 263, figures 13-15, Museum of Modern Art, New York; page 265, figure 18, Fortune magazine, December, 1954; page 266 and page 283, figures 49, 51, and 52, New Graphic Design, Zürich; page 269, figure 20, Bettman Archive; page 271, figure 23, "Bauhausbücher," Munich, 1929; page 271, figure 24, Messe und Ausstellungs-Ges. M. B. H., Cologne; page 275, figure 29, courtesy of Fortune magazine; page 275, figure 30, courtesy of Life magazine; pages 278-289, figures 36-38, Gottscho-Schleisner, Jamaica, New York; page 280, figure 48, and page 283, figure 50, "New Design in Exhibitions," Zürich, 1953; page 285, figure 54, Torkel Korling; page 285, figure 55, "Catalogue, Exposition Internationale de 1937," Paris; page 287, figure 60, Ted Dutton, Estes Park, Colorado.