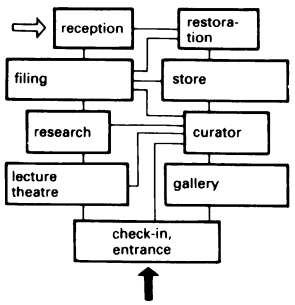
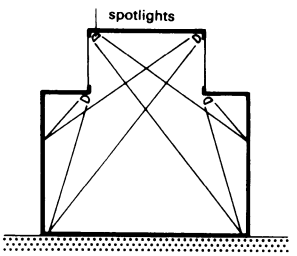
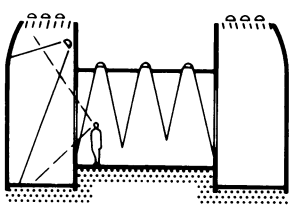
MUSEUMS AND ART GALLERIES



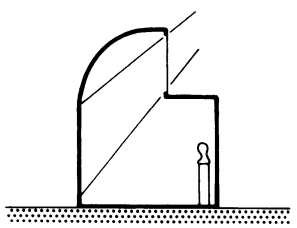
① **Circulation diagram**



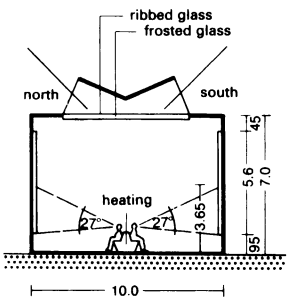
② **Install lighting so that angles of incidence correspond with natural light**



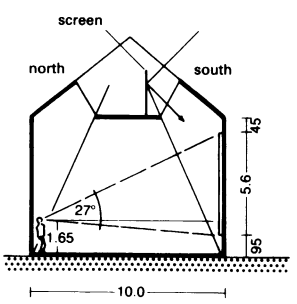
③ **Typical cross-section for museum of natural history**



④ **Gallery passage, lit from one side only, lower part with indirect, attenuated lighting**



⑤ **Well-lit exhibition hall based on Boston experiments**



⑥ **Ideal uniform lighting from both sides (following S. Hurst Seager)**

Museums and art galleries tend to have several of the same concerns, and as building types they tend to share many of same features. In general, the main concerns of museums and art galleries are collecting, documenting, preserving, researching, interpreting and exhibiting some form of material evidence. For this purpose, many people with varied skills are required. There are, however, important distinctions not only between museums and art galleries, but also between the different types of museum and art gallery. There are institutions such as heritage centres, exploratoria and some cultural institutes which are considered to be types of museums.

To show works of art and objects of cultural and scientific interest, the institution should provide protection against damage, theft, damp, aridity, sunlight and dust, and also show the works in the best light (in both senses of the term). This is normally achieved by dividing the collection into (a) objects for study, and (b) objects for display. Exhibits should be displayed in a way which allows the public to view them without effort. This calls for a variety of carefully selected, spacious arrangements, in rooms of a suitable shape and, especially in museums, in an interesting and logical sequence.

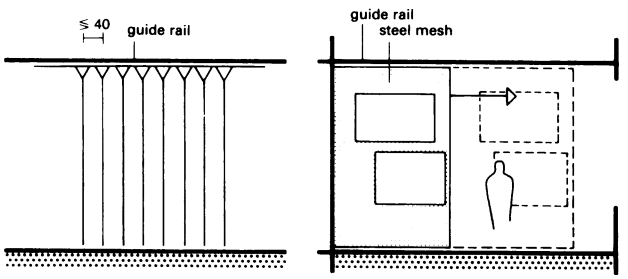
As far as possible, each group of pictures in an art gallery should have a separate room and each picture a wall to itself, which means small rooms. This option also provides more wall space in relation to floor area than large rooms, which are nevertheless necessary for big pictures. The normal human angle of vision starts 27° up from eye level. For a standing viewer, this means that well-lit pictures should be hung 10 m away with the top not more than 4.90 m above eye level and the bottom about 70 cm below → ⑥. The best hanging position for smaller pictures is with the point of emphasis (the level of the horizon in the picture) at eye level → ⑨.

It is necessary to allow 3–5 m² hanging surface per picture, 6–10 m² ground surface per sculpture, and 1 m² cabinet space per 400 coins.

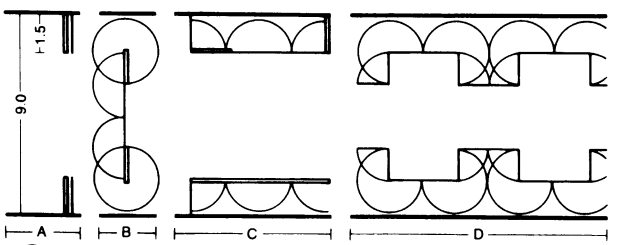
Calculations for museum and art gallery lighting are highly theoretical; the quality of light is decisive. Experiments carried out in America can be useful. Recently there has been a steady increase in the use of artificial lighting instead of daylight, which constantly changes even if north light is used.

According to experiments carried out in Boston, a favourable viewing space is between 30° and 60° up, measured from a point in the middle of the floor. This means a sill height of 2.13 m for pictures and a viewing range of 3.00–3.65 m for sculpture → ⑩.

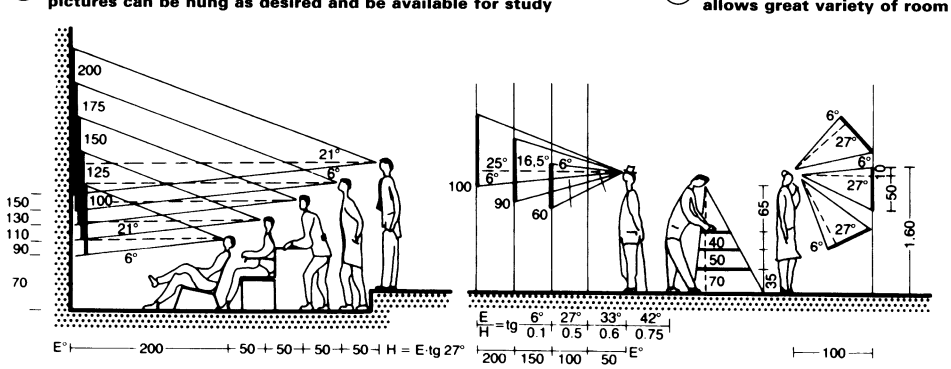
In art galleries there is generally no continuous circular route, just separate wings. Both museums and art galleries need side rooms for packing, dispatch, administration, a slide section, conservation workshops and lecture theatres. Disused castles, palaces and monasteries are usually suitable for housing museums. They are particularly suitable for historical objects, for which they provide a more appropriate setting than some modern museums.



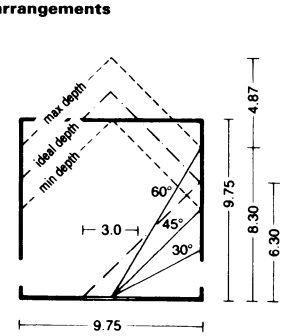
⑦ **Painting store with sliding steel mesh frames on which pictures can be hung as desired and be available for study**



⑧ **Exhibition room with folding screens (design: K. Schneider) allows great variety of room arrangements**



⑨ **Field of vision: height/size and distance**

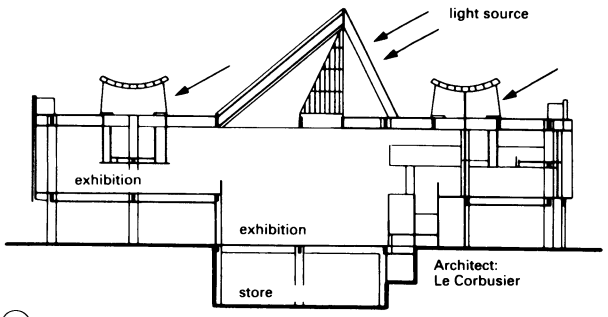


⑩ **Exhibition room with side lighting**

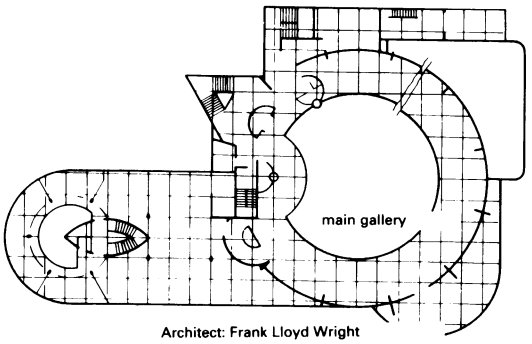
MUSEUMS: EXAMPLES

Nowadays, many museum buildings are also used as culture centres, and this possibility must be included in the planning stage. Spaces must be available for permanent and temporary exhibitions, libraries, media rooms and lecture theatres. There should also be places for relaxation and refreshments, as well as space for transport, storage, conservation, workshops and administration.

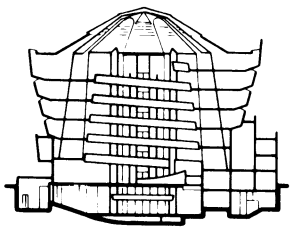
Technological innovations are having a big effect not only on museum function, but also on the design of exhibits. Two examples are the computerisation of collection records and design documentation, and lamp miniaturisation and fibre optics and their effect on lighting design.



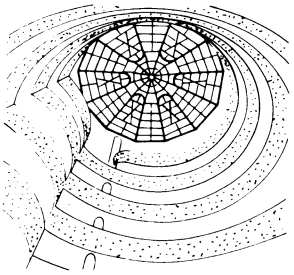
① **National Museum of Western Art, Tokyo: section**



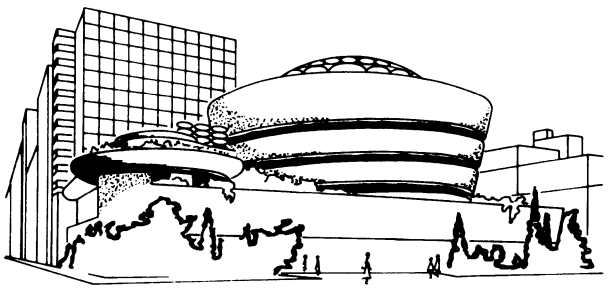
② **Guggenheim Museum, New York: plan** → ③,④,⑤



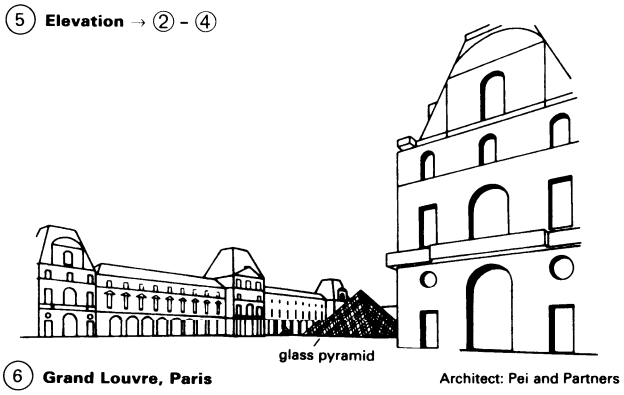
③ **Section** → ②



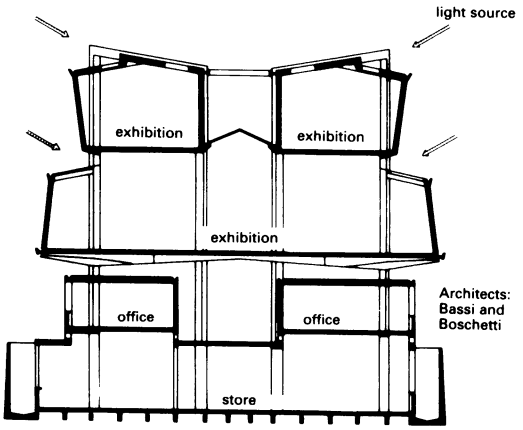
④ **Interior** → ② - ③



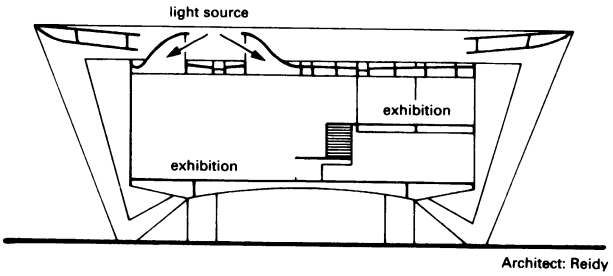
⑤ **Elevation** → ② - ④



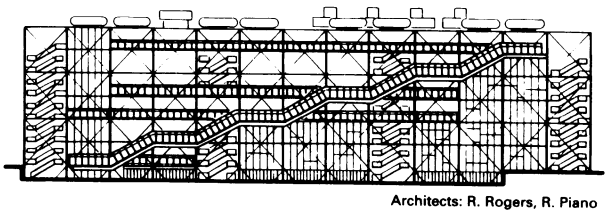
⑥ **Grand Louvre, Paris**



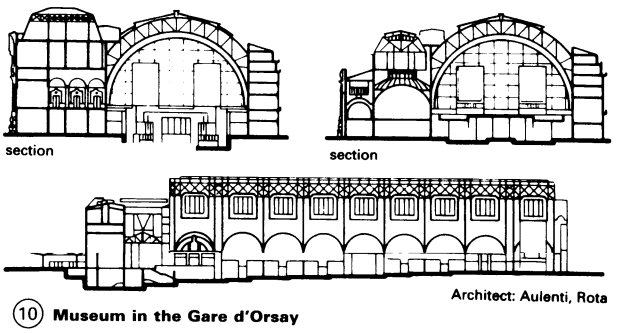
⑦ **Section and light sources Museo Civico, Turin**



⑧ **Section and light sources Museum of Modern Art, Rio de Janeiro**

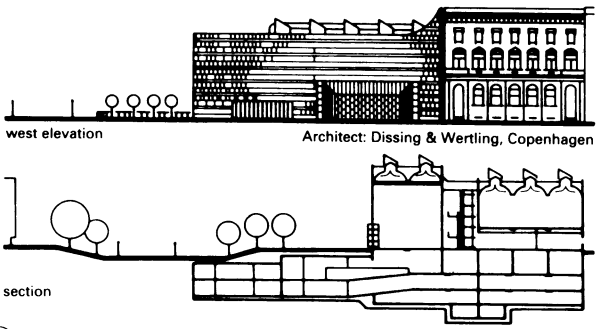


⑨ **Centre Pompidou, Paris: elevation**

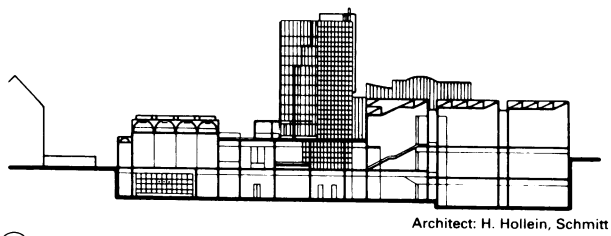


⑩ **Museum in the Gare d'Orsay**

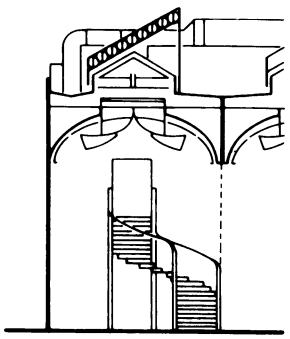
MUSEUMS: EXAMPLES



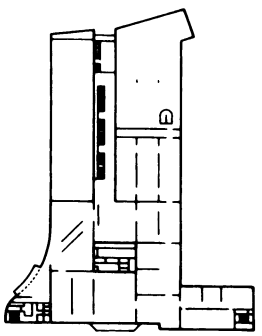
(1) **Art collection of North Rhine-Westphalia, Düsseldorf**



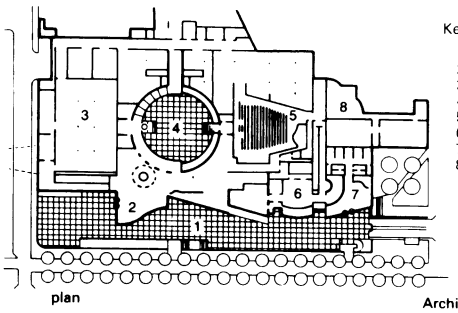
(4) **Museum of Modern Art, Münchengladbach**



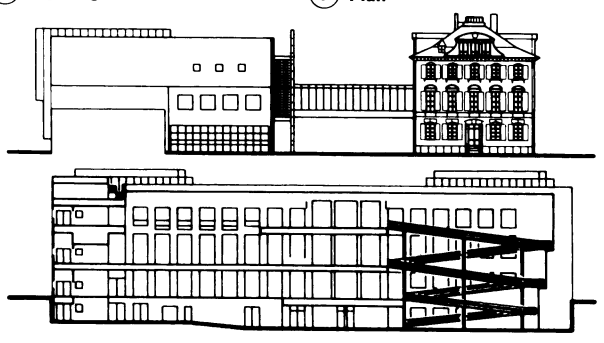
(2) **Lighting detail**



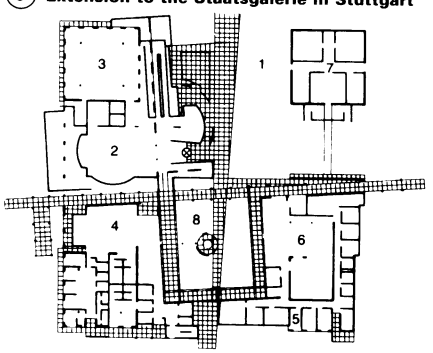
(3) **Plan**



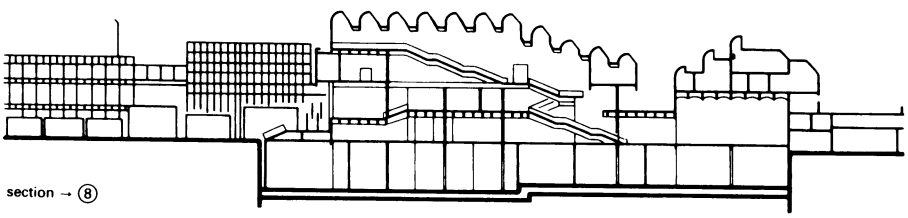
(5) **Extension to the Staatsgalerie in Stuttgart**

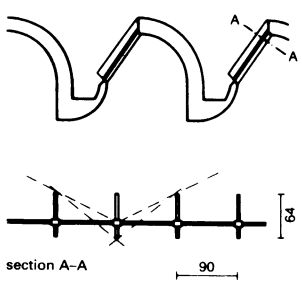


(6) **Museum of Arts and Crafts, Frankfurt: east elevation and section**

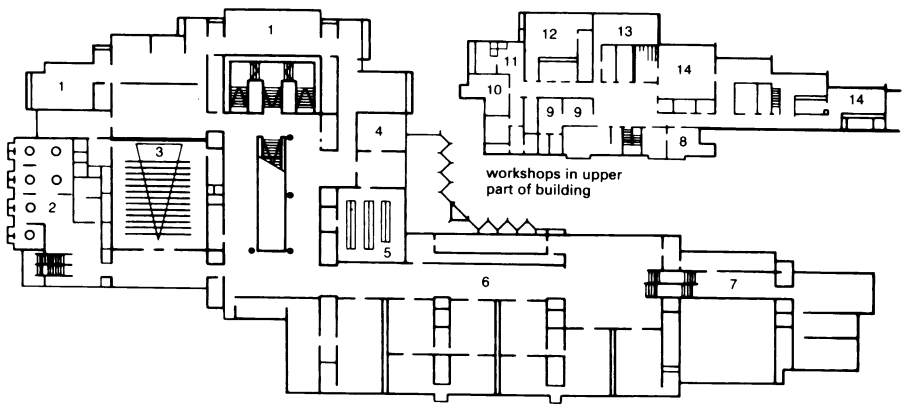


(7) **Ground floor plan → (6)**





(9) **Typical cross-section, northern light, 53° glazing**



key → (8)
1 exhibition
2 reading room
3 lecture theatre
4 administrator
5 graphics
6 museum way
7 gallery
8 chief restorer
9 testing
10 physics
11 chemistry
12 paper restorer
13 photographic studio
14 studio

(8) **Wallraf Richards Museum, Ludwig Museum, Cologne**
Architect: Busmann, Haberer