Exhibition design is likely to be more successful if principles of orientation and circulation within exhibitions are applied to the design process. Visitors learn more and are more satisfied when they are properly oriented to an exhibition and when the exhibition is designed with an understanding of the factors that determine circulation behavior.

Orientation includes both conceptual or thematic knowledge and the ability to wayfind. Circulation describes how visitors move through spaces. These concepts are discussed more generally in the article on pages 4 and 5. Here the discussion is limited to orientation and circulation within an exhibition.

 Listed below are selected principles of visitor orientation and circulation that pertain specifically to an exhibition space, rather than to the entire facility. These principles are tentative; although most are based on visitor research evidence, additional empirical confirmation is needed to determine more precise patterns and to assess the generality of findings. Note that some of these principles overlap with the principles for an entire museum (see pages 4 and 5).

**GENERAL PRINCIPLES**

1. Orientation should be integrated into the exhibit development process rather than added after the fact (Griggs, 1983). Orientation considerations should be an important part of the exhibition design and be part of the plan beginning with the planning stage and continuing through installation.

2. Both conceptual orientation and wayfinding (if it is a large exhibition) should be provided at the beginning or entrance of the exhibition.

3. Conceptual orientation and wayfinding should continue through the exhibition where it is needed or where it would be helpful to visitors.

4. Orientation devices should be defined by visitors (Griggs, 1983). This means that orientation devices should be developed with visitor input, not exclusively by museum professionals who may not be able to predict the impact of these devices on visitors.

5. Visitors should be explicitly informed of the intended sequence of an exhibition (Griggs, 1983). The sequence can be indicated by numbers on the exhibits, banners, etc. If the sequence is important, it is crucial that the visitor is informed on how the exhibit is marked and that the exhibit is organized in a sensible fashion.

6. Conceptual orientation should be considered independently from wayfinding plans (Griggs, 1983). Each type of orientation usually needs its own devices to convey its messages.

7. Visitor circulation should be planned from the beginning. Consider how visitors will circulate and what visual attracting forces will influence how they circulate. Visual sight lines should be considered.

8. The use of display islands should be avoided if possible since they create a chaotic circulation flow, often resulting in visitors unintentionally missing exhibits (Bitgood, et al, 1993; Miles, et al, 1982).

9. Orientation and circulation should be assessed following installation of an exhibition. Even if orientation and circulation is carefully integrated into the design process, there may still be unanticipated problems. Tracking visitors through the exhibition space can often identify problems that can be easily corrected through inexpensive alterations (e.g., moving a label, adding a more salient title, adding a directional arrow, etc.).

**CONCEPTUAL ORIENTATION**

Conceptual orientation provides information to the visitor about where to go, what to expect, and how long it might take to visit a particular exhibition. It aids visitors in making informed decisions about viewing an exhibition. What kind of information will help visitors cognitively process exhibit messages?

1. Conceptual orientation provides preorganizers to an exhibition and tells how it is organized conceptually (Griggs, 1983). This means that essential information is clearly conveyed: the title of the exhibit with an elaborating sentence if necessary; organizing the exhibit in an easy to understand fashion that is explicitly communicated to the visitor; and a brief overview of the major components and how they interrelate to one another to form a coherent theme.

2. In order to achieve effective conceptual orientation, attracting and holding visitors' attention to the necessary information and communicating this information to visitors must be accomplished (Griggs, 1983).

3. Conceptual orientation should be provided at the beginning of an exhibition. Plan an entrance orientation area. Loomis (1987) suggests using large orientation labels,
gallery wall maps, barriers, lighting, etc., to suggest direction of movement. Through the use of advance organizers (aids that provide a framework for viewing an exhibition [Griggs, 1983; Screven, 1986]), exhibit messages or themes can be introduced. Screven (1986) describes three types of advanced organizers: conceptual pre-organizers (brief information regarding the main exhibit elements), overviews (what can be seen, done, and learned from the exhibit), and topographic organizers (simplified maps which orient visitors to the layout of the exhibit hall).

4. Conceptual orientation should be repeated throughout the exhibition (Griggs, 1983). By starting each section with one or two key questions or statements, the theme of the gallery can be reinforced. The Origin of Species exhibition at the Natural History Museum (London) uses lollypop-style free-standing numbered signs to signify the suggested order of viewing and to briefly describe what the area is all about.

WAYFINDING

1. Wayfinding systems should indicate to visitors the overall physical arrangement of the display and the intended route (if there is one) through the display (Griggs, 1983).

2. Wayfinding information at the beginning of an exhibition reduces the anxiety associated with a new environment and helps to provide initial directional cues. At the entrance to a display, wayfinding information can be provided by a floor-plan or map (Griggs, 1983). The map should be simple enough to obtain the necessary information at a glance.

3. Wayfinding information needs to be repeated throughout the exhibition (Griggs, 1983). Each exhibit display section should be clearly marked.

4. Information should be placed where it is needed, that is, at critical choice points and where it is not in competition with other objects.

5. Hand-held maps should be designed with simplified features, they should include easily identified landmarks in the environment, and they should be evaluated with visitors to determine ease of use.

CIRCULATION

People follow general patterns as they move through exhibition spaces. Some of the important factors that influence this movement are listed below.

1. People tend to approach landmarks, moving objects/animals, sound, and large objects. These visual attractors exert strong influence over circulation pattern (Bitgood, et al, 1993).

2. People tend to approach an area containing other people unless it is too congested, in which case a crowd may have a repelling effect.

3. Visitors tend to exit a room when they encounter an open doorway even if they have not viewed all of the exhibits or objects in the room (Melton, 1933; 1972).

4. Visitors tend to remain on the same type of floor surface (carpet, wood) unless other forces impinge upon them.

5. Visitors tend to prefer the security of the main pathway and are reluctant to circulate off this pathway to areas on the periphery of the setting. Two techniques have been found to attract visitors off the main pathway: the placement of exhibits along the hallway leading to the gallery and playing music in the gallery (Bitgood, Hines, Hamberger, & Ford, 1991).

6. Human inertia influences circulation. This is the tendency for visitors to continue walking in the same direction or along one wall in a gallery unless some other force pulls them in another direction.

7. Right-turn bias. When visitors enter a gallery with exhibit objects on both walls, they tend to turn right in the absence of other stronger attracting cues.

8. At times, visitors may look for specific objects or exhibitions in a museum. This, of course, will influence circulation pattern. Adequate wayfinding must be provided, however, if visitors are to be successful in finding their goal.

9. Griggs (1983) recommends that choice points be identified and orientation planned during the development of the exhibition. The environment should suggest the intended sequence in addition to having obvious signs.

10. Breaks in the sequence of an exhibition should be identified to visitors (Griggs, 1983). Placing a large exhibition in a pre-ordained space can create problems. Designers are often forced to compromise on the layout of exhibit displays, which can create confusion to visitors. The orientation system should provide appropriate indications when such problems occur.

CONCLUSIONS

To design an effective exhibition, designers must seriously consider visitor orientation and circulation. It is not enough to simply select appropriate exhibit objects and design effective communication devices. The way visitors move through space in the exhibition must be factored into the equation. The principles described in this article, if applied, should help include the visitor in this exhibition equation.

[For references to this article, see pages 15 and 16]