SPATIAL AND CONCEPTUAL ASPECTS
OF ORIENTATION: VISITOR EXPERIENCES
AT AN OUTDOOR HISTORY MUSEUM

D. GEOFFREY HAYWARD
MARY L. BRYDON-MILLER

University of Massachusetts

ABSTRACT

The processes of perceiving and understanding an environment are complex and multidimensional. However, there are significant benefits to be gained by understanding these processes, and relating them to the planning, design, and management of particular settings. The research reported here is part of a broader effort in the field of environmental psychology to investigate how people perceive and make use of environments, and how their image of an environment is formed [1-3]. It is also an example of the practical application of social science research in evaluation and planning for historic sites and museums.

This article focuses on one part of environmental perception: orientation. Orientation is considered to be a stage in the process of perceiving and knowing an environment, such as when a person enters a place and begins to get a sense of where s/he is, what’s going on there, and what options one has for participating in the setting. However, the process of orienting in an environment is actually an ongoing process, recurring even in familiar environments as one moves through space or as one tries to understand events and relationships in the setting.

In this view, “orientation” consists of an individual’s internal process of recognizing and assimilating information—perhaps in relation to an existing cognitive map or image of a place—and using this information as a basis for behavioral intentions and goals. Adapting this perspective for the design and management of certain environments, “orientation” can be defined as a planned and controlled experience which facilitates an individual’s own assimilation of places and events.
Planned orientation experiences take many forms: an exhibit in a visitor center, preparation for a school trip, or a map of a city neighborhood at the exit from a subway station. In general, the purpose of these forms or orientation is to impart some basic information concerning an environment or experience that one is about to enter [4]. Especially if the environment is unfamiliar to the person entering it, an orientation experience could have a significant impact on the person's course of action, on their expectations and eventual satisfaction with experiences there, and on the kinds of information which they attend to in that environment.

An additional context for this article is that it focuses on orientation at historic sites and museums. Such orientation is interesting and important as a research topic because: the environments tend to be novel (preserved or interpreted in order to communicate the life styles and technologies of previous eras); the orientation exhibits tend to use a variety of media (including displays of artifacts, signs, photographs, films, models, maps, and formal or informal talks by costumed staff members); and there are pressing management and planning issues facing these sites in the immediate future (financial survival, impacts on the physical site due to visitation, increased costs of new exhibits and staff time, etc.). Both the quantity and the quality of visitation is important at these sites, as organizations seek to increase their visitation and maintain a sufficient level of quality programming in the face of budgetary pressures and increasing costs to visitors. Consequently, evaluation of existing programs and visitor experiences is becoming increasingly important, and must generate practical outcomes as well as theoretical contributions.

THE CONCEPT OF ORIENTATION

In museums and interpretive environments, the term "orientation" has two fairly distinct uses: spatial and conceptual. Spatial (or locational) orientation helps visitors to find their way around, and locate exhibits and services. Conceptual (or thematic) orientation provides an introduction to significant themes and helps visitors to assimilate knowledge on these topics during their visit. Since these two types of orientation describe different goals with respect to visitors it is useful to evaluate orientation exhibits for their effectiveness in terms of spatial as well as conceptual orientation.

The importance of providing adequate spatial orientation has been emphasized by a growing body of literature on directional signage (map use, and the use of architectural cues as aids in orientation) [5, 6]. Patterns of visitor movement through visitor centers have also been documented, and related to the physical organization of space [7]. A study by Winkel et al. found that museum visitors have "an insatiable demand for orientation information" and that different orientation devices were used in different ways: visitors used maps to get an overall orientation to the museum, while directional signs were helpful in
locating specific exhibits [8]. What might have appeared to management to be unnecessary redundancy was not perceived that way by visitors.

Conceptual orientation may be attempted through brochures, films, slide shows, maps, displays, and information desks staffed by museum personnel [9]. Similar to other types of interpretive programming, effective orientation is greatly facilitated by having clear goals and objectives. Knowing the audience and organizing the communication around understandable themes are important ingredients of successful planning. Typically, the goals of conceptual orientation are to enhance visitor learning [10, 11]; it may also seek to increase visitor interest, satisfaction or enjoyment [12, 13]. For example, More examined the effects of a static vs. dynamic orientation exhibit (using the same content) at a nature center [14]. She found that although visitors’ short-term retention of information was greater with the dynamic exhibit (slide-tape presentation) than it was with the static exhibit (photos and text on display boards), there was not a significant difference between the two as measured at the end of a visit (long-term retention). However, visitors did report greater enjoyment of the dynamic orientation.

RESEARCH AT OLD STURBRIDGE VILLAGE

The research reported here was conducted at Old Sturbridge Village (OSV), a large outdoor history museum in central New England—one which offers an innovative experience in American history. Old Sturbridge Village is “an outdoor history museum which depicts the life, work and surroundings of ordinary Americans—rural New Englanders—at a time of crucial historical change.” [15] Since its beginning in 1926 this museum has been developed and refined to the point where it is among the best known and most highly respected living history museums in the country.

The Village itself, situated on a 1200 acre site in central Massachusetts, includes nearly forty original buildings which are used to interpret life in the early nineteenth century—roughly fifty years after the American Revolution. The majority of these buildings have been restored and furnished as they would have appeared in the early nineteenth century. Costumed interpreters demonstrate crafts, talk about life styles and everyday activities of people in that time period, and answer questions from visitors.

In recent years, administrators at this outdoor history museum have been especially interested in the role of orientation in making the visitor’s trip to the Village a success. A visitor center which was opened in the last decade has prompted the development of special films, a changing gallery of historical artifacts, and large reproductions of early nineteenth century paintings and sketches. A “Community in Change” project was undertaken to introduce dynamic aspects of the Village such as community life, networks and processes in the operation of crafts and early industries, and social-political events. One
major focus of this project was the examination and redefinition of orientation experiences in the visitor center.

At this museum, interest in the role and effectiveness of orientation was expressed by administrators and staff, in questions such as these: What do visitors know about the Village before their arrival? What proportions of visitors see each of the various orientation experiences? How long do people stay in the visitor center and what do they look at? Is there a correlation between the exposure to orientation materials and the duration of a visit? Are there difficulties in using the map? Do visitors have a preferred route through the Village? Which orientations are most effective in promoting the understanding of themes, the physical layout of the site, and other factual information?

This variety of questions appeared to represent two general categories of issues: visitors' exposure to orientation, and the effectiveness of orientation in communicating certain messages to visitors (spatial orientation or wayfinding; plus conceptual understanding of museum themes such as family life, the nature of work, and a sense of community). Museum administrators were eager to have systematic data about these aspects of visitor experiences; such data would have implications for managing the visitor center (scheduling of films, reassignment of interpretative staff, location of the ticket counter), and would also have
implications for evaluating the content of exhibits. For example, if orientation materials are effective in promoting learning, or influencing visitors' use of the site, then there should be a more systematic monitoring of the content of such materials. If, on the other hand, orientation materials have little role in visitors' understanding of the setting, but do enhance visitors' enjoyment and appreciation, then such materials might be better chosen on the basis of their visual impact and entertainment value.

*Exposure to orientation* and *effectiveness of orientation* were investigated as part of a series of visitor studies being conducted at this outdoor history museum. These studies were commissioned as an evaluation of programmatic and exhibit design changes on the “Community in Change” theme [16]; data were collected during two successive summer periods (before and after substantial changes in the orientation exhibits).

**RESEARCH DESIGN AND METHOD**

At the time of this research, there were seven different kinds of orientation available to visitors of Old Sturbridge Village; these comprise the “on-site” orientation experience. In addition, people often obtain some advance information about this museum through publicity, travel brochures, and discussions with friends. Therefore, this research also investigated these “off-site” orientation experiences, consisting of four possible sources of information. A brief description of each type of orientation is presented in Table 1; some orientation exhibits are illustrated in Figures 2 and 3.

Evaluation of these types of orientation was assessed through *entrance interviews* and *exit interviews* with randomly-selected, first-time visitors (repeat visitors were excluded because of the potential confounding influence of previous experiences at the Village). In the first year (1979) a total of 204 visitors were interviewed; three-fourths of this sample was interviewed twice—once at the entrance and once at the exit, while the other one-fourth of the sample served as a control group who were interviewed only when they exited from the Village. In the second year (1980), the same research design was used and the sample consisted of 181 visitors.

The effectiveness of orientation was measured against several aspects of visitors' experiences, including: their knowledge about the Village, their patterns of behavior, their experience of an historical setting [17], and their understanding of other key interpretive themes such as working life, family, and a sense of community. Table 2 summarizes the principal types of information collected and specific measures used in entrance interviews as well as exit interviews. Collaboration between the researchers from the University of Massachusetts and the Research Department and Interpretation Department of Old Sturbridge Village was essential in shaping the questions and procedures of
Figure 2. Standing display map on entrance path to Old Sturbridge Village

Figure 3. Exhibit gallery in Visitor Center at Old Sturbridge Village

"Time rarely hangs heavily upon their hands"
Table 1. Orientation Experiences for Visitors to Old Sturbridge Village

<table>
<thead>
<tr>
<th>Description of orientation</th>
<th>Exposure to orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td></td>
<td>(N = 204)</td>
</tr>
<tr>
<td></td>
<td>percent</td>
</tr>
</tbody>
</table>

**Possible “off-site” orientation**

1. PERSONAL RECOMMENDATION: discussion with friends or relatives 49 58<sup>a</sup>
2. SCHOOL FIELD TRIP: information from a child’s visit or museum education program 4 10<sup>a</sup>
3. READ ABOUT OSV: travel guides, books, advertising, brochures, newspaper articles 36 41<sup>a</sup>
4. VISITED A SIMILAR PLACE: experiences at other outdoor history museums 49 72<sup>a</sup>

**Possible “on-site” orientation**

1. STANDING DISPLAY MAP: on entrance path; illustrated map of buildings, paths and layout of Village (see Figure 1) 36 46
2. SIGNS AND PHOTO PANELS: mounted on walls of Visitor center, approaching ticket counter 48 45
3. MAP IN BROCHURE: printed brochure given to each visitor at ticket counter 99 98
4. EXHIBIT GALLERY: artifacts, photographs, information panels and labels (see Figure 2) 44<sup>b</sup> 29
5. FILMS: 15-minute shows about Village life and the museum 41<sup>b</sup> 25
6. MEMBERSHIP DESK: costumed staff person answering questions and disseminating brochures 21 21
7. QUAKER MEETINGHOUSE: introductory talk by staff person in first exhibit building after the visitor center (discontinued in Year 2) 16 —

<sup>a</sup>In Year 2, higher percentages for off-site orientation are probably due to a change in wording of the question, from orientation experiences encountered “in preparation for this visit” to experiences “at any time.”

<sup>b</sup>In Year 1, percentages of visitors who saw the Exhibit Gallery and Film were higher than normal because of the location of interviewers in the visitor center. This “distortion” was intended to increase sample sizes; the Film and Gallery were a primary focus of evaluation in the first year [18].
Table 2. Summary of Interview Topics

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Entrance Interview</th>
<th>Exit Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall evaluation</td>
<td>Not asked</td>
<td>Enjoyment, most- and least-interesting exhibits</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Time period, origin of buildings, history of site</td>
<td>Time period, origin of buildings, history of site</td>
</tr>
<tr>
<td>Visitor behavior</td>
<td>Estimated duration of visit</td>
<td>Actual duration of visit, number and sequence of exhibits seen</td>
</tr>
<tr>
<td>Understanding of interpretive themes</td>
<td>Not asked</td>
<td>Sense of the past, sense of community</td>
</tr>
<tr>
<td>Orientation: exposure and effectiveness</td>
<td>Not asked</td>
<td>Number and types of orientations received, value of each</td>
</tr>
<tr>
<td>Demographics</td>
<td>Sex of visitor, group type (coded, not asked)</td>
<td>Sex, group type, age, income, education, distance from home</td>
</tr>
</tbody>
</table>

This study so that they would be scientifically defensible while also have direct practical application.

RESULTS

Most visitors to Old Sturbridge Village are middle-income and upper-middle-income, well-educated adults [19], a pattern which is typical for many museums and historic sites. Visitors arrive in pairs, families, and bus groups, with approximately half of the visitors coming from New England states and half coming from places other than New England.

As they arrive at this museum, visitors have only a vague understanding of the setting they will experience. Despite the information in travel literature and signs near the entrance, about half of the visitors cannot correctly identify the time period being portrayed (early 1800’s, not Colonial times) and an ever larger percentage do not know whether the buildings are originals (they are) or whether there was an original Village on the present site (there was not). Beyond this factual information, visitors also hold diverse expectations in terms of conceptual analogies for the setting as a whole: about half expect OSV to be like “a New England town where you might go sightseeing,” while some visitors expect it to consist of crafts demonstrations and sales, and others think it will be similar to a conventional museum with displays of artifacts. Clearly, this
diversity of expectations and lack of knowledge indicates a considerable need for some kind of orientation experience.

**Exposure to Orientation Experiences**

There are many facets to the orientation experience at Old Sturbridge Village, and this variety and depth of exhibits was expected to provide a thorough orientation in both spatial and conceptual terms. However, an assessment of people's exposure to these orientation exhibits indicated that one could not assume a comprehensive experience: visitors spent an average of 5.1 minutes in the visitor center, and most exhibits were seen by less than half of the visitors. Systematic data about visitors' exposure to each part of the orientation experience were presented in Table 1, indicating that many visitors have some orientation before arriving at the site, and get additional orientation at the visitor center. However, aside from the map/brochure which is given to each visitor group when purchasing tickets, exposure to other on-site orientation experiences varies from 16 percent to 48 percent. These figures were lower than expected, and underscore the need to attract visitors' attention. Among the 75 percent of visitors who did not watch the orientation film, the average time spent in the visitor center was only 3.6 minutes—and that includes the time waiting in line and paying for admission! This situation presents quite a challenge for conceptual orientation, considering that one of the goals is to help visitors “step back in time” by 150 years.

**Effectiveness of Orientation Experiences**

Once an exhibit has attracted a visitor's attention, it should have some value in informing the visitor's expectations and creating a general awareness of conceptual themes and goals of the setting. Orientation exhibits and experiences at Old Sturbridge Village showed considerable variation in being effective in this way. For spatial orientation, few exhibits were useful in helping visitors to anticipate the size and layout of the Village. However, the map/brochure handed to each visitor at the ticket counter was extremely useful for spatial orientation (reported useful by 94% of visitors interviewed). Despite the facts that people often have trouble reading maps, and that this particular map is somewhat stylized and not drawn to scale, this orientation works well because it puts information in peoples' hands when they need it. People are able to consult the maps at decision-points in the Village (at intersections of paths, and deciding where to go next after exiting from any exhibit building); also, by carrying the map with them and referring to it as they move around the site, visitors probably develop a better sense of where they are, how much more there is to see, how they can plan their visit within their time constraints, and have a better appreciation of the spatial components of the Village (i.e., the Center Village or town common, vs. different land uses in the surrounding countryside). While
Table 3. Effectiveness of Orientation Experiences

<table>
<thead>
<tr>
<th>ON-SITE ORIENTATION</th>
<th>These exhibits did NOT change</th>
<th>These exhibits were redesigned or changed between Year 1—Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing display map</td>
<td>13% 93% 12% 0% 0% 19% 0%</td>
<td></td>
</tr>
<tr>
<td>Map (brochure)</td>
<td>10% 95% 5% 8% 0% 34%* 0%</td>
<td></td>
</tr>
<tr>
<td>Membership Desk</td>
<td>3% 9% 14% 8% 17% 80% 42%</td>
<td></td>
</tr>
<tr>
<td>Signs and Photo Panels</td>
<td>7% 13% 0% 12% 17% 86% 0%</td>
<td></td>
</tr>
<tr>
<td>Exhibit Gallery</td>
<td>7% 20% 2% 3% 0% 43% 6%</td>
<td></td>
</tr>
<tr>
<td>Film</td>
<td>12% 36%* 5% 9% 8% 64%*</td>
<td></td>
</tr>
<tr>
<td>Quaker Meetinghouse</td>
<td>4% 22% 14% 5% 13% 64% 27%</td>
<td></td>
</tr>
</tbody>
</table>

Which orientations were helpful in terms of:

1. Finding your way around the Village
   Year 1: 13% 93% 12% 0% 0% 19% 0%
   Year 2: 10% 95% 5% 8% 0% 34%* 0%

2. Getting a sense of the time period
   Year 1: 3% 9% 14% 8% 17% 80% 42%
   Year 2: 7% 13% 0% 12% 17% 86% 0%

3. Getting a sense of the community
   Year 1: 7% 20% 2% 3% 0% 43% 6%
   Year 2: 12% 36%* 5% 9% 8% 64%* 0%

4. Obtaining other factual information
   Year 1: 4% 22% 14% 5% 13% 64% 27%
   Year 2: 6% 26% 5% 13% 10% 66% 0%

Net change in effectiveness
same same same same same up down

* = increase in visitors’ reports of effectiveness, p < .05
a Orientation talk in the Quaker Meetinghouse was discontinued in Year 2.

signs and maps in the Village itself would be intrusive and inconsistent with the historical landscape, these hand-held maps are less intrusive and probably more effective.

For conceptual orientation (especially a sense of the historical time period and a sense of community life), exhibits in the visitor center are somewhat more effective than for spatial orientation. Questioning only those visitors who saw the exhibits, the data indicate that the orientation film, exhibit gallery, and introductory talk in the first exhibit building were the most effective, other exhibits such as information signs, reproductions of photographs and historical paintings, a series of decade markers representing a time line into history, and a stylized map of the Village in a free-standing display case may have provided some visual interest but they held little value for conceptual orientation (see Table 3).

These results reinforce other research findings [12, 20] which suggest that active media (film, human voice) are more effective than passive media (signs,
labels, photos). However, these results also provide some insight on the relative importance of exhibit content and exhibit technology. By studying the effectiveness of orientation before and after some exhibits were changed, we had an opportunity to observe some substantial variations in exhibit presentation. For example, in the first year the orientation films consisted of two well-done movies on landscape scenes and working life in the Village, accompanied by interesting music and a moderate amount of narration. In the second year, the film consisted of a slide-tape show with some music and more narration. The movies were produced by outside organizations; the slide-tape show was produced by staff at the Village. Without insulting the staff, it's fair to say that the technological and professional quality of the slide-tape show was inferior to the movies (it was not, for example, a multi-image slide show with stereophonic effects which is typical of professionally-produced shows). However, the content of the slide-tape presentation led to an orientation experience which was significantly more effective compared to the previous movies (awareness of "community" increased from 43% to 64%; a sense of the historical time period increased from 80% to 86%; and even spatial orientation was facilitated, increasing from 19% to 34%). In contrast to these results, the redesign of the exhibit gallery—replacing conventional displays of artifacts and labels with a more contemporary technology of large-format images on smoked-glass panels, accompanied by personal quotations from historical documents—produced little change in effectiveness (awareness of "community" increased slightly from 0% to 8%, and awareness of the time period was unchanged at 17%). These results suggest that the choice of media and the quality of exhibit presentation are important in attracting visitors' attention, but the message and content of those presentations play a critical role in making them effective forms of communication.

Additional Thoughts about Effectiveness

At the beginning of this research, museum staff also asked about the "impacts" of orientation on visitor experiences: "If we can get people to see more orientation, will they stay longer?" and "Do people learn more about the Village if they have a more extensive orientation?" To address these questions, data were analyzed to compare visitor perceptions in exit interviews with entrance interviews, and "pre-post" groups were compared with control groups who were only interviewed at the end of their visits. The results provide additional evidence that orientation has cognitive and behavioral implications for the overall experience, but in some unexpected ways.

Although visitors' duration of stay in the Village was positively correlated with the extent of their orientation experience, a different factor emerged as a better predictor: the expected duration of a visit (correlation between expected and actual duration: \( r = .55 \) in Year 1, \( r = .63 \) in Year 2, \( p < .001 \)). That is,
people who had more time to spend at the Village also spent more time seeing the orientation exhibits. Since visitor expectations are based in part on their sense of how much there is to see at this site as well as how much time they have in their own schedule, it seems worthwhile to attempt more pre-visit orientation if one wants to affect the duration of visits (indeed, visitors who arrive expecting to stay for less than the average 3.7 hours are often frustrated that they didn’t have enough time to see more).

On the question of “learning” about the Village, visitors who had a more extensive orientation experience did tend to learn more of the basic facts about the Village (see Table 2 “Knowledge” category, and the description at the beginning of this Results section); this finding was independent of the amount of time that visitors spent or expected to spend in the Village. However, this finding was overshadowed by an artifact of the research itself: visitors who were interviewed at both entrance and exit knew much more about the Village than those who were only interviewed at the exit ($\chi^2 = 16.7, p < .001$). During the exit interviews, we were surprised when visitors said that one of the most useful parts of the orientation experience was “talking to you before our visit.” Since we had only asked six brief questions, and given no feedback on right or wrong answers, this result was hard to understand until the data analysis showed such a strong and consistent effect. Apparently, the introduction of a few questions about the Village set in motion visitors’ curiosity and interest: by contrast, control groups tended to see fewer orientation exhibits and to learn less about the Village. Perhaps this result is something more than simple “test anxiety” (people learned more because they knew they would be interviewed later); penetrating visitors’ consciousness with a few questions about this novel environment may itself be an effective orientation experience.

A final area of interest in terms of visitor experiences is the affective domain: “Do people enjoy a setting more if they have some kind of orientation to it ahead of time?” Technically, this research could only address the question of the extent of orientation, since all visitors entered through the visitor center and received some kind of orientation. While there may be an intuitively positive relationship between orientation and enjoyment, it was not evident in this research; statistical analyses were limited by a ceiling effect (overall enjoyment averaged 6.3 on a 7-point scale), but enjoyment of the visit was not systematically related to the extent of orientation, expected duration of visit, whether or not visitors read something about the Village before arriving, or whether or not visitors were interviewed at the entrance.

Demographic factors such as age of visitor, education, income, group size, and distance from home showed no systematic relationship to the potential impacts of orientation such as duration of visit, knowledge gained, or enjoyment (there was, however, a trend toward significance in one case: visitors who travelled a greater distance indicated greater enjoyment, $\chi^2 = 7.6, p < .10$).
CONCLUSIONS

This research represents an approach to the study of environmental perception and experience. To better understand how people perceive and learn about an environment, the study focused on first-time visitors to a relatively novel environment (an outdoor history museum which portrays a rural New England village of the early 19th century). The novelty of the setting is confirmed by the fact that few visitors arrive at the Village with accurate information about it. This lack of background information underscores the need for an orientation experience, and the principal objective of this study was to investigate the extent and effectiveness of orientation experiences.

This research has been conducted with both theoretical and practical value in mind. Theoretically, the results provide some insight to the process of forming an image about an unfamiliar or novel environment. People tended to arrive at OSV with a vague and ambiguous image of the place, yet their expectations and preparation for the visit were important influences on the overall experience. The results also suggest that an orientation experience for the visitor may turn out to be quite different than the experience as it was planned by museum staff or exhibit designers. Initial assumptions by staff and researchers tended to be naive in a form of “environmental determinism” (assumptions such as: people will see all the exhibits as they walk around the visitor center, the exhibits are all effective in communicating some part of our orientation message, and so on). Clearly, visitors' interests and goals must also be taken into account; visitors are eager to get out into the Village itself rather than spending time in a modern visitor center, few exhibits attract their attention, and it may be difficult to perceive and understand conceptual themes when one is trying to get oriented to the basic operations of the visitor center (how much does this cost? where do we pay? where are the bathrooms? what time does the Village close?). The two most effective means for orientation—the map/brochure and the film—were useful after these other practical details were solved; the film required people to sit down and watch it for about fifteen minutes, and the map/brochure provided ongoing assistance in way-finding and the development of a cognitive map and image of the place.

Additional theoretical contributions are suggested by this research. For example, it seems clear that orientation does influence a person's learning about an environment, and the strong effect of an entrance interview may provide some clues about how to stimulate visitors' curiosity, and therefore promote learning. Also, while these results indicate cognitive and behavioral effects of orientation, there was no indication of affective impacts (visitors' “enjoyment” of the Village); one might speculate that the affective impact of the Village itself is so powerful that it overshadows any potential effect of orientation.

Practically, this research has provided some useful findings which could guide future exhibit planning and design. Perhaps most important is the conclusion
that orientation doesn't happen instantly—initial exposure plus repeated reinforcement appears to be the most effective strategy for presenting information. For spatial orientation, this strategy is accomplished with a pictorial display map on the entrance path to the visitor center, plus a map/brochure which people can use throughout the visit. For conceptual orientation, exposure to major themes in the visitor center was reinforced by an introductory talk in the first exhibit building (Quaker Meetinghouse). Another conclusion which has practical value is that the choice of exhibit placement influences visitors' attention (e.g., signs on visitor center walls were observed by 45% of the visitors, but an exhibit gallery to the side was observed by only 29%); on the other hand, the effectiveness of these exhibits in terms of visitors' understanding of conceptual themes was influenced more by the choice of media (i.e., active visual and oral presentations were more effective than static written and graphic presentations). Further research on these issues would improve the generalizability of such conclusions.

Practical application to visitor management may also be warranted. Specifically, the variation in visitors' time constraints (expected duration of visit ranged from 1½ hours to 10 hours) implies a need for different orientation experiences: perhaps a short overview for people who expect to stay less than the average four-hour visit, and a longer orientation including the film for visitors who expect to spend four or more hours in the Village. A special orientation for short visits seems especially necessary considering visitor comments such as "If we had only known how much there was to see..." or "We couldn't walk around the whole Village, so we weren't sure what part to concentrate on."

Another practical implication worth considering is that exhibit technology may be less important than the message or content of the exhibit. In this case, changes and improvements in exhibit design showed no major changes in effectiveness when the message and goals remained the same; however, when a concerted effort was undertaken to rewrite the content of the film, for example, there was a significant increase in visitors' awareness of intended conceptual themes from that exhibit. Obviously, creative exhibit design, interesting technology, and use of materials are important (e.g., in attracting visitors' attention and interest), but the content and strategy for presentation appear to be more important ingredients of effective orientation.

Ultimately, spatial and conceptual orientation to a novel environment may be best understood as a transactional process: the information presented through an orientation experience has greater or lesser value depending on its ability to capture visitors' interest (e.g., the film) and its usefulness in actual decision-making and image formation (e.g., the map/brochure). This process must also take into account the context of visitors' needs and constraints (e.g., time available, knowledge at arrival) in order to produce an orientation experience which is successful and appropriate to the situation.
ACKNOWLEDGMENT

The authors greatly appreciate the collaboration and support of Old Sturbridge Village throughout this research, the National Endowment for the Humanities for funding OSV's "Community in Change" project, and Jack Larkin and Jan Reizenstein Carpman for their comments on an earlier version of the manuscript.

REFERENCES

4. J. D. Balling, R. Aronson, and J. H. Falk, Pre-Trip Programs: An Exploration of their Effects on Learning from a Single-Visit Field Trip to a Zoological Park, Office of Educational Research, Smithsonian Institution, Washington, D.C.


Direct reprint requests to:

Dr. D. Geoffrey Hayward
Director, Environment and Behavior Research Center
Blaisdell House
University of Massachusetts
Amherst, MA 01003