Bridges

to Understanding
Children's Museums

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Learning from Each Other
Children's Museums and the Museum Field

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Introduction

How does the nearly 100 year history of children's museums fit into the evolution of the museum field? When the Bridges Project was first conceived, the question of children's museums' “impact" in each of four institutional arenas (families, schools, community, and the field of museums) was a central question. While the question has evolved from one of “impact" to one of “relationship," the interest in mapping children's museums’ inter-connection within each of these key areas remains strong. For our Bridges team of “Museum Field” researchers, the questions of interest all revolved around a better understanding of how children's museums relate to the larger museum field.

Characteristics and Influences of Children's Museums

Clearly, the origins of children's museums are in the museum field, with the early children's museums having both an orientation and a structure that were inspired by existing museums, albeit for a different target audience. In the years following, both children's museums and the museum field have evolved in some parallel directions and in some disparate ones. For instance, museums of all types have integrated a stronger educational emphasis into their programming, and many have developed programs specifically targeting children and families. What has been the role of children's museums in some of these developments? Is the influence of children's museums perceived differently by children's museum and other museum professionals? How have other museums shaped the institution of children's museums? Or to what extent has the children's museum model stretched beyond the museum field, for example into the arena of for-profit play centers? After the first 100 years of children's museums, what now are seen as their distinctive characteristics?

Relations Among Children's Museums and Other Museums

As Museum Field researchers, we were also curious to learn more about how children's museums and other museums relate to each other professionally. For example, in this growing era of institutional collaboration, to what extent do children's museums and other museums partner with each other, and for what reasons? How do other museums and children's museums describe their relations with one another? Is it different depending on the type of other museum, and how do these children's museum/other museum relations compare with the kind of relationships museums have with museums of their own type and with other non-children’s museums? To what extent do staff movements from children's museums to other museums or from other museums to children's museums cross-fertilize these institutions?
The Future Role of Children's Museums
Along with the children's museums' centenary has come a self-questioning by children's museums of their role in the next century. Elaine Heumann Gurian (1995) and others have observed that children's museums no longer have a monopoly on 'learning through doing' and have pointed to the quest for a new paradigm facing the institution of children's museums. *Hand to Hand*, the journal of the Association of Youth Museums (AYM), has printed interviews with children's museum leaders regarding their visions for the future of the field, and it has been a topic of meetings and conversations at the annual AYM meetings.

The current research afforded the opportunity of extending this inquiry into the broader field of museums, obtaining their perspectives on the future of children's museums. How does their vision compare with that of children's museums? How much is it linked to their view of children's museums' historical distinguishing characteristics, or does it contain seeds of a "new paradigm"? Is there support in the field for an evolution of children's museums?

Who We Are and What We Did
The Museum Field research team comprises a mix of five researchers and museum professionals with leadership experience in children's museums and other museum types. In addition to the three authors of this paper, the team includes two other museum professionals, whose assistance has been invaluable in the formulation of this work and the informed commentary upon it. Together, we are:

Kate Bennett, Executive Director, Rochester Museum and Science Center, and former Executive Director, Staten Island Children's Museum.
Gurudev Khalsa, Case Western Reserve University, researcher in organizational behavior and management consultant with an arts specialization.
Bonnie Pitman, Executive Director, Bay Area Discovery Museum, and former Board member and Vice President, the American Association of Museums.
Patricia Steuert, Executive Director, the New England Quilt Museum, and former Deputy Director, the Boston Children's Museum.
Marzy Sykes, Ph.D., psychologist and former Director of Museum Programs and Exhibits, Please Touch Museum.

We began in 1995 to develop a research strategy aimed at looking at the relation of children's museums and other museums in several key areas of interest—influence, innovation, collaboration and the future. Preliminary research questions and strategies were crafted to organize our multi-pronged data gathering efforts in relation to these thematic areas. Our first data came in the form of responses to questions we had included in the 1995 General Survey of Youth Museums. And the bulk of the data for this report came from a parallel survey we did in 1996 with a sample of museums of other types. These surveys represent only a first but significant step in the planned research effort, which is intended to encompass interviews, site visits, focus groups of mixed museum professionals, and a possible future search conference for leaders of the children's museum field. This chapter is intended to share the information gathered to date, and to seed both the ideas and funding for more in-depth research to follow.

Key Findings
Everyone agrees: children's museums are characterized by hands-on, interactive exhibits (80% of both children's museums and other museums mention this). Over half (55%) of other museums surveyed also feel this interactive approach has been one of the most significant influences upon them. While nearly 2/3 of other museums report that the overall extent of children's museums' influence on them has been very small, approximately half of other museums acknowledge moderate to heavy influence in the areas of education and exhibitions.

Aside from the hands-on characteristic,
however, there is a gap between how children’s museums see their own distinctiveness, and how other museums perceive it. Children’s museums are much more likely than other museums to cite their learning orientation (and various aspects thereof), while other museums see greater salience in children’s museums’ target audience and lack of collections. Another interesting gap is the “influence gap”: children’s museums are nearly twice as likely to report moderate to heavy influence from other museums as other museums report this level of influence from children’s museums.

In our inquiry into inter-museum relations, we discovered that museums of all types report very low frequencies of competitive relations with other museums in their area (less than 3%), and over two-thirds of the time (71%), feel they have a collaborative or collegial relation with their counterparts. Interestingly, the highest levels of both competition and collaboration were often reported with museums of one’s own type, suggesting that such relationships can go either way (maybe even both simultaneously, since competition and collaboration are not mutually exclusive). In terms of frequency of actual collaborative projects, children’s museums were the least likely of all museum types to be targeted as a collaborative partner by other museums, averaging only 1.7 projects over a five-year period (vs. 4.2 for zoos, at the high end).

The frequency of professional staff migrations between children’s museums and other museums was notable. Over one-third of other museums reported having at least one person with children’s museum experience on their staff. Conversely, other museums were children’s museums’ most likely source of professional staff, accounting for 24% of their recent hires.

Finally, in the area of the projected future role of children’s museums, two findings stand out—one predictable, the other surprising. The most common role other museums see for future children’s museums is to continue their child-centered ways, providing developmentally appropriate experiences that introduce children to museums. The second most frequent is the striking one: 21% of other museums suggest that children’s museums play a research and experimentation role in areas such as museum learning, family learning, interactive exhibitry, and even schooling. Perhaps this constitutes the most important recognition of children’s museums’ history of innovation—the potential to make a continuing R&D contribution for the future.

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The approach, findings and conclusions of our research are elaborated in the sections that follow. First, we offer a more detailed explanation of our methodology. Then our detailed survey research findings are presented according to three topic areas: 1) Characteristics and Influences of Children’s Museums, 2) Relations Among Children’s Museums and Other Museums, and 3) The Future Role of Children’s Museums. In conclusion, we offer further analysis and interpretation of the data, as well as suggestions for next research steps.

Methodology
The data for this chapter is drawn primarily from two surveys conducted by the Bridges Project. The first, a survey of children’s museums, was sent to all members of the Association of Youth Museums (AYM) in the fall of 1995 (N=137). The seventy-five responses were analyzed in 1996 and a summary report was prepared by Jeffrey Smith and Deborah Edward, published in July 1996 by the Bridges Project. This survey contained certain questions posed by the authors of the present chapter, intended to shed light on the relationship of children’s museums to the wider field of museums. Data from these questions, and the analysis of Smith and Edwards, have been used as a source of comparisons with the data gathered in
the second survey sampling the broader museum
field.

The second survey was sent in the spring of 1996
to 270 other museums of seven types: art, science,
history, natural history, aquariums, botanical
gardens and zoos. Responses were received from
119 (see distribution in the next section). This
Museum Field Survey included questions parallel to
those asked in the AYM Survey as well as
supplemental questions aimed at understanding the
role of children's museums in the museum field and
the relationship of different types of museums with
each other. A non-probabilistic dimensional
sampling method was used to obtain data from a
wide range of museums, distributed according to the
following dimensions (strata): type of museum,
geographic area, size and age. Within each strata,
we attempted to identify “leading museums” for
the sample (those that would be regarded as such
by the field) based on the combined knowledge of
the museum professionals on the research team,
supplemented by consultations with a few other
leading museum professionals.

Surveys were mailed to approximately 50 each
of the four major museum types—art, science,
history and natural history—and approximately
25 each to zoos, aquariums and botanical gardens.
Within these categories, the dimensional sampling
matrix also provided for: distribution among
geographic areas (West, Rocky Mountain, Midwest,
South, and East); sizes of museums, as measured by
attendance (under 500,000; 500,000 - 1 million; over
1 million); and ages (>100 years, 51-100 years, 21-
50 years, and <21 years). In general, the surveys
were sent to the museums' Executive Directors, by
name when that information was available. A
second mailing to non-responding museums was sent
approximately 6 weeks after the original mailing.

Data entry and the development of codes for
several survey questions was begun in the fall of
1996. The coding schemes were developed by
Gurudev Khalsa, Pat Steuert, and Mary Sykes,
based where possible on the codes used for parallel
questions in the AYM Survey. All three authors
were involved in the development of each coding
scheme and worked out differences in interpretation
by applying them individually to a portion of the
data before reaching consensus on the appropriate
code. Then at least two of the authors (and
sometimes all three) individually coded the
remaining data for each question, again working out
any discrepancies in a subsequent discussion. Both
the original qualitative responses and the related
codes were entered into a Microsoft FoxPro database
along with the quantitative data from other survey
questions. The data were analyzed using Microsoft
FoxPro and Excel software to sort and calculate
frequency distributions and means. Use of more
complex methods was not deemed warranted by the
nature of the questions being asked and the uses to
which the survey data are being put.

Two additional research methods were
originally planned to supplement the survey data
and analysis, and now await a future research
phase: 1) a search of the museum literature to
analyze published themes as they relate to the
distinguishing characteristics of children's
museums found in the surveys, and 2) individual
interviews and/or focus groups with selected
leaders in the museum field to obtain their
reactions/interpretations and add additional
qualitative depth to the survey findings.

Survey Findings

The Sample
A total of 119 responses to the Museum Field Survey
were received, representing an overall response rate
of 44%. The distribution by museum type is as
follows:

<table>
<thead>
<tr>
<th>Type of Museum</th>
<th># Sent</th>
<th># Rec'd</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art museums</td>
<td>51</td>
<td>21</td>
<td>17%</td>
</tr>
<tr>
<td>Science museums</td>
<td>50</td>
<td>14</td>
<td>12%</td>
</tr>
<tr>
<td>History museums</td>
<td>48</td>
<td>27</td>
<td>23%</td>
</tr>
<tr>
<td>Natural history museums</td>
<td>46</td>
<td>27</td>
<td>23%</td>
</tr>
</tbody>
</table>
Figure 1

Distinguishing Characteristics of Children's Museums

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>As reported by CMs</th>
<th>As reported by OMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>No collections</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Children's advocacy</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Parent education</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Inquiry-based</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Different rules</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Diversity of visitors</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Social interaction</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Friendly/caring</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Collaborative</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Physical environment</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Multi learning styles</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Age appropriate</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Multidisciplinary</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Play/fun</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Target audience</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Educational program</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Hands-on exhibition</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

Percentage of Respondents Citing

Aquariums 25 10 8%
Botanical gardens 25 8 7%
Zoos 25 12 10%
Total 270 119 100%

Regional distribution of the survey respondents was:

- East 39 33%
- Midwest 31 26%
- West 21 18%
- South 18 15%
- Rocky Mountain 10 8%
- Total 119 100%

The annual attendance at the responding museums was distributed as follows:

- Under 500,000 74 64%
- 500,000 to 1 million 26 22%
- 1 to 2 million 8 7%
- Over 2 million 8 7%
- Total 116 100%

Ages of the museums surveyed ranged from 5 years to 206 years old, with a median of 68 years. Their distribution by age range was:

- 20 and under years 13 12%

We also wanted to know how close the nearest children's museum was to the responding museums. About one quarter (27%) had children's museums in their immediate neighborhood or cultural district, and another half (51%) had a children's museum within a 45 minute driving radius. So only the remaining one-fourth (22%) had no children's museum within their area.

Characteristics and Influences of Children's Museums

Respondents to both the AYM Survey (Q#14) and the Museum Field Survey (Q#6) were asked: “In relation to the field of museums as a whole, what do you believe characterizes or distinguishes children's museums?” Five numbered blank lines followed for respondents to fill in. After examination of all the answers, we assigned to each response one or more descriptive codes. Figure 1
shows the most common responses and the percentage of respondents to the AYM Survey and the Museum Field Survey, respectively, who included these among their list of five characteristics.

Not surprisingly, the most common distinguishing characteristic identified by both children’s museums and other museums is children’s museums’ hands-on/experiential/interactive exhibition approach (82% and 79%, respectively). The second and third most cited characteristics are interestingly reversed for children’s museums and other museums. Other museums (62% of them) find children’s museums’ distinctive target audience in children/families more notable than do the children’s museums themselves (53%). On the other hand, children’s museums see their educational programming as a more important distinguishing characteristic (59%) than do other museums (36%). Children’s museums were about twice as likely as other museums to mention play/fun/edutainment environments (31% vs. 17%) and multi-disciplinary approaches (30% vs. 15%) as salient features. An equivalent percentage from both groups (20%) identified the use of age appropriate/developmentally appropriate techniques as a characteristic of children’s museums.

Further down the list are some other interesting contrasts between the perceptions of children’s museums and other museums. A lack of (permanent) collections in children’s museums was noted by 20% of other museum respondents, but none of the children’s museum respondents. On the other hand, children’s museums were much more likely to characterize themselves in the following ways than were other museums:

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Figure 2

Extent of Influence of CMs and OMs on Each Other

- Influence of OMs Reported by CMs
  - Heavy: 13%
  - Moderate: 29%
  - Little or none: 63%

- Influence of CMs Reported by OMs
  - Heavy: 8%
  - Moderate: 50%
  - Little or none: 37%
• Addressing multiple learning styles (20% vs. 4%)
• Being collaborative (16% vs. 2%)
• Offering friendly/caring environments (14% vs. 1%)
• Catering to a diversity of visitors (11% vs. 0%)
• Providing social interaction opportunities (11% vs. 2%)
• Playing a role in children’s advocacy (10% vs. 1%)
• Using inquiry-based learning approaches (10% vs. 3%)
• Including parent education as an element of their program (10% vs. 2%)

Extent and Influence of Children's Museums and Other Museums on Each Other
Both children's museums and other museums were then asked to rate how influenced they have been by practices in the other's type of museum (Q#15 in Appendix B-1, Q#8 in Appendix B-2), and given a choice of four responses (three for children's museums): Heavily influenced, Moderately influenced, A little influenced, Not at all influenced. As can be seen in Figure 2, children’s museums admit to a much greater influence from other museums than vice versa. Sixty-four percent of children's museums reported being influenced moderately to heavily by other museums (though a few of these claimed it was only in reaction against other museums), while only 37% of other museums felt they had been moderately to heavily influenced by children's museums.

Another way of assessing the “influence gap” is to compare the mean influence rating of the museums surveyed. Using a scale of 0-3, where 0 represents no influence, 1 a little, 2 moderate, and 3 heavy influence, the average overall influence of children's museums reported by other museums is little (1.25), while the average overall influence of other museums reported by children's museums is closer to moderate (1.78).

We turn now to a comparative analysis of different museum types and the relative influence they each perceive that children's museums have upon their museum's practices (see Figure 3).
Averaging their self-ratings, the museum types most influenced by children’s museums were natural history (mean of 1.48) and science museums (1.38). Nearly half of these museums (47%) reported a moderate to high level of influence upon them. The least influence was perceived by aquariums (1.00) and art museums (1.06), with nearly three-quarters (72%) of these reporting little or no influence.

In addition, the Museum Field Survey (Q#8 in Appendix B-2) asked respondents to rate the extent of influence of children’s museums in three areas: exhibitions, education, and audience development. The highest reported arena of influence of children’s museums upon other museums was in education, where 50% of all respondents acknowledged moderate to heavy influence, followed by exhibitions, with 48% reporting this degree of influence. Only 31% reported this same level of children’s museum influence upon their audience development.

In education, as in the overall ratings, natural history and science museums reported the most influence from children’s museums, followed closely by art museums and history museums. In exhibitions, the most influence was reported by zoos, science museums, and natural history museums, in that order. And in audience development, only natural history and science museums had more than a quarter reporting moderate to high influence.

Nature and Significant Influences of Children’s Museums and Other Museums on Each Other

An open-ended question on both surveys asked respondents to indicate up to three of the most significant ways that children’s museums have influenced their museums (in the case of the Museum Field Survey: Q#7, Appendix B-2); or three of the most significant ways that traditional (non-children’s) museums have influenced their museums (in the case of the AYM Survey: Q#16, Appendix B-1). The most common responses are shown in the two charts (Figures 4 and 5).

Not surprisingly, the top three children’s museum influences identified by other museums correspond to the top three distinguishing characteristics of children’s museums noted by other museums in the earlier question. Only the percentages are different, with a smaller proportion of the other museums finding these characteristics significantly influential. Fifty-

**Figure 4**

*Nature of Significant Influences of CMs on OMs*
five percent (55%) of other museums identified hands-on/interactive exhibition approach as a significant influence upon them (vs. 79% who identified it a children's museum distinguishing characteristic). Similarly, 22% (vs. 36%) of other museums found children's museums' educational goals and programming influential, and 19% (vs. 62%) named targeting the audience of children and families as a major influence. The other most common ways other museums were influenced by children's museums was in creation of a new exhibit/gallery (13%), and in signage/interpretation techniques (10%). Finally, 18% of the other museums responded to this question by saying there were no significant ways children's museums had influenced their museum.

In addition to short phrases that were coded into the above categories, some respondents to the Museum Field Survey offered longer statements, including ones that fit into the above categories and some that do not. To give a flavor for the range of these statements, a few are included below (the respondent’s museum type is shown in parenthesis):

“Model of audience needs first.” (Art)

“Changed expectations. Families now expect total ‘hands-on’ and freedom for children to move or run and make noise—these behaviors are not compatible with security of art in an art museum.” (Art)

“We have installed a special exhibition called the stARTing Point specifically for children. This exhibition is an interactive educational exhibition.” (Art)

“Established data showing that children learn through observations and manipulation.” (Art)

“Activities at different levels and styles of learning.” (Science)

“Contributed to the awareness and value of museums in the community. Staff move back and forth between children’s museums and science museums. We benefit from expanded skills and knowledge of audience.” (Science)

“The inclusion of educators in the development of exhibitions.” (History)

“We’re remodeling our museum into a family and children’s museum, with interactive new exhibits and an emphasis on developmental stages of learning.” (History)

“Help us focus on presentation; contributed subject and technique ideas; are a continual reminder of the importance of this audience. Nearly all of this is done via staff visiting
children's museums and bringing back ideas, and through conferences and publications, rather than through direct collaboration." (History)

“In an odd way they allow us to relax a little and worry less about the fact that historic sites tend not to be very interactive.” (History)

“Written literature has helped in describing how children learn. Children’s museums have provided some good models on involving interactive exhibit techniques.” (Natural History)

“Dared to loosen up for open-ended exploration. Dared to include arts expressions. Creation of a children’s gallery.” (Natural History)

“Raised expectations of future museum visits.” (Natural History)

“We’ve designed early childhood learning experiences in our galleries (art projects, etc.) and incorporated early childhood development into our docent training program.” (Natural History)

“Although we do lots of special programming for children, we do so at our own initiative and not as a result of any influence from a children’s museum.” (Botanical Garden)

“Provide incentive to service children. Provides examples for interpretation of collections. Makes our museum aware of children’s needs.” (Botanical Garden)

“A senior education staff member was hired from the Indianapolis Children’s Museum, and is heavily influenced by exhibitry. She infuses children’s museum techniques into zoo exhibits wherever possible.” (Zoo)

Turning now to the AYM Survey (see Figure 5), children's museums reported that the two biggest influences of the museum field on them have been the standards and ethics of the museum profession (45%) and their exhibit design (44%). If related exhibit issues are added in (such as signage, exhibit maintenance, and the use of real objects), a full 75% of children's museums report significant influence in the area of exhibitions. Collections management is the third largest area of influence (30%), followed by development/marketing approaches (27%) and administrative practices (21%). Of lesser but still significant influence are the effective use of docents (12%) and evaluation research (10%). Eight percent of children's museums reported that a significant other museum influence on them was in providing a counter example (what not to do).

Again, a few interesting sample quotations (with no aim to be representative) are provided from the children's museum responses to this question:

“High standards and quality of exhibit fabrication. Depth and breadth of educational programming.”

“Our museum is a collecting museum, therefore good practices in conservation and preservation have been important.”

“Inspired us with the strength of their education programs with schools. Inspired us with the professionalism of their exhibit presentation and content use of volunteers.”

“Integrity of educational information and labeling. Respect for preservation of past (we always have some appropriate displays as a way of honoring culture, history, etc.—that is not meant for touching). Showing more than one perspective of a subject.”

“Docent programming (we use high school kids).”

“Set high standards of aesthetics. Fundraising strategies.”

“Field research practices of history museums. Earned income savvy of science centers.”

“As a contrast: the need to create an atmosphere that is less rigid and more user friendly than a traditional museum.”

“More sophisticated marketing techniques, better visitor research, and higher professional standards.”

“Joint promotion and marketing are done with other museums to increase attendance at all of them. Also, we do joint programming.”

“We look at them mostly to learn what doesn’t work for children.”

In the case of all but two museum types (zoos and aquariums), museums reported the highest frequency of collaborative-level relations with museums of their own types.
Relations Among Children's Museums and Other Museums

Four aspects of the nature of relations between children's museums and other museums of various types are reported in this section: the overall quality of relationship (from hostile to collaborative), the number of collaborative initiatives undertaken, the nature of those initiatives, and staff migration among museums.

Museum Relations

In this age where there is both greater competition for scarce resources (donors and audiences) and greater calls for collaboration among community institutions, we were curious to better understand the relations between different types of museums, especially where children's museums are concerned. The first question in our inquiry asked the responding museums to characterize the nature of their relationships with the nearest museums in their area. (See Q#17, Appendix B-1 and Q#9, Appendix B-2). The question listed the major museum types and asked the respondent to rate their relations on a five point scale, corresponding to the following words: hostile (1), competitive (2), neutral (3), collegial (4), and collaborative (5).

Very few museums cited competitive or hostile relations with other museums (less than 3%). In fact, most museums rated their relations with all other types of museums as collaborative (34%) or collegial (37%). It is possible that the question itself elicited ratings biased toward the higher end, if based on a propensity to choose the more favorable-sounding language.

In the case of all but two museum types, museums reported the highest frequency of collaborative-level relations with museums of their own types (see percentages below). The exceptions were aquariums, who reported the most frequent collaborative relations with zoos (75%), and zoos, who reported the most frequent collaborative relations with natural history museums (67%). Below are the frequencies of reported collaborative-level relations of museums with museums of their own type:

- Art museums (44%)

23
• Science museums (50%)
• History museums (52%)
• Natural history museums (50%)
• Aquariums (50%)
• Botanical gardens (83%)
• Zoos (50%)

At the other end of the spectrum, when competitive relations were reported with other museums, it was also often with museums of one’s own type. The frequencies of reported competitive relations greater than 5% are listed below:
• By art museums with other art museums (6%) and with aquariums (7%)
• By science museums with other science museums (25%), and with zoos (23%), aquariums (14%), and history museums (8%)
• By aquariums with other aquariums (17%), and with zoos (13%)
• By botanical gardens with science museums (14%)
• By children’s museums with science museums (8%)

Figure 6 presents the average quality of relations attributed to each museum type in two ways: first, the average of how all other museum respondents characterized relations with that museum type (bars), and second, the self-rating of all museums of that type with other museums (line).

Based on how others rate them, the types of museums with whom all the surveyed museums reported having the highest average quality of relationship were botanical gardens (4.19 on a scale of 1-5), art museums (4.18), and natural history museums (4.17). The types of museums with whom the museums reported having the lowest average quality of relationship were aquariums (3.69) and children’s museums (3.85). Aquariums were rated by the following museum types as their least close relationship: art, science, history and natural history. Children’s museums were rated the least close relationship by aquariums, botanical gardens and zoos.

For the most part, the self-ratings of the museums surveyed were remarkably consistent with the ratings by others of relations with their museum type. The only museum types to rate their own relations with other museums more favorably (more cooperatively) than the field rated their

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**Figure 7**

**Frequency of Positive Relations with CMs**

- As Reported by Various OM Types Toward CMs
- As Reported by CMs Toward Various OM Types
type were aquariums and zoos, with aquariums showing the largest gap of all (0.4). On the other hand, history museums tended to regard their own relations with other museums a little less favorably (more competitively) than the field rated them as a group (0.25).

To further examine how well matched the self- and field perceptions of relations are between children's museums and other museum types, Figure 7 displays the percentage of each museum type reporting positive relations (a rating of 4 or 5) with children's museums.

In general, the gap between perceived positive relations by children's museums and the corresponding perceptions of other museums of various types is fairly small. The most disparate is science museums, which self-report the highest positive relations with children's museums of any category (83%), while children's museums perceive positive relations with science museums only 65% of the time. On the other hand, children's museums were most likely to cite favorable relations with art museums (75%), while the art museums were among the lowest of other museums in their percentage of positive relations with children's museums (65%). There was general agreement that zoos and aquariums have the lowest level of positive relations with children's museums (other museums reporting 42% and children's museums 48%).

Number of Collaborative Projects with Other Museums
We also asked respondents to both surveys to indicate the actual number of projects (within specified ranges9) on which they had collaborated9 with other museums in the last five years (Q#18, Appendix B-1 and Q#10, Appendix B-2). The most common collaborative combinations are shown in Figure 8.

The earlier reported high rating of collaborative-level relations among museums of the same type is explained further by the data on numbers of collaborative projects with other museums. In all cases of collaborations by museums with other museums outside of their area (at least
Art museums were the most frequent "target" for involvement in collaborative projects by other museums, as shown in the above listing and by the fact that they garnered the highest overall average of collaborations reported by all other museums (2.3). The only other museum type that averaged 2.0 or greater mentions as a collaborative partner of all other museums was history (2.1). Aquariums and botanical gardens self-reported the widest range of frequent (2.0 or greater average) collaborations with other museums, in each case with four other museum types, in addition to their own.

Children's museums were reported by none of the museum types as a frequent (2.0 or greater average) partner in collaborative projects over the last five years. Overall, they were reported by other museums of all types to be involved in 1.3 projects, on average, over the five-year period. The types of museums most likely to report collaborative projects with children's museums were natural history museums (1.7), zoos (1.4), and history museums (1.3).

Children's museums, themselves (according to the separate AYM Survey), reported collaborative initiatives most frequently with science museums. The average number of initiatives reported by children's museums with each category of other museum over a five-year period are:

- **Art museums with other art museums**: 3.1
- **Science with art**: 2.3
- **History with other history museums**: 3.2
- **Natural history with art**: 2.4
- **Aquariums with zoos**: 3.1
- **Botanical gardens with natural history**: 2.5
- **Zoos with natural history**: 2.7

The reasons stated for entering into these collaborative initiatives varied.
programing, and creating a group effort for marketing and promotion purposes. Other museums stated motivations of serving younger audiences, expanding their school and family programming, and providing staff training and development. Finally, some viewed their collaborations as a way to maximize resources and share expenses, as well as inspire a collaborative environment through mutual support, sharing of collections, and developing exhibits.

Here are a few specific examples of collaborative initiatives reported by other museums:

- An art museum requested the professional help of its local children's museum to improve the interactivity of one of its long-term exhibits, gaining insights on exhibit design and programming. To reciprocate the courtesy, the art museum made loans of art from their collection to the children's museum.
- Another art museum cooperated with the children's museum and botanical garden in its vicinity to mount a new exhibit on “Plants and People.”
- All the area museums in Philadelphia collaborated in an exhibition designed by John Cage (“Rolywholyover”), wherein a computer program randomly displayed artifacts from all museums within a 50-mile radius.
- In St. Louis, the CEOs of 32 area museums meet six to eight times per year to share information.
- The Magic School Bus Museum Project involved 111 museums across the country to assist in producing developmentally appropriate programs and exhibits related to the TV series. For many, it was a first opportunity for science and children's museums to work together.
- A consortium of museums in Oregon (including an art, science, history, natural history, air and space, and children's museum, plus an arboretum, living farm, and planetarium) produced a joint marketing piece to encourage families to visit all nine area museums.
- In Boston, the Early Childhood Cooperative involved several major area museums in an initiative to provide information about what is available for young children in museums in Boston.
- A natural history museum and planetarium assisted in the formation of a new area children's museum to ensure mission alignment and a non-competitive environment.
- An aquarium worked together with a children's museum to put on “Underwater Discovery Day,” integrating all facets of marine life. According to the aquarium, it was an opportunity to share different methods and activities at each institution.
- In Milwaukee, a group of educators from informal learning environments (various museums, zoo, library, etc.) meets every other month to discuss collaborative projects. Most recently, they began discussions to jointly develop the use of long distance learning technologies at their institutions, pooling resources for a mobile video-conferencing unit rather than separately purchasing expensive equipment.

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Migrations of Staff Between Children's Museums and Other Museums
A final element of the relations between children's museums and other museums was probed by survey questions asking about staff movement. The two questions on the Museum Field Survey asked, “Who on your professional staff has had prior experience in a children’s museum?” and “Who from your professional staff has left to take a position with a children’s museum?” (Q#12 & 13, Appendix B-2). In
each case three sets of blanks provided space for the respondent to identify the position from which the person left and the position to which they went. In the AYM Survey, the staff movement question was not restricted to moves to other museums; it asked for information on the last four professionals leaving the staff of the children’s museum and the last four joining the staff (Q#19, Appendix B-1). Six categories of response were offered: Other children’s museums, other museums (not children’s), schools, governments or nonprofits; business or industry, no job.11

Figure 9 presents the percentage of other museums (by type and overall) which had at least one staff member come from or leave for a children’s museum position.

Of all the other museums responding to this question (n=103), one-third (34%) reported at least one staff member had prior experience in a children’s museum. Conversely, only about one-fifth (19%) of the other museums were aware of any of their staff moving to a children’s museum position.

The museum types most likely to have hired at least one former children’s museum staff member were natural history museums (50%) and science museums (46%). Zoos (33%) and art museums (32%) were moderately likely to have hired a children’s museum staff member, while history museums (25%), aquariums (25%), and botanical gardens (13%) were least likely to have a former children’s museum person on staff.

Among other museum staff known to move to a children’s museum position, history and science museums were the most likely to have provided them, with 33% and 31%, respectively, knowing of at least one former staff member who moved to a children’s museum. Only 17% of art museums, 16% of natural history museums, and 11% of zoos reported losing any staff to children’s museums. Aquariums and botanical gardens reported no staff movement to children’s museums.

The graphic (Figure 10) presents the results of professional staff movement data from the AYM Survey. It shows that among the most recent four professional hires by children’s museums (n=280),
24% came from other museums (the most likely of all sources), and 7% from other children's museums. From other categories, children's museums hired 22% from schools, 20% from business and industry, 7% from government or nonprofit, and 7% from no prior job. Regarding recent professional moves away from children's museums (n=219), 16% were known to take positions at other museums, while 4% took positions at other children's museums. Information on the remainder suggests they left in the following proportions: to no job (28%), to business (20%), to government or nonprofit (16%), and to schools (15%).

The Future Role of Children's Museums

The future role of children's museums is a topic that many children's museum professionals are discussing as the 100th anniversary of the institution of children's museums approaches. It is recognized that over the course of the 100 years, children's museums have reinvented themselves more than once, and some speculation has it that the second century will see a new paradigm emerge for the role of children's museums.

In designing the Museum Field Survey, we thought it would be important and interesting to get the perspective of other museum professionals on the question of children's museums' future role. So we simply asked, "What do you see as the future role of children's museums in the field of museums?" (Q#14, Appendix B-2).

The graphic (Figure 11) displays the most common categories of response to this question, followed by selected quotations within each category that serve to illustrate the thinking of various other museum professionals. The percentages are the proportion of respondents (out of the 98 who answered this question) who included each theme in their response. Each response was coded for as many themes (maximum of five) as the researchers found embedded in the statements, so many of the quotations cited here could illustrate more than a single category, but are only listed under one topic to provide a variety of examples.
Child-Centered
(in Developmentally Appropriate Ways) (23%)
Not surprisingly, the most common future role for children's museums anticipated by other museums was a continuing focus on children. In many comments was a recognition that this specialization of children's museums allows them to provide museum learning environments that are developmentally appropriate. Some respondents recommended that children's museums focus on the "very young," say ages seven and under. Here are some of the replies (with the museum type of the source shown in parentheses).

"To provide engaging, entertaining, and educational experiences for the youngest of museum visitors." (Science)

"I believe they are a very definite mainstay for the future. It gives children the opportunity to learn and explore on a level that is not allowed in museums that are not for children specifically." (History)

"Serve the developmental learning needs of children." (Natural History)

"Should focus on the very young; after seven years, leave the driving to others. Don't try to get profound intellectually; provide the simple profound experiences, mostly physical, so important [but] we have all forgotten them." (Natural History)

"Continue as an informal learning center for young children." (Natural History)

"To provide an enrichment opportunity for young children—frequently omitted in museum exhibition and design." (Zoo)

"To lead the way in developing the kinds of exhibits that are appropriate for 0-12 year olds and their families." (Zoo)

"Young people ...need to have an area that is 'theirs.' Children's museums in particular are well positioned to deal with issues critical to youth." (Zoo)

Do Research and Experimentation
that Informs the Field (21%)
The second most frequent category of response to the question of children's museums' future was a

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The Future Role of CMs

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<thead>
<tr>
<th>Most Frequent Responses</th>
<th>Percentage of OM Respondents Mentioning</th>
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<tbody>
<tr>
<td>Uncertain future</td>
<td>10%</td>
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<tr>
<td>Strengthen community</td>
<td>10%</td>
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<tr>
<td>Educational innovation</td>
<td>11%</td>
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<tr>
<td>Interactive exh. &amp; prog.</td>
<td>16%</td>
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<tr>
<td>Family learning</td>
<td>16%</td>
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<tr>
<td>Museum learning lab</td>
<td>17%</td>
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<tr>
<td>Introduce museum exp.</td>
<td>20%</td>
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<tr>
<td>Research &amp; experimentation</td>
<td>21%</td>
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<tr>
<td>Child-centered focus</td>
<td>23%</td>
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suggestion that children's museums play a role in research and experimentation that serves to inform the field. This coding was used for all types of research and engineering that involved development and testing of theories or methods, regardless of the subject of the research. If the call for research and engineering pertained to work in a particular content area (e.g., learning in museums, family learning models, or interactive exhibiting techniques), then the response was also coded for those themes. Some examples of the research and engineering the field sees children's museums providing are:

"Resource for learning more about [young] audiences and how they learn." (Art)

"Research and practical application of child-centered learning." (Science)

"Testing ground for new theories in learning and behavioral sciences." (History)

"Insights into effective participatory museum experiences, as well as models for museum/community collaboration." (History)

"Application (and documentation, and perhaps development/revision) of learning theory, especially play-learning relationships. ...Of all of [the five roles cited, this one] may be the most important." (History)

"I believe children's museums will continue to lead the way in providing all museums with cutting-edge models of learning in museums, from which we can take and adapt to our own more hands-on galleries." (Natural History)

"Experiment with how to engage their visitor and share that good work." (Natural History)

"To conduct research on how kids learn, and to experiment with new techniques." (Zoo)

"Test new learning styles/theories as they apply specifically to younger audiences and fine-tune the interactive method." (Zoo)

One-fifth of all respondents mentioned children's museums as an important introduction to the world of museums.

"Prepare children to enjoy, appreciate, support museum going." (Art)

"To establish positive museum experiences early on, so children will continue to visit other museums as they grow older." (Art)

"To encourage enthusiasm for museums in a usually disinterested audience." (History)

"Education of future museum visitors." (Natural History)

"Important beginning to lifelong appreciation of museums." (Natural History)

"A place to learn how to use other kinds of museums." (Natural History)

"Help build an audience for other museums by getting children introduced at an early age." (Aquarium)

"Laying groundwork for lifelong learning in museums." (Zoo)

Be a Museum Learning Laboratory (17%) Many respondents saw children's museums as being a place not only for learning but for learning about learning in the museum field. They believe children's museums should continue to develop the breadth and depth of museum learning and provide leadership in educating other museums. Some examples of this category already appeared above under the "research and experimentation" theme. Other relevant quotes are provided below:

"To continue to push the boundaries of how children learn in museums." (Art)

"Continuing to develop our understanding of children's learning modes in a museum setting." (Science)

"The opportunities for research into learning theories and methods seems endless." (History)

"Children's museums can play an important role in helping museums learn how to best teach children in informal (museum) settings." (Natural History)
"To help others learn how to meet the developmental needs of children and families." *(Zoo)*

**Provide and Experiment with Family Learning and Inter-generational Models (16%)**

Some respondents specifically mentioned a role for children's museums in "family learning" and/or "inter-generational learning." More than just targeting a family audience, this is the deliberate creation of learning spaces where both child and parent are engaged and often learning from as well as with each other. Here are some of the survey comments:

"To continue to present exhibitions, displays, etc. that will motivate children and their families to explore, grapple with and dialogue about social, political, [and] cultural issues of our time." *(Art)*

"Evaluating successful family programs and sharing that information with the museum field." *(Art)*

"Children interacting with and teaching their parents/families about various processes, theories, cultural perspectives and complex issues in the visual arts." *(Art)*

"Educational activity center for groups of children and families." *(History)*

"Stronger advocates of the kind of inter-generational learning that can happen in museums." *(History)*

"I would like to see children's museums be the leaders in studying how learning occurs in groups containing children and adults. What is the best exhibit format to achieve high interest and high learning as a group?" *(Natural History)*

"I think that all museums for children have become safe places for parents to take their kids to learn the more 'traditional' values that used to be learned in family groups ... an appreciation for things that 'used to be' and are important for a child's sense of balance in their world." *(Natural History)*

"Building positive adult/child interactions." *(Zoo)*

**Continue to Develop Interactive, Participatory Exhibitions and Programs (16%)**

Given the fact that "hands-on/experiential/interactive exhibition approach" was the most frequently cited distinguishing characteristic of children's museums in both surveys, the only surprise here may be that this theme does not rank higher. Perhaps it is a distinction between what has characterized children's museums in the past, and what (now that interactive approaches are more prevalent) is seen as a relevant distinction for the future. In any case, those who mentioned this theme for the future of children's museums had this to say:

"Children's museums can play a major role in implementing interactive exhibitions using new technology and computers that meet the needs of children, parents, and schools." *(Art)*

"They fill a wonderful role of engaging student's minds and bodies with objects and displays in the pursuit of learning." *(Art)*

"To provide models in the area of interactively." *(Art)*

"Potential innovators in non-science participatory exhibiting and programming." *(Science)*

"Continue to lead the way in creating interactive learning methodologies and devices." *(History)*

"The number of children's museums will continue to increase, and their approach to exhibit design and programming will continue to lead the way for other museums. There are some exciting things happening in children's museums, and many of the ideas could well be used by museums working with adults." *(History)*

"Increased use of hands-on exhibits." *(Natural History)*

"Children's museums will ... serve as models for all museums wishing to develop exhibits and programs that involve children on every level." *(Natural History)*

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More than just targeting a family audience, this is the deliberate creation of learning spaces where both child and parent are engaged and often learning from as well as with each other.
Be an Advocate and a Model for Educational Innovation (11%)

Eleven percent of the respondents suggested that children’s museums have a role to play in educational innovation in schooling, not just in museum learning. Suggestions ranged from being involved in advocacy to development of innovative teaching strategies to providing educational models for schools. Here are some of the comments:

“[Children’s museums are] great at introducing teaching strategies to teachers.” (Art)

“Early elementary school resource.” (Science)

“Strong advocate of educational reform through evaluation of interactive types.” (Science)

“Support schools with teaching and socialization.” (Natural History)

“[Provide] complementary learning to pre- and early primary school education.” (Natural History)

Strengthen Community (Including Accessibility to Underserved) (10%)

Another theme encountered in the responses was the children’s museum as a community resource, both directly in reaching underserved populations and also as a collaborator, working together with other community institutions to enhance civil society. These respondents saw future children’s museums as providing some of the essential glue that strengthens community. Here is what a few of them said:

“[Role] in strengthening museum/community relations.” (Science)

“Provide educational opportunities for the underserved.” (Science)

“Potential to be neutral meeting ground for all people.” (Science)

“Be a model for collaboration in order to serve all children in a community.” (History)

“Audience advocacy for museums, the arts, children, community resource, [and] partnerships with local schools.” (History)

“Provide educational opportunities for urban children other than in a school setting.” (History)

“I see children’s museums developing new audiences that act across class and race lines.” (History)

Another theme encountered... was the children’s museum as a community resource, both directly in reaching underserved populations and also as a collaborator, working together with other community institutions to enhance civil society. These respondents saw future children’s museums as providing some of the essential glue that strengthens community.

Uncertain Future, with Other Museums Serving Child/Family Audience (10%)

Finally, ten percent (representing ten Museum Field Survey respondents) expressed the belief that children’s museums’ future is uncertain or dim, largely due to the perception that all museums are now doing more to serve the audience children’s museums target, thereby eroding its niche. Without a specialization other than audience, these respondents suggest, the need for children’s museums will diminish and/or disappear. This is what they said:

“Diminishing—most museums of other types are incorporating exhibit ideas and programming from children’s museums.” (Art)

“Children’s museums have a challenge ahead to compete with increasing recreational facilities.” (Science)

“I see other museums adopting some of the innovative techniques of children’s museums and either merging with or replacing the need for children’s museums.” (History)

“I’m not sure that children’s museums are currently considered any more cutting edge than anyone else.” (History)

“They are an artificial creature. Part romper room and part science museum. Have discussed with other directors and in general we don’t care for them. ‘Content lite’ is the operative word.”
(History)

"They may disappear if more museums include children's centers or children's activities."

(Natural History)

"[My] personal feeling is that a museum-rich community does not need a children's museum if the other museums are providing a broad-based program." (Botanical Garden)

Other Responses (Each < 10%)

A smattering of responses (ranging from 3 to 9 each) fell into other categories:

- children's museums are important (generic statements) (9%)
- There is a growing market for children's museums (7%)
- I don't know or no opinion (7%)
- Edutainment (6%)
- More mergers/collaborations in the future (4%)
- Special role of being multi-disciplinary (3%)
- To engage major issues of our time (3%)

Commentary on Findings and Future Research

This section is intended to begin a conversation about the meaning and relevance of the findings reported in this study, and its implications for the future of children's museums. Due to the inherent limitations of survey data, our analysis of these data is suggestive rather than definitive. Nonetheless, we hope it serves to frame some issues worth considering in the ongoing discussion of the role of children's museums in the museum field.

Characteristics of children's museums

It is resoundingly clear that when museum professionals think of children's museums, they think of hands-on, interactive exhibitions. Approximately 80% of both children's museums and other museums surveyed picked this out as a salient distinguishing characteristic of children's museums. However, given that children's museums surely have no sole claim to interactivity anymore, it squarely raises the question of what will distinguish children's museums in the future.

What is not clear from thematic coding of survey responses is whether everyone means the same thing by "interactive," especially as it relates to developmentally appropriate learning theory. There is some indication in the data that some other museum respondents think of interactive primarily in terms of technology. Indeed, in our own experience, some museums equate "interactive" with pushing buttons on computer and video installations. While this notion of interactive is legitimate, and while such installations are useful tools in exhibition technique, they are a far cry from the engagement with real objects that developmental learning theorists regard as critical. Is it possible for children's museums to differentiate themselves as more broadly interactive, or as adhering to an underlying theory of learning not always in evidence in other settings? Indeed, can one say that all children's museums adhere to this more rigorous interpretation of interactive? As commercial realities increasingly sway the marketplace, and consumers have a harder and harder time differentiating museums and attractions, who is upholding the educational potential of interactive learning, and who is simply using the marketing appeal of "interactive" to attract the most customers at the lowest investment (which presumably excludes the involvement of professional educators)?

One clue may be found in some of the other survey responses concerning distinguishing characteristics of children's museums. There are several learning-related characteristics that children's museums identified much more frequently than other museums: Multi-disciplinary (30% vs. 15%), addressing multiple learning styles (20% vs. 4%), using inquiry-based learning approaches (10% vs. 3%), and including parent education in programs (10% vs. 2%). While it is risky to over-interpret these gaps, it is striking how much more likely children's museums were to refer to some of the education-based differentials that they felt characterized children's museums. The greater subtlety of these distinctions may suggest more sensitivity on the part of children's museums to learning theory and educational objectives connected with the development of age-appropriate interactive exhibitions. Clearly, children's museum respondents saw their distinctiveness more in educational terms than did other museums. Is this because children's museums have a greater focus on education and learning or is it that other museums feel these agendas are carried out comparably (or better) by their own internal education departments?

Another interesting contrast between children's museum and other museum perceptions of what characterizes a children's museum is the greater
salience in other museums’ eyes of children’s museums’ target audience in families and children (62% vs. 53%) and children’s museums’ typical lack of collections (20% vs. 0%). This reflects the fact that other museums have traditionally been object-centered, and that children’s museums have been leaders in the arena of being audience-centered, by the very nature of their museum type. So while it is not surprising that these distinctions would be raised more by other museums (while children’s museums put more focus on educational distinctions), it does raise some issues. As other museums and other institutions put more focus on their audiences, and specifically children and families, how much of the distinctive role of children’s museums is eroded? Is it possible for children’s museums to distinguish themselves by the deeper quality of their targeted design of exhibitry and programming for children and families?

Some questions arise out of this for children’s museums’ future. Should children’s museums focus on being a great preschool learning environment? Might children’s museums become the preschool link to public schools that is accessible to all children? Is this enough? Or is children’s museums’ special gift (also) in the area of promoting family/inter-generational learning? If so, then even more emphasis needs to be placed on developing the parental role beyond coat and juice carriers. Perhaps children’s museums can support parents in learning better ways to interact with their children, including the possibility of learning together.

At the same time, it behooves children’s museums to consider how permanent collections might be a more integral part of their strategy, enhancing their differentiation from “attractions”, and linking them more powerfully to the museum field. As other data from the survey reveal, there is some movement in this direction, with some children’s museums advocating for the importance of collections.

**Influences of children’s museums**

Turning now from characteristics to influences, it may be surprising to some readers how little mutual influence is acknowledged between children’s museums and the museum field. After all, children’s museums grew up in the museum world—how could they not be significantly influenced by them (as one is influenced by a parent perhaps), even if that influence is in the form of differentiation (again as one might do with a parent)? As for influencing other museums, we suspect that children’s museums would like to take more credit for influencing the course of the museum field than is substantiated by this data. Of course, others may be favorably struck by the fact that fully 55% of other museums do report children’s museums’ hands-on, interactive approach as an important influence.

The fact of the matter is, most of us (institutions included) have little sense of where the ideas for what we do come from—all a survey can do is measure perceptions. It would take a very different kind of study to attempt to trace historically the lineage of theory and practice that led to the proliferation of interactive exhibitions, for example. And even then, given the complexity of doing so reliably and even approximately modeling how a huge system learns, it would not likely shed much more objective light on “who deserves credit” for evolutions in the field. Rather, we believe that such questions risk being ego-driven distractions, which is one reason we shied away from framing the Bridges research primarily in terms of children’s museums’ “impact.”

Having said this, however, there is good reason to ponder the perceptual gap, to notice what is being perceived differently (by children’s museums and various other museums), to become more aware of possible blind spots in the inter-organizational learning system of the museum field, and to identify opportunities for greater learning in the future.

In this regard, it is interesting that 63% of other museums report learning little or nothing from children’s museums and 37% of children’s museums say the same about other museums. When other
similar museums report higher levels of influence, what does this say about the capacity to learn of those reporting the least “influence”? Could it be that their colleagues are paying attention to other museums’ (both children’s museum and other museum) practices with a more open mind, a less defensive attitude than those who, at the extreme, remark upon their distaste for the other types of museums?

It is not surprising that natural history and science museums feel they have been influenced the most by children’s museums. They share a similar audience profile, though somewhat older than at children’s museums. In both cases, developments among their own museum types were probably happening somewhat in parallel during the late sixties and early seventies. We would speculate that the audience-centered approach of children’s museums probably influenced science museums to venture into more inquiry-based activities during that period, and that, in turn, the Elementary Science Study Project influenced children’s museums as well. In any case, what this survey is measuring is not necessarily the historical extent of influence, since it is based on the perceptions of a current director or staff member, who may not even have been with the museum during pivotal periods of past influence.

It is interesting that education is the highest rated “arena of influence” by other museums, given that the educational programs of children’s museums garnered only half the votes for a distinguishing characteristic compared to children’s museums’ hands-on, interactive exhibits. (However, in the question asking other museums to name the most significant influences, far more of them (55%) mentioned interactive exhibitions than educational goals and programming (22%).) The numerical ratings do tend to lend some credence to the possible comparative advantage children’s museums have in the education arena, especially if it is properly developed as such for the future (more on this in the other museums’ recommendations for children’s museums’ future role).

It is also interesting that aquariums feel they have been the least influenced by children’s museums of any other museum type, even art museums. Has there not been a development in recent years toward more interactively in aquariums, and would there not be the possibility for both to learn from each other’s approaches to educational programming?

In comparing the extent of children’s museum influence in education vs. exhibitions, we note that they closely parallel each other for all museum types except art museums, where there is a sizable gap. According to their self-ratings, art museums are among the most influenced museum type in education (1.53), but the very lowest in exhibition (0.76). While it may be obvious that this is related to the nature of their collections, we wonder whether this doesn’t also speak to a “blind spot” for recognizing how their exhibitions might beneficially be enhanced by more interactive approaches, without of course endangering the art itself. The stARTing Point exhibit cited in the examples of specific children’s museum influences is proof of this possibility, but one wonders whether this direction of creative exhibitry might even be broadened to target adults as well as children.

In analyzing the nature of the reported significant influences of children’s museums and other museums upon each other, it is interesting that there is very little overlap between the two lists. Exhibit design is the one area where influence in both directions is well acknowledged by children’s museums and other museums. What children’s museums seem to have learned from other museums are some of the foundational skills of museum practice, including professional standards, quality exhibit design, managing collections, development and marketing, etc. What other museums have gained from children’s museums tend to be what lies at their growing edges: more interactive exhibition approaches, a greater focus on educational goals and target audiences (vs. an objects focus), and the creation of new exhibits and galleries. This suggests that

...there is good reason...to become more aware of possible blind spots in the inter-organizational learning system of the museum field, and to identify opportunities for greater learning in the future.
children's museums have played a role in supporting innovation in the museum field, and more sensitivity toward audience needs, even as many other factors may have simultaneously supported these same developments.

**Relations Among**

**Children's Museums and Other Museums**

Four aspects of relations among children's museums and various other museum types were probed by the two surveys: an overall rating of quality of relationship, the number of collaborative initiatives undertaken, the nature of those initiatives, and staff migration among the museums.

The data in this section make clear that science and natural history museums have a closer connection to children's museums than other types. Earlier, it was noted that these two museum types reported the largest degree of influence from children's museums. Here we learn that science and natural history museums also reported the highest frequency of positive relations with children's museums and were the most likely to have hired former children's museum professionals for their staff. In addition, all museum types, natural history museums reported the most collaborative projects with children's museums, and children's museums reported the most collaborations with science museums. Given that the data also show children's museums are least likely to be frequent collaborative partners with any other museums (more on that in a moment), perhaps the quality of existing relationships with science and natural history museums represents something to build on in future efforts by children's museums toward increasing collaboration.

Another finding that is corroborated by more than one data point in the survey is the paradox that museums of one's own type are likely to be both the most competitive and the most collaborative. The highest frequency of collaborative-level relations was almost always reported with museums of one's own type (except aquariums and zoos), and all types of museums reported the greatest number of out-of-area collaborative initiatives with their own kind. At the same time, one-third of all the museum combinations reporting competitive relations of any significant number (>5%) were also with museums of one's own type. This speaks to the fact that museums, like people, are likely to have more depth of relationship with their own kind—they have a greater focus on learning from, working with, and competing against this key reference group than any other type of museum.

By contrast, children's museums appear to be seen in the least close relationship with the museum field of any category surveyed. Other museums reported having the lowest average overall quality of relations with children's museums—and aquariums. The survey identified no other museum types that were frequent collaborative partners with children's museums (at least two collaborative initiatives in five years, on average). This was not true for any other museum type, though aquariums came close. Furthermore, we noted in the listing of actual collaborative initiatives, a tendency for children's museums to be included as one of a whole consortium of museums rather than a sought-after sole partner in the collaboration. At the same time, children's museums were identified by no group as a frequent competitor (>5% specifying competitive relations); among other museums, only natural history and botanical gardens escaped that honor. In keeping with the logic of the previous paragraph, we might argue that this reflects a lack of depth in the general relations between children's museums and other museums. That is, the low average relationship rating is an indication not so much of bad vibes as of no vibes. On balance, children's museums are neither seen as a significant threat nor as a significant partner. To test this hypothesis against the data, we decided to recheck the frequency of "neutral ratings" by other museums in their assessment of children's museum relationships. Indeed, only aquariums scored a higher "neutral" rating (43% of all other museums); children's museums were regarded by 36% of the
other museums surveyed as a neutral relationship. Aquariums and children's museums were the only museum types to have the “neutral” category be the one most often checked by other museums.

The finding that the museum field has a relatively low sense of relationship with children's museums may come as no surprise to many (and may be a little shocking to others). There have always been those who question whether children's museums are truly museums, and it is likely that their marginality has allowed those in the museum field who wish to, largely to ignore them. The relatively low ratings by other museums of children's museums' influence on the field is consistent with this as well. On the other hand, there are those who would argue that children's museums have only begun to boom in the last twenty years and that given the level of their maturity (and the challenge of start-up years), one should not expect the thread of children's museums to be any more tightly woven into the cloth of the museum field. Perhaps the innovative and influential potential of children's museums lies in their very marginality, a contribution only to be realized (if at all) with the passage of more time and further evolution.

It is surely not surprising that on the other end of the spectrum, art museums and history museums are, by the same measures, the most tightly woven into the fabric of the museum field. They received the lowest percentage of “neutral” ratings of any museum category, and they were the two most frequent “targets” of collaborative initiatives reported by other museums. Given the comparatively long history of these museum types, they are in general the most well established as a group, and so are seen as having the most to offer, whether as a collaborator, competitor or resource from which to learn the tricks and traditions of the museum trade.

One of the implications of this research for children's museums may be that there is significant untapped potential in future collaborations with other museums if children's museums take this on as a strategic priority and if other museums can be persuaded that children's museums have something valuable to bring to the relationship. Like that of a teenager emerging into adulthood, it may however require that children's museums act less out of dependency or with a “chip” on their shoulder, and more from their strength and confidence in the value of what they bring to the table. Clearly, inroads in this direction have already begun with science and natural history museums, where the receptivity toward children's museums appears to be highest. On the other hand, the low quality of relations with aquariums, botanical gardens and zoos (children's museums were their lowest rated relations) may suggest substantial untapped potential. More research is needed to better understand the reason for this rating, but given some of the overlaps in their constituency, it seems likely they have more to learn from one another and more to gain from cooperation than has as yet been explored.

Finally, the data on staff migrations point out one way that children's museums have begun to cross-fertilize within the museum field. Given the other data in the survey, we were a little surprised by the extent to which children's museum professionals have been hired by other museums (over a third have at least one former children's museum staff member). Less surprising, though still indicative of strong cross-fertilization, was the finding that children's museums hire professional staff most often from other museums (24% of the time). So slowly, children's museum experience is being woven, one thread at a time, into the woof and warp of the museum field. Whether, and how, that process will continue into the next century is examined in the next section.

The Future Role of Children's Museums
In the preceding commentary, we have illuminated some implications for the future of children's museums. Now we add to that mix some concluding reflections based on the data from other museums...
responding directly to that question.

Of all the research findings, the one that surprised our research team the most was that the museum field's second strongest recommendation for the future of children's museums is that they play a research and development role—in areas such as museum learning, family learning, interactive exhibitry, and even schooling. Given that this came from the same survey population where only 8% felt they had been strongly influenced by children's museums, this is a striking recommendation. Perhaps it is an indication that the potential for future children's museum influence is greater than past recognition would suggest.

What seems most likely, and what has not been addressed so far in this report, is that there is only now beginning to be a felt experience of children's museums as an institution unto themselves, a sub-field if you will, with the potential to make more of a mark on the larger museum field. Although children's museums have been around for nearly one hundred years, their proliferation is recent and other museums' exposure to exemplary ones limited. With that proliferation has come not only more children's museums but also a wide variation in the quality of children's museums, as each one struggles anew with finding its niche and distinctive contribution to its local museum marketplace.

Taking together their most frequent responses, here is our appreciative musing of what the field seems to be saying to children's museums:

You have a role to play, not only in continuing to focus on your audience segment (which we share in part), but also in helping us to broaden and deepen the theory and practice of learning in museums. We appreciate that you introduce children to the museum experience, building our future audiences, and we also see that you broaden our horizons as well. If you focus even more on researching and developing models of museum learning, family learning, and interactive exhibition approaches, we can all benefit. Finally, as we journey together in supporting the development of community, we applaud your efforts to bring families together across lines of class and race.

The more children's museums can overcome being isolated by the museum field, the better the value of their experiments at the margin can be appreciated, assimilated and developed to the benefit of adult and child learning alike.

Future Research Directions

Our greatest hope is that the information in this report becomes a stimulus for dialogue both within AYM but also among children's museums and other museums interested in enhancing the potential of their relations. Both in the interest of supporting that dialogue and in search of further qualitative data to deepen the insights stimulated by this research, we support the idea of a next phase that interviews selected museum leaders and/or invites
a mix of them together in focus groups where the implications of these findings are discussed.

We would be especially interested to probe more deeply (with certain survey respondents and others) the nature of children’s museum research and experimentation that they would see as most valuable to them and the museum field. We also believe there would be real value in research that looks at the different interpretations and usages of terms such as “interactive,” and “hands-on,” to see how they differ from setting to setting, and to determine how well-linked they are (if at all) to some of the underlying learning theory.

There is much more that could be done with the data on collaboration (or lack thereof). Using the best examples cited by survey respondents, one might investigate more deeply the motivations toward collaboration between children’s museums and other museums, find out what types of collaboration most frequently occur, and what is successful. Further, the potential for greater collaboration in the future could be supported by action research with actual or proposed inter-museum collaborations—such research might create an inter-organizational learning environment where the participants improve their own collaboration while developing learnings to share with the wider museum community.

Finally, the very process of searching for a new paradigm within the children’s museum movement would be a fascinating topic of further research. The data from all of the various Bridges Project research efforts could serve as a solid starting point for a large scale inquiry by a broad range of stakeholders into the future of children’s museums. Large group methods (such as Future Search), which have successfully been used to find common ground and enable committed action in organization and community development efforts could be adapted to enable action research by the field of children’s museums into the possibilities of their own future.