There is a Wolf in the Cornfield

Reaction to Mark St. John paper "New Metaphors for Carrying Out Evaluations in the Science Museum Setting"

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The Force of Metaphors

I have a bumper sticker on my office door that reads:

METAPHORS
BE WITH YOU

My fourteen year old son recognizes the pun on the old "Star Wars" refrain and smiles as he enters. As a psycholinguist living with this sticker for three years now, the joke is a bit stale. Nonetheless, the refrain has evolved into something of a personal motto.

As Mark St. John points out, there *is* power in metaphor: power to reshape and liberate one's preconceptions, power to explode our notions of what things are or could be. Furthermore, in the cognitive disarray that follows a truly good metaphor, there is an irresistible invitation to learn.

May metaphors be with us all!

For this reason, if for no other, I would applaud Mark St. John's article "New Metaphors for Carrying out Evaluation in the Science Museum Setting." Perceiving the field of exhibit evaluation as methodologically rigid, St. John attempts to break through our metatheoretical chains by offering alternative perspectives from which to see our profession.

The metaphors are often apt. But are they new? And is the field truly rigid?

The Cornfield

Perhaps in an effort to find a good home for a straw man, St. John takes us on a tour of agricultural research out in a corn field. Here we get a brief description of a simple controlled experiment where two plots receive the same treatment in all respects except for fertilizer. Statistical differences between the yields of the two plots are then attributed to the controlled differences in fertilizer. St. John implies that such randomized, controlled experimentation is the paradigm guiding most exhibition evaluation and research today.

> "Exhibits are sometimes seen as the 'treatment' and gains in conceptual knowledge as the "effect". The metaphor here is the exhibit as a teaching machine. Pre- and post tests allow us to determine the effect of interacting with the exhibit without ever knowing the qualities of the interaction that took place. Such experiments by necessity are limited to testing along one or two dimensions (and they must be quantifiable dimensions at that)...
>
> ...The point is not that rigorous experimentation is inappropriate to museum research, but rather try as we might we often find our thinking caught within this paradigm."

Are we caught within a paradigmatic vise that restricts our investigation of more qualitative and holistic aspects of exhibition experiences?

Consider three examples, two recent and one historical, which resonate with the alternative paradigmatic perspectives suggested by St. John.

Metaphor: Criticism

The Saint Louis Zoo recently invited 18 professionals from around the country to individually and collectively critique its new Living World Facility.[1] In all, six specialties were represented: Curators, Museum/Zoo Educators, Evaluators, Designers, Teachers, and Specialists in the use of educational interactive technologies. Each specialty team brought to the evaluation process its own criteria for exhibition success and its own methods for determining that success, thus ensuring a breadth of perspective and coverage not often found within the criticism paradigm.

Working first in three cross-specialty teams and later in the six specialty teams, the participants observed the halls, met for discussions, and prepared written critiques of two target exhibition halls. In less than four days, the zoo had 9 expert analyses of the exhibition's strengths and weaknesses, half a file cabinet full of expert thoughts and concerns, and a series of both long-term and short-term recommendations from experts in the field. Once these data are complemented by results from a major visitor-centered evaluation study, the zoo plans to embark on a period of redevelopment to improve the popular facility.

While Mark St. John offers tantalizing metaphors to get the rest of us to consider a multiparadigmatic approach, the Saint Louis Zoo *is already acting to combine multiple paradigms and multiple perspectives in its evaluation efforts*!

Metaphor: Anthropology/Ethnography

The last year has also seen a number of interesting forays into the relationships which exist between the culture of the museum and the culture of the visitor.

Linda Snow Dockser (1990) has examined the often neglected dynamic of mother-child interactions in children's

museums and their implications for exhibition development and design.

Lois Silverman (1990) has researched the spontaneous conversations of adult pairs as they "make meaning" of objects in an art and history museum. She concludes that the museum experience involves a rich multiplicity of personal and social agendas and interactions only tangentially related to museums' stated goals for visitor experiences.

The Getty Center for Education in the Arts (in press) will soon release results from a major two-year study looking at the perceptions of visitors and non-visitors to 11 art museums in the United States.

The anthropological metaphor is clearly alive and well in exhibition research. Furthermore, for every formal study such as these, there are numerous small scale studies of visitor perceptions, attitudes, and behaviors currently proliferating under the guise of front-end evaluation. Methods in these studies take advantage of numerous qualitative and descriptive techniques including analysis of visitors' drawings, observations, focus groups, in-depth interviews, and surveys.

Metaphor: Investigative Journalism

Lastly, but perhaps most importantly, consider St. John's metaphor for evaluation as investigative journalism.

> "...Through a brief immersion in the scene the reporter seeks to learn the laws and norms of the setting and to discover the perspectives of those who are involved... [This] might involve learning the perspective of those who are planning and designing the exhibit as well as a quick observation of the actual use of those exhibits... The outcome... would be a series of hypothesized discrepancies or "suspicions" that focus on those places where intention and reality diverge... The evaluator would then pursue through observations, reasons for those discrepancies... "

Now consider Robert Wolf and Barbara Tymitz's (1978) description of the Naturalist Method for exhibition evaluation.

> "Procedurally, Naturalistic Evaluation... responds to the subtle and distinct variations in people's expectations, attitudes, beliefs and perceptions. Issues are identified, discussed and clarified by sampling program participants, administrators, exhibit staff, and of course, visitors... An interviewer is an investigator gathering evidence. Like Columbo or Woodward and Bernstein, he/she amasses data about a particular problem by watching, searching for clues, following leads, interviewing key informants, and making interpretations from the evidence in order to reconstruct events. Thus, unlike the majority of investigatory efforts, the present approach elicits, considers, and builds upon the in-depth information that is provided by its many respondents. The final data interpretations portray similarities and differences in perceptions while describing the origins and context for such agreements and discrepancies."

Mark St. John meet Robert Wolf, a born investigative journalist turned psychologist and evaluator! Only the timing of your lives is out of synch.

The Wolf in the Cornfield

Wolf's work had a profound influence on exhibition evaluation during the seventies. His work served as both a model for how evaluation research should be done, and (from the perspective of his critics) for how evaluation research should not be done.

Given the similarity between Wolf's and St. John's perspectives, it is instructive to re-examine Wolf's metatheoretical stance and the criticisms which this point of view sparked. St. John is apt to receive similar criticism from the cornfield quarter which, as St. John points out, remains an important influence in the field.

The data collection and analysis strategies that Wolf employed were often judged incomplete and potentially biased. His critics complained of small sample sizes and of non-replicable and non-objective data collection techniques.

Coming out of academic traditions where to claim a false truth is the quintessential sin, many critics felt that Wolf's work lacked the scientific rigor necessary to support his findings. They felt his work unscientific, of indeterminable quality, and not something that they would term "research.".

These are criticisms that could be equally well leveled against St. John's paradigms of Investigative Journalism, Criticism, and Narrative - Story Telling.

Wolf (and, I suspect, St. John) seems to have been less concerned with the possibility of making a false statement than that he would fail to see the whole picture and miss some critical relationship or bit of information needed by the decision makers who were his clients.

Social Scientists will recognize the age old distinction here between type 1 and type 2 errors. Academic scientists, who are the guardians of the accrued knowledge of human kind, are trained to abhor errors of science that lead to promoting a fact or relationship as known when it is false (Type 1 error). They are, in fact, willing to refrain from saying something might be true until they are sure - a policy which can result in true relationships going undetected (Type 2 error).

On the other hand, society often cannot wait to take action until we know for sure. Thus, applied scientists (consider epidemiologists, for example) may on occasion accept a higher risk of making a false statement (Type 1 error) in order to reduce the risk that an important relationship would go undetected (Type 2 error) or unremedied.

Wolf made efforts to systematize his investigation wherever possible, but did not limit his analysis to only those data that could be collected systematically. Since numerous methods and perspectives were combined and recombined,

Wolf probably felt confident that recurrent themes would resonate throughout the data and spurious findings would go unsupported over time.

Wolf, like St. John, felt evaluation research had become too restricted to:

> "predominantly classical/experimental studies that have focused on isolated psychological variables, i.e., visitor fatigue, amount of time spent viewing an object. Such forces have not allowed insight into the complex impact that museums have on visitors' experiences. More over, past studies have not been able to inform *programmatic* decisions."

Wolf's Naturalist Evaluation was an attempt to find a cost-effective means to move client museums towards a better understanding of the products they produced, the process by which they produced them, and the impact of these products on the publics they served.

Wolf's methods, (and some of St. John's less rigorous paradigms) are worth consideration today, if you can accept that what you get is informed interpretation rather than research. To the individual or organization wishing to build a firm knowledge base for visitor behavior in their institution, more rigorous methods should periodically supplement any such approaches.

The Evaluation Fun-house

My metaphor for any evaluation method has always been the distorted mirror. Like those fun-house mirrors which add a hundred pounds here, or ten feet in height there, or make us into two-headed monsters with no legs at all, each evaluation (or research!) technique will always distort some aspects of reality and leave some major characteristics or relationships completely undetectable.

If we want to begin to understand the nature of museum experiences we must use a variety of methods, learning bit by bit the distortions that inevitably come with each, and learning bit by bit about those relationships which truly represent the reality we think we are examining.

St. John's paradigms should probably be a part of our evaluation fun-house. So should the cornfield.

And don't ever forget the Wolf.

References

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Footnote

[1]This critical appraisal was part of a two-step, multi-method evaluation program recommended by a team of professional evaluators consisting of Barbara Birney, Stephen Bitgood, D. D. Hilke, and Harris Shettel.

"There's A Worm In My Corn"

An Allegorical Tale Designed To Shed Almost No Light On The Burning Issues of Exhibit Evaluation
But Which Could Conceivably Help To Differentiate Between A "Deep Positivistic Rut" and A Worm

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It's a typical evening meal at the Fox household. Mommy and Daddy Fox and the two little Foxes are looking forward to another pleasant time around the dinner table as they chat about the day's events. A heaping pile of freshly cooked corn-on-the-cob is steaming on its plate, and everyone helps themselves to an ear and begins to happily chomp away.

This scene of domestic tranquility and harmony is shattered by a fit of coughing and spitting as little Tommy Fox expels a mouthful of corn onto his plate and the surrounding area, followed by a series of strange choking, animal-like noises.

"What in the world is wrong with you?" asks his concerned mother.

"God, its awful - there's a worm in my corn!" says Tommy between gasps.

"**Worm?**" his father shouts, with a strong note of incredulity in his voice. "**What do you mean, worm?**"

"You know, Dad, those little, soft, squiggly things....."