Report and Summary

The Cultural Dynamics Project
Phase I: A Meeting of Minds

October 4 & 5, 2003
Fluno Center for Executive Education
University of Wisconsin-Madison/ School of Business
Madison, Wisconsin
Report prepared by Andrew Taylor, Director, Bolz Center for Arts Administration

About the Initiative
On October 4 & 5, 2003, thirteen leaders from across the country (see Appendix A for a full roster) convened in Madison, Wisconsin, to re-envision the nature and structure of arts and culture in America, and to explore a different way of seeing that world.

The project built on the toolset of systems thinking, a collection of methods and mindsets that has proven useful for disciplines as diverse as meteorology, biology, social science, and human systems—areas that all share a complex structure of dynamically interconnected elements. Beginning with this convening, the Cultural Dynamics Project seeks to turn that same toolset toward the reasoned development of cultural policy, the responsive management of cultural institutions, and the dynamic training of future leaders in the field. This first convening was hosted to explore the potential and utility of this approach for the arts and cultural ecology in the United States.

The meeting was a collaborative effort of three organizations: the Bolz Center for Arts Administration (a graduate business degree program at the University of Wisconsin-Madison), Cultural Initiatives Silicon Valley (a California nonprofit that supports and advances the arts and arts education initiatives in Silicon Valley), and National Arts Strategies (a national leadership development and consulting organization). Funding for the project was provided by The William and Flora Hewlett Foundation and The David and Lucile Packard Foundation.

After a two-day intensive learning and work session with systems thinking consultant and facilitator Steve Peterson, the group emerged with the following key findings:

- That systems thinking and systems modeling could indeed provide a unique and useful toolset for the advancement of understanding and action within the cultural ecology (nonprofit, for-profit, amateur, professional, and so on).
- That the toolset would be particularly useful in group process, as a way of exposing and exploring underlying assumptions about a specific question or issue (community arts initiatives were a frequent example, especially when they involve multiple constituents from inside and outside the arts).
- That systems thinking and modeling are quite far from the daily process and work experience of most practitioners, and could therefore prove difficult to adopt on a broad scale in the short term (but might be more immediately successful in the training of future practitioners).
- That while systems thinking provides a powerful toolset for mapping complex interrelationships, it would not resolve the lack of specific research, data, and other measures within the arts and cultural ecology. The group did believe, however, that systems mapping could identify more specific and relevant areas in need of additional research, and that it could help convey research findings to a wider audience in more productive ways.
- That, despite these challenges and barriers, a more general sense of interconnectedness and ecological thinking would be of great benefit to a wide audience within the field, and that systems thinking exercises or workshops might be a good way to approach this goal.
- That a series of specific maps, examples, simulations, and narratives applying systems thinking to arts and culture would be a necessary first step in extending the discussion to a wider audience.

This report provides a summary of the convening, an overview of systems thinking as applied to arts and cultural issues, and a series of perspectives on what might come next.

What is Systems Thinking?
(adapted from the presentation of Steve Peterson and the reading packet)
The discipline of systems thinking represents both a mindset and a methodology for exploring and understanding the behavior of systems—social systems, physical systems, mechanical systems, biological systems, and so on. This mindset and methodology has proven particularly useful for issues with several common attributes:

- that transcend organizational or functional *boundaries* (for example, revenue streams for an arts organization can be tied to marketing, development, community demographics, economic indicators, quality of content or service, competition, and a wealth of other variables);
- that are *dynamic* in nature, involving change over time (for example, a growing collection for a museum has dynamic impacts on the cost and nature of operations over time—more staff, more maintenance, more storage, more administration, etc.);
- that reflect high degrees of *interdependency* in underlying processes (for example, education level, income, and exposure to arts as a child are all key indicators for arts participation as an adult, yet all of these variables are tightly interconnected).

The 'systems' in systems thinking can be large (the world economy, the global environment) or small (the box office, a small ecosystem), and are usually defined by the question or issue at hand. In fact, systems thinking suggests that defining the

appropriate boundaries of a discussion is one of the most essential and challenging steps in building understanding (for example, when exploring the health insurance needs of working artists, is their creative profession the important boundary to draw around the group? Or is it their status as independent contractors; or their income level; or some combination of these?). The systems we define are always part of larger systems, and are also made up of smaller systems.

In short, systems thinking is a 'package' of tools, comprising:

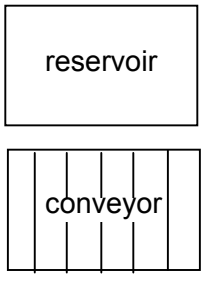
- A framework and language for representing systems and dynamic processes;
- A simulation toolset for thinking through dynamics, processes, and policies;
- A communication vehicle for sharing insight and understanding, and for helping people (often from disparate groups) to get on the "same page."

For the Cultural Dynamics Project convening, systems consultant Steve Peterson focused the group on a specific language within the systems thinking toolkit—the language of stocks and flows. This is a graphical language (of four main elements) used to construct and discuss models of interconnected systems. The graphic language can also be extended through software for further testing, simulation, exploration, and discovery of the developed models. Peterson framed this language as having several benefits:

- Because it is a sharable framework, the stock and flow language facilitates broader involvement—thus increasing the quality of the collective mental model developed.
- Stocks and flows facilitate the "thinking through" of dynamic interactions, since they provide a "big picture" view of the whole system.
- Computer simulation can serve as a "sanity check" on these mental simulations (software tools such as iThink and Stella are designed to do just this, http://www.hps-inc.com/).
- Insight can be (and often is) non-numerical in nature. You don't need to have precise numbers in order to generate insight and understanding. The graphic representation of relationships allows such insight without requiring exact numbers behind the model (although you can add those numbers later).

A brief description of each element of this language follows. As the convened participants noted often, however, a quick overview is far from an operational understanding of this way of thinking.

Stocks

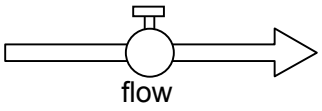


Stocks in systems modeling represent reservoirs of accumulated elements. They are nouns that describe the current state, magnitude, or condition of a specific part of a system (cash, staff, stress, inventory, oxygen, and so on). Stocks are represented by a box, and their level is determined by the flows in and out of them (see flows below) as well as their status at the beginning of the simulation. (For example, a checking account statement begins with the opening balance for the month, lists all the inflows and outflows of money, and then ends with an ending balance. The balance in this model would be represented as a reservoir.) If you freeze action in a system, the level within a stock persists. Stocks come in a few special types beyond the standard reservoir. The most common alternative is the 'conveyor,' which represents a time or process delay in a

system (units that enter the stock get on a 'conveyor' that leads them out the other side in a given period of time).

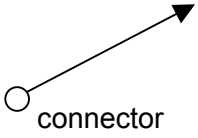
Flows

Flows represent actions or activities that fill or drain stocks. They work in the same units as their connected stocks (dollars, number of staff, level of stress, quantity of inventory, etc.) with the added variable of time (dollars per quarter, staff per month, etc.). If you freeze action in a system, flows disappear, since they do not hold entities, they just carry them from one stock or source to another. In systems modeling, flows continue the plumbing metaphor, being represented as pipes with a valve. The rate of flow is determined by the valve (which is determined by the model builder, or by other factors in the system as we'll see later). When a flow comes from outside the useful boundary of a model, the source of the flow is represented as a cloud (for example, if we are mapping the staff system of an individual organization, it may not be essential to know where new staff come from—assuming there is an adequate supply of potential candidates for available positions. As with all models, the appropriate boundaries to the system are defined by those constructing it).



Connectors

Connectors are 'wires' that transmit action or information signals to a flow valve. Connectors carry information, rather than the "stuff" of stocks and flows. Specifically, connectors convey the status of one part of a system to another part (for example, how full a stock is, or how open a valve is), and lead a particular valve to respond to that status. For example, a simple hiring model for an individual organization might show a stock of current staff members in a certain department (box office for example), that receives inflows from new hires, and outflows from those leaving the organization (whether retired, fired, or quitting). One staffing policy for this department might be to hire a new staff member for every one that leaves (a connector from the outflow valve to the inflow valve). Another policy might be to hire new staff whenever the number of current staff is less than a certain number (a connector from the stock of current staff to the inflow valve).



Note that in a *simple* system like the one described above, the dynamics would be the same if you hired based on staff leaving (the flow) or based on number of current staff (the stock). But if you added a time delay into the system—for example, if new staff needed two months of training before moving into the 'trained staff' stock—the two hiring policies would lead to quite different results. Systems mapping would help an individual or group think through the difference, and the implications of each choice.

Converters

The final piece of the systems modeling puzzle is the converter, a representation that informs the proportion or productivity of a connector. For example, a performing arts center manager might believe that the number of patrons attending an event drives the number of drinks he or she sells at the bar that evening, but that the relationship is not one to one (ie, one drink for every patron). In modeling this relationship, the number of audience members at an event would drive the flow of selling drinks (which would increase the stock of 'drinks sold'). But that connection would be modified by the converter

(0.3 drinks per patron, for example, or some other proportion determined by guess or experience). Converters work as *adverbs* in a systems model, modifying the power and productivity of the relationships within it.

The Grammar of Systems Mapping

Using these four basic elements, the process of systems mapping can create simple sentences, complex sentences, or entire stories of how interconnected systems might be working. In other disciplines, this method has been used to explore a diverse range of issues, from social group or mob behavior to sea turtle migration to microbiology to the spread of infectious disease. In business, systems modeling has led to several computer-based "flight simulators" that allow users to make decisions surrounding the launch of a new business, for example, and see how those decisions play out over time.

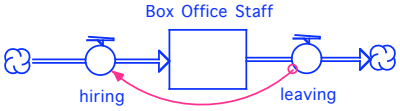
More closely related to this convening, systems mapping was the engine behind the "Great Cities Simulator," a computer simulation exploring the effect of philanthropic giving on the vitality of a community (developed by Cultural Initiatives Silicon Valley, http://www.ci-sv.org/).

Systems Syntax: The Nuance of Hiring Staff

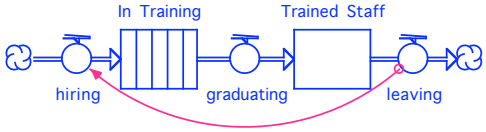
The language of systems can help support an operational understanding of the levers for improving the performance of an organization. Map A, for example, shows a simple process of maintaining staff headcount in a department, under a policy that new staff is hired as current staff leaves. Map B provides a richer picture of the process, in which the same hiring policy is in place, but where the training delay of new staff is more clearly recognized.

By revealing the delay in bringing people up to speed, Map B provides the basis for more focused discussions on improving organizational performance.

Map A: Hiring based on staff leaving.



Map B: Hiring with a training delay.



The Meeting Process

The October meeting in Madison was designed and developed to meet three primary purposes:

- To convey the basic elements of systems thinking to a group of content experts on arts and cultural issues in a broad range of topic areas (policy, research, practice, consulting, community, and so on);
- To apply this new learning among the group through practical and analytical exercises;
- To use this process to encourage a discussion on the benefits, merits, and challenges of systems thinking as a tool for understanding and engaging issues in the arts and cultural ecology. And, if useful, to explore what steps should come next in that exploration.

The schedule for the event mirrored these goals (see Appendix B for a detailed schedule), beginning with an overview of systems thinking from facilitator and subject

specialist Steve Peterson. Mid-morning discussions then sought to identify key processes in arts and cultural creation, support, education, or engagement that might suit the new toolset. The afternoon of day one focused on consolidating this list, and working in breakout groups to map and explore specific questions. Day two provided time to complete this process, hear feedback from the project facilitator, and discuss the experience and insights generated by the convening.

Key processes defined by the group as worthy of systems attention were wide and varied, including:

- The interaction of community arts and non-arts groups in forming and informing the regional cultural ecology;
- The impact of mediated experience of cultural works on the potential audience for live arts experience;
- The implications of integrated arts and cultural activities within the public school curriculum;
- The dynamic flow of artifacts to and from museums and private collections, and how this system affects smaller galleries and specialized museums;
- The role of larger, professional performing arts centers within their city's cultural ecology, or the activities of their primary tenant organizations;
- The process by which cultural tastes are formed—through education, acculturation, family experience, and social context;
- The support structures available for creative artists that either inhibit or expand their ability to create new work;
- The impact and role of government funding and policy in forming cultural opportunities across the country;
- The interaction of informal or amateur arts activities with organized nonprofit professional organizations;
- And many others.

In the extended group discussions and work sessions that followed, the challenge of applying systems mapping after only limited experience became clear. The need for a clearly defined question or problem in the advancement of the process was underscored, as well. Even among this vastly experienced group, systems thinking felt like a new way of exploring an issue or conceiving the dynamic ecology behind it.

This *was* a new way of thinking for most participants, and whether useful or not, it was a challenging set of skills to absorb. This realization, itself, became a primary point of discussion as the group wondered how, and if, to extend this toolset to a wider group of participants in the field. Even if useful and productive, how can we promote and extend systems thinking to a wider group of practitioners, consultants, academics, researchers, and community leaders, when its learning curve seemed so steep?

On the other side of the question, this very difficulty suggested something new here. In an increasingly dynamic environment for all aspects of the cultural sphere, perhaps this mind- and discussion-stretching methodology could prove a useful tool.

The Final Questions

In the closing hour of the convening, the group was asked to respond to three questions, and to reach some consensus on their response:

- Are systems thinking and modeling useful tools for understanding the cultural landscape?
- If so, where would this way of thinking be useful? Or for what?
- How can we circulate the discussion and discovery of this group to the field?

To the first question, the group easily agreed that there was potential in this toolset to help understand interactions, to help solve problems, to connect disparate research into more cohesive and "teachable" models, and to improve and inform practice. The group felt that this was a deductive tool, not inductive, and most useful in developing and refining theories of how systems work. Throughout the process, it also seemed to be useful in drawing out internal thoughts and exposing assumptions that would otherwise be hidden or unspoken.

At the same time, the group agreed, systems thinking can be a fairly intimidating language that could discourage adoption. A more successful strategy would stress this method as *one way* of exploring a problem, among many others that may be appropriate at different stages of discovery. Further, discussions using this toolset would be more effective if framed to solicit reaction, rather than to provide a pre-defined "answer."

Some participants felt that the problem of wider distribution is magnified by the lack of specific individuals among professionals and practitioners charged with broad, systemic thinking. As one participant noted, "This type of thinking is in nobody's job description."

Discussion of the second question followed closely after the first: That this toolset would be useful in several situations, from encouraging a basic ecological understanding among practitioners, to consolidating existing fragmented research into more cohesive and dynamic models. As another participant commented, "We lack effective conceptual models that allow conversation of connections and choice between resources." This toolset seems to provide a framework for those discussions.

Again, the complexity and novelty of this way of thinking was defined as a potential barrier to wide acceptance. The group felt that more specific examples of systems maps and models, that connect to real-world challenges facing the field, would be essential in bridging this gap.

On the third question, the group suggested an initiative to define and construct these more specific models. Said one participant, "If we don't address the question of how to turn this into an *applied* service, it's just another book. How do we make knowledge more transferable, more useable, and more used?"

There was general consensus that this initiative would not move forward on its own steam, and would need a champion or collaborative effort to push it toward its next level. Some participants stressed the importance of a full range of perspectives and voices in this next step (not just the professional arts, traditionally defined). Another suggested that the true benefit of systems mapping is, in fact, its ability to bridge the perspective and ideas of a diverse group by providing a common language.

Each participant was asked to consider and submit some possible questions, issues, or dynamics that might be mapped and distributed to begin this process. And the group adjourned with the thanks of the project hosts.

Next Steps
Since the meeting in October, several participants have initiated or suggested projects in their own work that seek to apply systems thinking. There is a clear need to capture these "spin-off" projects in some coordinated way, and to encourage an on-going conversation with this group and other interested participants. The three host organizations continue to discuss next steps, and met in February 2004 to plan and begin these steps.

The convening provided what it was designed to provide: a clear indication of the relevance and utility of systems thinking in the exploration, understanding, policy, and practice of cultural heritage, expression, and industry. The conveners and the participants seem committed to bringing clarity to that discovery, and nudging the toolset forward through both direct and distributed means.

To that end, the hosts have suggested and initiated the idea of a project website, called the Cultural Dynamics Working Group, to facilitate this process. In the meantime, the project homepage will contain more detail and updates on the ripple effect of this engaging and exceptional meeting of minds.

Project Home Page:
http://www.bolzcenter.org/culturaldynamics.php

APPENDIX A: PARTICIPANT ROSTER

For its October 2003 meeting in Madison, Wisconsin, the Cultural Dynamics Project brought together a broad range of expertise and experience relating to many aspects of arts and cultural industry. Participants were selected for their broad, informed understanding of issues in arts and cultural policy and management, and the diversity of their specific areas of expertise.

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Bolz Center founder and former director E. Arthur Prieve was also a special guest throughout the event.

The morning session of day one was attended by current students of the Bolz Center for Arts Administration degree program.

APPENDIX B: EVENT SCHEDULE

The Cultural Dynamics Project:
Mapping and Simulating the American Cultural Ecosystem
October 4 & 5, 2003
University of Wisconsin-Madison

A collaborative project of
Bolz Center for Arts Administration,
Cultural Initiatives Silicon Valley, and
National Arts Strategies

Funded by
The William and Flora Hewlett Foundation and
The David and Lucile Packard Foundation

Saturday, October 4, 2003

9:00 am	Welcome/Introductions/Expectations
9:30 am	An Introduction to Systems Thinking *Steve Peterson*
	Break
11:00 am	Discussion/Responses Breakout Session 1: Identifying Key Processes
11:30 pm	Lunch
12:30 pm	Team Reports/Early Discussion/Consolidating the Lists
1:15 pm	Breakout Session 2: Process Mapping
	Break
3:30 pm	Team Reports/Feedback
4:30 pm	Session Ends
6:00 pm	Reception / Dinner

Sunday, October 5, 2003

8:30 am	Process Review/Making Connections (all sessions in room 203)
	Break
11:00 am	Group Discussion: Is this useful? If so, what comes next?
12:00 pm	Adjourn

APPENDIX C: EVENT HANDOUTS AND WORKSHEETS

The Cultural Dynamics Project:
Mapping and Simulating the American Cultural Ecosystem

Breakout Session 1: Identifying Key Processes

Here's a simple definition of a process:
A process is a sequence of connected activities. The activities within a process typically produce, consume, break down, combine, or otherwise transform stuff as it moves through the process.

An Example: In the automotive industry, we can think of the manufacturing process as one that transforms raw materials into automobiles. Similarly, the design and engineering processes transform ideas into workable designs, prototypes, etc. The sales and marketing processes aim to move customers ever closer to purchasing a particular model.

Your task: Develop a "short list" of the processes that your group feels are essential to characterizing the landscape of the American Cultural Ecosystem. Work to constrain your list of processes to 5 or 6. After lunch, we'll come together as a large group and compare notes.

Breakout Session 2: Process Mapping

From a systems perspective, processes have in common many attributes. Among them are…

- *Accumulation and Flow.* Activities within processes are flows. Any producing, transforming or consuming activity can be characterized using a flow. A necessary outcome of flow is the buildup and/or depletion of accumulations. Here's an example from this morning's introduction:

- *Resources and Constraints.* Resources (examples include money, raw materials and "political chips") often are consumed as a necessary by-product of producing activities. Resources (for example, people) often are the ones who do the work of producing stuff. Lack of either can constrain flows

- *"Rhythms."* Some processes unfold very quickly, and others unfold more slowly. Some processes can be changed quickly, while others have significant inertia

- *Connecting points.* Processes typically don't exist in isolation. They connect to other processes…via physical flows, information flows, or by providing resources that are used in other processes.

Your task: Use the stock and flow language (or whatever methodology works for you!) to characterize one or more processes from the list we created as a group. The following suggestions may be helpful to you as you explore the process(es)

1. Stay out of the weeds. For example, while it's possible to represent a manufacturing process at a very low level of detail, it's often helpful and useful to represent the process using 2 or 3 stocks, along with their associated flows.
2. Ask: What's accumulating? What's flowing? Accumulations are stocks. Actions/activities are flows.
3. Consider resources that constrain activity.
4. Consider resources that underwrite or produce activity.
5. Consider the rhythm or time frame over which the process plays itself out.
6. Consider the time frame over which the process might change/evolve.
7. Think about connecting points to other processes on the list.

Toward the end of today's session, we'll report out to the large group.