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Sometimes There are No Notes: An Auto Ethnographic Essay of a Collaboration at the Engagement Interface

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Abstract

This autoethnographic essay represents the authors' critical reflection on their experiences partnering with Liz Lerman and Dance Exchange (a dance company) artists on a collaborative evaluation of *The Matter of Origins*, a contemporary art and science dance performance. They describe meaningful moments in their collaboration and reexamine those pivotal experiences in the broader context of scholarly community engagement. Based on their reflections, the authors identified themes including ethnographic approaches to collaboration, shared systems of meaning, and developmental evaluation to understand the complex experiences that took place at the engagement interface. The essay concludes with suggested reflective questions for scholars to consider in their own community engagement activities.

Introduction

In your collaborative work with communities, have you ever found yourself working in a context new to you or with partners whose ways of knowing were distinctly different from your own? Has the work pushed you beyond your prior experience? Have you been stretched beyond your comfort zone? Have you had to gain new knowledge and skills just in time? If so, then you have likely realized that your community engagement activities are taking place at the *engagement interface*, the dynamic, evolving, co-constructed setting where collaborators from the academy and society engage each other in communities of inquiry *(Fear, Rosaen, Foster-Fishman, & Bawden, 2001, p. 27)*. This autoethnographic essay is our (the authors') way of making sense of the unpredictable and complex experiences of collaboration at the engagement interface.

As the community engagement movement has moved from the margins of the academy to the mainstream, it is natural that faculty members' writing about community engagement has transitioned from an "emphasis on what is done and accomplished by and through its execution" to more personal and professional expressions of what it means *to be* and *feel* engaged *(Fear, Rosaen, Bawden, & Foster-Fishman, 2006)*. Fear and his colleagues point out that

> "To engage" speaks to us in ways that other words, such as community development, community service, and community research, do not. There is an "outside of oneself" feeling about those words—executing the development of, providing service to, and conducting research *on*—that contradicts what we have found engagement to be, namely a deep personal expression *with others* in a shared pursuit that is life altering, if not transforming. *(p. 4)*

Faculty members often write accounts of their transformative experiences at the engagement interface in the form of autoethnographic narratives *(Diener & Liese, 2009; Fear et al., 2006; Mitchell, 2008; Thering, 2010)*. Ellis and Bochner *(2000)* defined *autoethnography* as a genre of "writing and research that displays multiple layers of consciousness, connecting the personal to the cultural" *(p. 733)*. They list a range of closely related autoethnographic practices, including narratives of the self *(Richardson, 1994)*, self-stories *(Denzin, 1989)*, first-person accounts *(Ellis, 1998)*, personal ethnographies *(Crawford, 1996)*, reflexive ethnographies *(Ellis & Bochner, 1996)*, and ethnographic memoirs *(Tedlock, 1991)*. Regardless of terminology, these approaches share a common commitment to revealing the author's discoveries and epiphanies using "thick, rich" description *(Geertz, 1977; Saldana, 2003)*. In other words, autoethnographies convey moments when an individual's awareness deepens and a new way of understanding emerges from critical consideration of particular experiences *(Humphreys, 2005)*. Autoethnographic writing intertwines "two landscapes simultaneously," the outer landscape of action and the inner landscape of thought *(Bruner, 1986, p. 14)*. This critical consideration of experience is what Schön describes as a practitioner's reflection *in* and *on* action, a disciplined approach "to observe ourselves in the doing, reflect on what we observe, describe it, and reflect on our description" *(Schön, 1995, p. 30)*.

In this autoethnographic essay, we critically reflect on our 2-year experience partnering with a community-based dance organization on a collaborative evaluation funded by the National Science Foundation (NSF). After a transformative experience collaborating with Liz Lerman and Dance Exchange artists, we decided to write about our experiences and co-author this reflective essay. Throughout this essay, we use *moments* to exemplify our experiences (outer landscape) paired with *reflections* to examine the meaning we made of those experiences (inner landscape) *(Bleicher & Correia, 2011)*. Our writing illustrates a deepening

awareness of the dynamic interplay between us (the evaluation team) and our community partners (Liz Lerman and Dance Exchange artists). Our critical reflections revealed themes that included ethnographic approaches to collaboration, shared systems of meaning, and developmental evaluation to understand complex experiences that took place at the engagement interface. Through the essay, we hope to convey the richness of our experience collaborating with Liz Lerman and Dance Exchange artists. We describe our "ah ha" and "oh no" moments that led us to a deeper understanding of our collaboration and to the imperative of critical reflection for sense-making in complex environments.

This essay is written from the combined perspective of the evaluation team, which included a researcher, a graduate student, and a professor—all from Michigan State University. We relate stories and ideas that emerged from our autoethnographic data, including dialogues among the evaluation team, research and field notes, phone conversations with our community partners, site visits to the dance studio, and attendance at 17 performances during the 2010–2011 and 2011–2012 seasons at five evaluation sites: University of Maryland, College Park; Wesleyan University; Montclair State University; Arizona State University; and the Museum of Contemporary Art Chicago. The essay's focus is on our unfolding relationship with the Dance Exchange and not on the findings of our collaborative evaluation, which are published elsewhere.[1]

Liz Lerman and the Dance Exchange

In 1976, choreographer Liz Lerman founded the Liz Lerman Dance Exchange as a contemporary dance company, think tank, and action lab—a place where dance is not reserved for an elite few or for highly trained dancers only. Instead, the Dance Exchange is a place where multiple voices of different generations, class backgrounds, and ethnicities come together to explore and create movements with meaning. Through the years, Liz Lerman has made dances *with* and *for* nursing home residents, shipyard workers, university students, professional dancers, and scientists. Her dances have explored topics such as pollution, genocide, and the human genome, and have celebrated life's seminal moments, including motherhood, death, and the turn of the century. Liz Lerman believes that "art is powerful and dance can make a difference" *(Lerman, 2011, p. xv)*. For her pioneering approach, including the belief that "everyone can dance," she was named a MacArthur Foundation Fellow for community organizing in 2002.

The Dance Performance: *The Matter of Origins*

Following an animated keynote speech about *Ferocious Beauty: Genome* (an art/science performance about the Human Genome Project), Liz Lerman was approached by University of Michigan physicist Gordy Kane, who asked her to consider making a dance about another science topic—physics. In her conversations with him "about beginnings, about matter, about mystery, about math," the questions driving her piece, *The Matter of Origins*, began to take shape *(Lerman, 2011, p. 13)*. After almost 3 years of reading, of visits to laboratories in the United States and Europe, of conversations with the world's leading physicists, and of studio work with dancers, *The Matter of Origins* coalesced into a two-act contemporary dance performance exploring stories, images, and movement related to spiritual and scientific explanations of the origins of the universe *(Dance Exchange, 2011)*.

In Act One, the audience experiences a stage performance by an intergenerational dance company, which, in addition to the dancing, includes multimedia images from the Hubble Space Telescope, video footage of leading physicists, photographs of Marie Curie, and readings from the Book of Genesis. In Act Two, the audience adjourns to a nearby tea room for hot tea, chocolate cake, and more dancing by local dancers and Dance Exchange artists. A Dance Exchange artist and a local physicist play the role of tea room hosts, welcoming audience members and emceeing the tea. At each tea table, provocateurs (community volunteers with discussion guides to spark conversation and reflection) convene dialogues about the performance and the ideas behind it.

To support *The Matter of Origins*, Liz Lerman and the Dance Exchange won a National Science Foundation/Informal Science Education/EArly-concept Grants for Exploratory Research (EAGER) grant for the implementation of Act Two and for an evaluation. In the Informal Science Education programming area, NSF seeks to strengthen "interest in, engagement with, and understanding of science, technology, engineering, and mathematics (STEM) by individuals of all ages and backgrounds through self-directed learning experiences" *(Friedman, 2008, p. 9)*. In particular, NSF is interested in how informal science education, and in this case, informal art and science education, contributes to positive changes in individuals' attitudes, interests, knowledge, behaviors, and skills related to science. The hope is that state-of-the-art exhibitions, youth and community programs, television and radio productions, and technology-based and cyber-enabled learning projects will increase STEM literacy and inspire the next

generation of scientists *(Bell, Lewenstein, Shouse, & Feder, 2009; Fenichel & Schweingruber, 2010; Mintzes, Wandersee, & Novak, 1999)*.

The Collaborative Evaluation

As we began this collaborative evaluation, we were aware of some broad parameters. For example, our contract with the Dance Exchange was for 2 years. Liz Lerman and Dance Exchange artists expected us to evaluate four, perhaps five, performances during that time period. We knew that the evaluation needed to address NSF's questions at the minimum. We had a hunch that our community partners wanted to know more about the connections between art and science as well. We evaluators saw this as an opportunity to learn more about public engagement with the sciences through the arts and about creativity. These requirements, expectations, and wishes, swirling around in our heads, would have to be reconciled as the collaborative evaluation plan took shape.

Meeting Our Community Partners

In 2010, shortly after NSF awarded the grant to the Dance Exchange, we evaluators made our first trip to Washington, D.C. to meet our community partners. The Dance Exchange invited us to their studio for the Tea Intensive, a 3-day workshop for dancers from the local area in late August *(Levitt, 2010)*. We were anxious to understand what *The Matter of Origins* was about and to develop an evaluation design, instruments, and questions. The premiere was scheduled for early September 2010 at the University of Maryland, College Park, one of the institutions that had commissioned the dance.

We were up to the challenge, but the pressure was on. We knew we needed to return from the Tea Intensive with decisions about the evaluation design, instruments, and questions, if possible. Jane Hirschberg (the Dance Exchange's managing director at the time) met us at the airport. We were wowed by her immediate and genuine hospitality, which included lunch at a restaurant serving local and organic food just a few blocks away from the Dance Exchange studio.

> **Moment:** Tea Intensive. Dance Exchange Studio. August 20–22, 2010. After lunch, we walk to the Dance Exchange's studio, where the afternoon sessions of the Tea Intensive are about to begin. We enter through the back door, walk past a low couch and a kitchen

area, and are shown into the big studio room. We add our shoes to the pile at the door before we enter the studio, which has mirrors on the long walls and a glass window on the shorter wall separating the studio from the hallway. Everyone gathers in a big circle around the room for a round of introductions. We are greeted by dancers with a variety of complexions, who are young, old, and in between; male and female; slight and muscular. Everyone is very friendly, but the feeling is that this is a working day, not a social one. And it's time to get back to work. We evaluators excuse ourselves and watch through the glass wall for a while.

Dance Exchange performers lead small groups of dancers from the greater Washington, D.C. area and the University of Maryland, College Park in improvisational exercises. They break into small groups and are given an assignment, such as make a dance with a teacup. Each small group comes up with different moves, showing one another ideas, building upon each other's movements. Then time is up. The groups all gather in a big circle to show one another the movements they had created. Liz and other Dance Exchange artists watch intently, with great concentration. Once in a while, they ask a dancer to repeat a movement. And then, it's time for another assignment. The process repeats itself for most of the afternoon, until there's a "bio-break," to visit the restroom or have a snack.

During the break, the studio is re-set with round tables that seat eight and folding chairs, and a performance area in the middle set with a long, narrow table, high chairs, and teacups. A different kind of rehearsal begins. Dancers stand around the edges of the room performing a specific sequence of movements, and then circulate throughout the room and dance in and around the tea tables. Practice starts and stops. Something isn't quite right. Movements and timing are re-adjusted. They start again and stop again. They repeat these practice movements until the dance sequence starts to flow.

> **Reflection:** This isn't what we thought a rehearsal would be like. We are not dance professionals, but it doesn't seem like they are rehearsing a set sequence of movements. Instead, it seems like they are experimenting with different moves. Then it dawns on us: The choreography for Act Two isn't finished yet. It's still in the process of being worked out. The Tea Intensive dancers are part of the creative process with the Dance Exchange—everyone is collaborating on what might become the choreography for Act Two.

Unknowingly participating in an evaluation intensive.

At some point, we stopped watching the dance rehearsal and found seats at a table at the end of the hallway. We were just on the other side of the glass wall. If we glanced up from our work, we could see the dancers. We could hear the music—start and stop and start again. We talked about what we might do for the evaluation. We brainstormed potential questions that might be asked about dancing, art, science, creativity, physics, and the connections among them. We thought of different ways to collect the audience members' responses—written surveys, iPad applications, clickers (handheld electronic voting devices) in the theater, sketches on napkins. We debated different approaches to the evaluation and discussed what we wanted to know, what NSF wanted to know, what the differences between the two were, and how we might overcome those differences. For 3 days, we went back and forth about what should be done for this evaluation.

These evaluation conversations were some of the most intense, concentrated intellectual work we had ever done. In retrospect, we realized that the process of developing the evaluation design, instruments, and questions paralleled the creative process used with the local dancers during the Tea Intensive workshop. We had unknowingly participated in an evaluation intensive. We were given an evaluation assignment, went off in a small group, and brainstormed different options. We ran our freshly developed ideas by Liz Lerman and Dance Exchange artists. They listened intently, considered our suggestions, kept some, and dismissed others. Early in the conversations, more ideas were dismissed than kept. Later, more ideas were kept than dismissed. Liz Lerman and Dance Exchange artists refer to this moment—when the creative process of "freewheeling experimentation and development" transitions

to "the refining and condensing of actual content" as flipping the funnel *(Borstel, 2004, p. 24)*.

Flipping the funnel: Knowing through experimentation.

With feedback from our community partners, we started another round of conversations, based on a better understanding of what they needed and wanted. We met in the glass hallway, the main studio, the upstairs offices, and over meals at our hotel. After 3 days of intense conversation, we came to understand our community partners' parameters for the evaluation. The primary goal: The evaluation needed to be rigorous (NSF's criterion) but could not disrupt the audience members' experiences of the performance (Liz Lerman's criterion). Through cycles of experimentation, some parameters for the evaluation emerged:

- Surveys had to take place outside the theater space (in the lobby before the performance and during intermission), especially for Act One.
- To the extent possible, surveys or other data collection methods would need to be creatively embedded in Act One and Act Two. In other words, they were not to be a separate activity interrupting the flow of the experience.
- If surveys were to be used, the design elements would need to mirror the themes of the performance. Different shapes, colors, and textures would need to be considered, along with layout and design elements that echoed performance themes.
- Special attention would need to be paid to the survey language. Audience members could not be asked questions that would make them (even unintentionally) feel they were not smart enough to attend the event.
- Surveys could not take long to complete, as audience members would be checking coats, visiting with friends, buying refreshments, or participating in other activities prior to the performance and during intermission.
- The final survey could not occur at the very end of Act Two. The performance should end with dancing and music (not a survey).

We learned that each performance site would have different configurations for Act One and Act Two. At the University of Maryland, College Park, Act One would take place in a theater and Act Two would take place in three different tea rooms simultaneously. At Wesleyan University, Act One and Act Two would be combined into a hybrid tea, a performance taking place in a tea room setting only. At Montclair State University, the theater's stage used by dancers in Act One would be reset during intermission as a single tea room for Act Two. At Arizona State University, Act One would take place in a theater, with Act Two taking place in two separate tea rooms, one of which would be a balcony opening up to the out-of-doors. At the Museum of Contemporary Art Chicago, Act One would take place in a theater, with audience members seated in a T-shaped exhibition area for Act Two. These variations in the physical characteristics of the performance sites necessitated site-specific evaluation designs.

Practicing an ethos of dialogue.

During these conversations with our community partners, we discussed our evaluation expectations. John Schweitzer, for example, talked about how strong evaluation designs make use of comparison groups. The strongest evaluation design compares groups that experienced something (i.e., the treatment group) with groups that did not (i.e., the control group). For our evaluation, a treatment/control group design would not be possible; however, we could build in comparison groups in other ways. We could compare audience members' attitudes, interests, knowledge, and behaviors at different times (e.g., pre-performance, intermission, post-tea, six months post-performance). We could use different evaluations in the different tea rooms, especially if audience members were randomly assigned to the tea rooms. We could use different instruments on different performance nights.

Diane Doberneck talked about the need for both quantitative and qualitative data and about opportunities to collect qualitative data creatively. Paula Miller suggested collecting information about audience members' prior experiences (e.g., background in science, dance, informal science education) and socioeconomic positions (e.g., race/ethnicity, gender, age), which inform their ways of knowing, filter their understandings, and shape their interactions with the world *(Collins, 2000; Smith, 1991 ; Zinn & Dill, 1996)*. These background experiences and socioeconomic positions could influence the audience members' perceptions of *The Matter of Origins*. Thus, we needed to collect this data to see if patterns emerged

during data analysis, particularly for groups traditionally underrepresented in the sciences (a priority for NSF).

Throughout these conversations with our community partners, we listened to one another, asked open-ended questions, and shared perspectives about the evaluation design, instruments, and questions. This way of interacting is called *dialogue*. It is characterized by open-ended conversations with understanding and the generation of new ideas as the goal, in contrast to discussions or debates, where convincing others of one's point of view is the goal *(Fear & Doberneck, 2004; Isaacs, 1999)*. In our collaborative evaluation, we practiced inquiry (asking questions to understand the other's perspectives) and advocacy (sharing details to be sure our positions were clearly understood). This inquiry and advocacy approach is possible when assumptions are suspended during dialogue and when everyone enters the dialogue with minds open to others' ways of knowing *(Senge, Kleiner, Roberts, Ross, & Smith, 1994)*. We felt that this approach was vital to the success of our collaboration.

Realizing that sometimes there are no notes.

Over the 3 days of the Tea Intensive, we spent most of our time at the Dance Exchange studio. We worked at the small table in the glass hallway, took our breaks in the kitchen, and flopped down on the couch for tea breaks. When invited, we left our shoes at the door, entered the studio, and played the role of audience members so that the dancers could dance around real people as part of their creative process. We watched, listened, learned, and asked questions. Generally, we hung around as a way of immersing ourselves in the Dance Exchange's activities and of getting to know our community partners and their work. "Face-to-face encounters and gatherings are crucial to establish a valid connection between people, probably because they allow a more accurate understanding of what people really think and feel" *(Gilchrist, 2009, p. 92)*.

Although our face-to-face interactions gave us some grounding in our community partner's creative processes, we were not completely sure what *The Matter of Origins* was all about. In particular, we still had questions about the science ideas embodied in the performance. With NSF's emphasis on science knowledge as an outcome of informal science education, we had to figure this out if we were to ask the audience members about the science ideas they saw during the performance. If Act Two was still under development, maybe Liz Lerman could talk to us about Act One. As the Tea Intensive workshop concluded, we asked to spend a little time

with her so that she could to tell us about the science embodied in *The Matter of Origins* performance.

> **Moment:** Last day of Tea Intensive. Dance Exchange Studio. August 22, 2010. We take our shoes off and are ushered into a small studio room behind the kitchen, where we sit on hastily arranged folding chairs facing a small TV on a short table. We have to lean forward toward the TV to see and hear what's going on in the video. It's the first time we get to see any parts of Act One, and we are full of hope that Liz will "tell us what's happening" during each segment of the performance. After this session, we will finally have the explanation we need about how the science concepts are embodied in the dancing, and we'll be able to design the evaluation.
>
> We watch intently, chairs scooted forward. For the first time, we see dancers extending their bodies and arms in long lines. As our eyes move along their bodies from the bottom left to the top right, we see that the dancers are perfectly lined up so that as the eye moves along their bodies to their fingertips, blue lines of light seem to extend from their fingers and keep going on the background screen. Music and lighting change suddenly. We see individuals and groups of dancers running full speed and knocking into one another in great crashes and falls. It is high energy and pure chaos. Music and lighting change again. We see a serene sequence of gentle dancing, with male and female dancers as partners moving slowly to music with stars projected in the background. Music and lighting change again. We see huge black-and-white photos of Marie Curie on the background screens. The female dancers are making motions as if they are stirring large pots of thick liquid (not until later when we hear the voiceover for this section is it clear that this scene depicts Curie's discovery and creation of radium from boiling vats of pitch). The dancing continues to shift, with dramatic transitions of lighting and music.

As we watch the video of Act One rehearsals, Liz talks to us about her conversations with world-renowned physicists. She tells us about the importance of big science and that these kinds of experiments, like those taking place at Europe's Large Hadron Collider, require the resources of many countries to conduct—they are too big for any one company or even any one government to finance. She tells us about the limitations of science as a way of knowing and that despite the very best measurements, there is still so much uncertainty in what we can know, for sure, absolutely, precisely. She tells us her personal story about the Manhattan Project and how the bomb ended the war, brought her father home, and made her life possible. Together, with dancing on the small TV, we ponder what it means to have something as terrible as the bomb be thought of as something that brought peace. These are very big thoughts, fraught with questions about what each of us believes, knows, and thinks about how the world works.

Reflection: We are blown away by the dancing in Act One, especially how the choreography is so seamlessly blended with the audiovisual elements and the music. We weren't expecting that. It is a gift of Liz's time when she shares some of her thoughts behind the piece with us, and we are truly grateful for that, especially since the Dance Exchange is in the midst of an intense period of creation and rehearsal. We know how valuable her time must be right now. But we are worried. In our conversation, we did not hear Liz say anything like, "In this scene, the dancers are portraying the Big Bang, and in this scene, when you see them spinning around and crashing, they are pretending to be atoms in the Large Hadron Collider at CERN."

Moment: We ask Liz, "Is there a script, like you would have in a play? Or a libretto, like you would have in an opera? Is there some set of notes, annotating the scenes?" Liz says no, though there have often been requests for that kind of explanation for her pieces. She is torn about writing them. Part of the audience members' experience is emotional and aesthetic. Having a script, especially in

advance, takes away from that experience. She says that they are working with a dramaturge on the words that appear in the performance; however, *there are no notes about what each scene means*.

Reflection: We are amazed by this. After seeing the Act One rehearsal video, we come away with a profound sense that something special, perhaps transformative, is happening in this piece. At the same time, we have a deep-seated concern: We cannot name "this something special" . . . and without naming it, we are not sure we can evaluate it . . . and we have less than 3 weeks until the first performance.

Employing Ethnographic Approaches to Collaboration

As we wrapped up and returned home from our community partners' Tea Initiative workshop, we knew that there was much work to be done to finalize the evaluation plan. We would have to rely on someone within the Dance Exchange to help us finish. Humanities Director John Borstel became our main contact with Liz Lerman and Dance Exchange artists. He shared our ideas with them and provided us with their feedback. Through e-mails and phone calls, he served as a bridge between us and our community partners. John provided us with information about the performance as it evolved. In parallel, our evaluation plan co-evolved with the performance during the few weeks between the Tea Intensive and the premiere in Maryland.

After Liz Lerman, Dance Exchange artists, and we evaluators decided on the evaluation design (one pre-performance survey, two different intermission surveys, two different post-tea surveys, and one delayed post-performance survey), John Borstel played another important role in finalizing the instruments and questions. He helped us ground-truth the evaluation materials *(Williams, 2004, p. 28)*. For example, we would propose questions about science knowledge; he would review them with Liz Lerman and Dance Exchange artists to make sure the questions, especially the language, resonated with them and embodied the themes they envisioned for the performance. In this way, Borstel helped us confirm that what made sense from our evaluators' perspective coincided with what made sense from an artistic perspective.

As our key informant, John also made sure that the design of the evaluation instruments echoed the performance themes. Instead of calling them *instruments*, we decided to call the surveys *measures*, mirroring the measurement theme in the performance. The local dancers who distributed and collected the measures at pre-performance and at intermission wore aprons covered with notes and sketches by physicists. In these ways and others, the measurement moments were in sync with the performance.

After the first set of measures was ready, we continued to spend as much time as we could with our community partners. We attended the dress rehearsal at the University of Maryland, College Park, so that we could see firsthand how the measures worked with a live audience and be ready to make any last-minute changes.

> **Moment:** University of Maryland, College Park Dress Rehearsal. September 2010. John Schweitzer flies in from Detroit and arrives at the hotel where the dancers are staying. At check-in, he receives an urgent message to contact Amelia Cox (the Dance Exchange's creative producer and production manager at the time) right away. He goes immediately to the theater, tracks down Amelia, and learns that the iPad application to collect information from the provocateurs at each table could not be downloaded onto all of the iPads. Something else would have to be done. John works with Amelia, John Borstel, and Kelly Bond (assistant to the directors) to create a paper survey, make copies, and distribute them to each tea table—all before the dress rehearsal starts. Problem solved.
>
> Back in the preparation room, John Schweitzer mingles with provocateurs who are getting last-minute instructions about the paper surveys. Some are relieved not to have to fuss with the iPads. John helps Dance Exchange staff prepare woven basket trays with blank surveys, golf pencils, and chocolate kisses. And then, it is time. Each local dancer gets a tray and heads out to the lobby to gather the first survey data. The local dancers are dressed in all black, with white aprons covered in equations, electron orbits, and lecture notes from physicists in dark blue ink, which matches the blue ink on our surveys. It's all seamless.

> **Reflection:** We weren't sure how the lobby surveys were going to work. Would audience members complete them? Would their writing be legible? Would they leave us their e-mails for a follow-up? Would we learn what we wanted to know? In no time at all, we know everything is going very, very well. The local dancers flash big smiles and approach the audience members with the measures. Audience members are pleased to complete a lobby survey for a chocolate kiss. Some people act amused. By the start of Act One, we have stacks of surveys to package up and send to Michigan State for analysis.

After the University of Maryland, College Park performances in fall 2010, we had enough data to enter, analyze, and report to our community partners before the spring 2011 performances. We were committed to getting the data back to them quickly and in a format useful to them. We visited the Dance Exchange in person in the late fall to present the draft findings. We asked Liz Lerman and Dance Exchange artists if there were other aspects of the performance they would like us to focus on as we developed measures for future performances. We asked these questions as a sign of respect for our community partners; we understood that there is a "need to maintain mutuality" in relationships. According to Gilchrist *(2009)*, "this does not necessarily mean that within each and every transaction there has to be an equal balance of give and take, as this is not always possible" *(pp. 92–93)*. Over the course of our relationship, however, we knew it was important to have a balance of give and take between us and our community partners. We worked to ensure that we were giving the data back and not just taking data from the performances.

Critically reflecting on the early stages of our collaboration with Liz Lerman and Dance Exchange artists, we realized that we were strongly influenced by ethnographic approaches to collaboration, which include prolonged engagement with the group; participation or observation of behaviors, customs, and ways of life; immersion in the group's natural setting; close collaboration with key informants; and reciprocity predicated on developing rapport and gaining trust *(Creswell, 1998; Hammersley, 1992; Mitchell, 2007)*. We spent time with our community partners at their studio, in the hotels where artists stayed, and at the theaters where the rehearsals and performance were held. We followed their rituals and routines (e.g., shoes off at the door, "bio-breaks"). This prolonged

engagement allowed us to learn authentically about our community partners, to observe their collaborative approach to making dances, and to begin to appreciate the context in which they worked.

Discovering new social worlds "can only be achieved by first-hand observation and participation in 'natural' settings, guided by an exploratory orientation" *(Hammersley, 1992, p. 12)*. We identified a key informant from the Dance Exchange (John Borstel) as a trusted source for insight into the workings of the group, as a guide for appropriate interaction behaviors, and for establishing credibility with our community partners. He worked with us to make sure what we proposed for the evaluation made sense on the ground, used language that was appropriate for the audiences, and was reflective of the performance themes. We used dialogic practices to suspend judgments, actively inquire about other perspectives, and explain our ideas—all the while developing rapport and building trust with our community partners. That Liz Lerman and Dance Exchange artists are so deeply committed to collaborative artistic practice made this so much easier for us.

Discovering Shared Systems of Meaning

Despite using ethnographic approaches, we struggled to understand what Liz Lerman and Dance Exchange artists were hoping to achieve with *The Matter of Origins*. We were challenged to evaluate the audience members' experiences in a way that met NSF's rigorous evaluation requirements, and, at the same time, did justice to the creativity of the dance. We needed another way to approach the evaluation, especially since the science ideas were not neatly mapped out, scene-by-scene, in the performance. It was unlikely that we would collaborate with our community partners to develop a logic model, diagramming the linear relationship between what the audience members saw in Act One and experienced in Act Two and what they were supposed to get from the experience. *The Matter of Origins* was a different kind of experience, and as a result, the evaluation would need to be a different kind of evaluation.

Instead of taking an instrumental approach to the evaluation, we opted for a more interpretive approach. We developed the evaluation inductively, using techniques to discover the meanings audience members assigned to their experiences *(Denzin, 1989; Geertz, 1977; Holstein & Gubrium, 2005; Maines, 2000)*. We abandoned the idea that what audience members would experience could be known in advance, and realized that their interpretations might be many and varied. We focused the evaluation on uncovering their

multiple interpretations and meanings. In other words, we learned about the audience members' experiences of *The Matter of Origins* from the audience members themselves. We gathered data about audience members' interpretations, and from that data empirically derived future evaluation designs, instruments, and questions. By approaching the evaluation without presupposed categories, we were open to the complex ways in which audience members constructed their social realities, assigned meaning to their experiences, and interpreted the performances.

At the University of Maryland, College Park performances, we used open-ended questions at intermission and at post-tea. On the intermission measures, we asked, "What struck you most about the performance?" On the post-tea measures, we asked, "What struck you most about the tea?" Based on thematic coding of the responses, we developed more questions at subsequent performance sites. For example, at Montclair State University performances, we gauged audience members' reactions to Act Two with a tea scale, eight Likert-scale questions about the impact of Act Two on audience members. We continued to ask open-ended questions. At Arizona State University and at the Museum of Contemporary Art Chicago, we asked open-ended questions about the science content. On the intermission measures, we asked, "What science ideas, if any, did you see during the performance?" On the post-tea measures, we asked, "What science ideas, if any, did you see during the tea?" This inductive, interpretive approach allowed us to be exploratory and discovery-oriented and, at the same time, to move forward with the evaluation in a purposeful way. Through thematic coding of the open-ended questions, we immediately realized that this interpretive stance would reveal multiple, sometimes wildly different, interpretations of *The Matter of Origins*.

> **Moment:** University of Maryland, College Park. Opening Night. September 10, 2010. Two thirds through Act One, the lights come up and the audience sees a lone chair. Four cast members approach—three men, one woman. In the background, close-up, grainy black-and-white images of the woman's face flash across the screens. In some, she is staring blankly into the audience, showing no emotion. One long fluorescent light hangs at an odd angle from the ceiling. The rest of the stage is eerily quiet and stark. The woman climbs up on the chair, stands there momentarily. The chair is tipped backward abruptly by one of the male dancers. She falls.

She climbs back up onto the chair, stands there momentarily. The chair is pulled suddenly out from under her by one of the male dancers. She falls. She is caught and lowered to the floor. She climbs back up onto the chair, stands there momentarily. The chair is jerked, jerked again, jerked again until she is knocked from the chair by the jerking motions the male dancer makes. She falls. She is caught and lowered to the floor. She climbs back up onto the chair, stands there momentarily. A male dancer climbs up onto the chair, pushing her out of the way, onto the floor. She falls. She climbs back up onto the chair, stands there momentarily . . . the scene repeats until the stage lights go down.

Reflection: After seeing this scene at the University of Maryland, College Park, we talk about what we think it means. Paula immediately notices the gendered aspect of the scene. Male dancers are knocking the female dancer off the chair. The scene is violent and the woman seems almost in a trance as she repeats the motions. Diane focuses on the repetition. The initial situation seems to be the same—a woman on a chair—then something different happens each time. This speaks to her of variation in experimentation. John Schweitzer notices that the same thing can be accomplished in many different ways—knocking over, tipping, jerking—but it's the interaction between the female dancer and the male dancers that changes the results. Among the three of us, we do not agree on what this scene means or represents.

Moment: Museum of Contemporary Art Chicago. November 10, 2011. At a tea table one evening, an audience member requests that the provocateur call the female dancer over to the table to answer some questions about the chair scene. When the dancer comes to the table, the audience member asks her, "What does that scene mean?" Adeptly, the dancer asks back, "What do you think it means?" The audience member talks about the violence of the scene and how it seems that the woman is thrown over and over again from the chair. She even seems to be getting back up on the chair reluctantly, like she is being coerced or forced somehow.

> The dancer says that that is one way of looking at the scene. She shares that even among the dancers performing the scene, they do not agree on what it means. She does say that the scene would probably look different if it were a male dancer on the chair and female dancers knocking him off. A male audience member at the table chimes in. He says, "As a scientist, I have never thought about what the material I use in my experiments must feel like being experimented on. I just haven't considered that before."
>
> **Reflection:** We have all seen the same scene, but it signified something different to each of us. We assigned it completely different meaning, which makes me think that in a way, maybe none of us actually "saw" the same thing. We do not have a single shared interpretation of the scene, but we do have something in common, even if it isn't a shared meaning. Each of us has paused after seeing the chair scene and has thought more deeply about it. We were left with lingering questions.

Liz Lerman published her book, *Hiking the Horizontal: Field Notes from a Choreographer*, with Wesleyan University Press in 2011. We immediately bought copies, and read about Liz's lifelong commitment to making dances that matter. In her introduction, she says,

> it took a while to understand that [questioning] could be a way of life, a way of making art, a way of making space for others to engage in conversation of naming things, to encourage dialogue, of reordering ideas, or of making something useful or beautiful or both. *(p. 4)*

Liz's introductory words marked a turning point for the evaluation. In our evaluation team conversations about her book and about the evaluation's findings, we began to appreciate the multiple interpretations of the entire performance piece, including the tea. The audience members' shared experiences were emotional and evocative. They reported being *touched*, *inspired*, *awed*, *engaged*, and *puzzled*. Not everyone, however, felt the same way. Audience members noticed different performance themes (e.g., the Big Bang, Heisenberg Uncertainty Princple, ethics and science, discovery, origins), but not everyone observed the same ideas.

This plurality of perspectives came through in the surveys and the tea table conversations. If there was one consistent finding of the evaluation, it was that there was not one single, shared interpretation of *The Matter of Origins*. Liz Lerman and Dance Exchange artists had layered music, video, voiceovers, still images, and movements in a rich, ever-changing montage that was beautiful, inspired, and provoking. In the end, we came to understand the point of the dance: It was for audience members to consider, re-consider, and re-arrange their feelings and thoughts about spiritual and scientific explanations of origins and the universe. The reactions that *The Matter of Origins* was intended to evoke were intentionally complex.

Turning to Developmental Evaluation

When we recognized the complexity of interpretations, our thinking shifted a second time. We started to draw upon an entirely different set of ideas about evaluation called *developmental evaluation (Morrell, 2010; Patton, 2010)*. Developmental evaluation characterizes situations as simple, complicated, or complex and advocates for different evaluation approaches depending on how the situation is characterized. Developmental evaluation is particularly well-suited for complex situations, where multiple interrelationships prohibit straightforward interventions from being successful. Patton *(2010)* says,

> Evaluation has explored merit and worth, processes and outcomes, formative and summative evaluation; we have a good sense of the lay of the land. The great unexplored frontier is evaluation under conditions of complexity. Developmental evaluation explores that frontier. *(p. 1)*

Mischaracterizing the situation as simple.

When we started this collaborative evaluation with Liz Lerman and Dance Exchange artists, we perceived the situation to be a simple one. Liz Lerman had made a dance about physics. Our role as evaluators was to determine the physics ideas the audience members took away from the experience. This evaluation perspective assumed that there was a high degree of certainty, predictability, and agreement about what was being evaluated *(Patton, 2010; Snowden & Boone, 2007; Westley, Zimmerman, & Patton, 2006)*. Simple situations, in other words, are characterized by "linear, direct connections

between cause and effect, easily observable, understandable, and verifiable" *(Snowden & Boone, 2007, p. 69)*. Our early request for a script mapping dance sequences to particular science ideas was an example of this instrumental view. Our request demonstrated that we assumed there was a high degree of agreement on what the dance sequences meant. Our assumption was influenced by NSF's *Framework for Evaluating Impacts of Informal Science Education Projects (Friedman, 2008)*, which emphasizes such clearly defined, linear approaches to program design and evaluation. In retrospect, we discovered that our instrumental approach was naïve, especially since *The Matter of Origins* was an art and science dance performance exploring scientific and spiritual questions about origins and the universe.

Mischaracterizing the situation as complicated.

After the Tea Intensive workshop and after analysis of University of Maryland, College Park data, our perspective on *The Matter of Origins* and subsequently our role as evaluators shifted. We started to view the situation as a complicated one. Because Liz Lerman created this art and science dance to evoke a range of reactions from audience members, our role as evaluators was to document and name those multiple interpretations. This evaluation perspective assumed that what was to be discovered was challenging and difficult, but knowable *(Patton, 2010; Snowden & Boone, 2007; Westley, Zimmerman, & Patton, 2006)*. In complicated situations, "cause and effect can be determined but require analysis and expert investigation, as some things are known but others are not" *(Snowden & Boone, 2007, p. 70)*. Open-ended questions would reveal these multifaceted, yet measurable, interpretations. Based on data from the University of Maryland, College Park performances, we planned to develop measures that would reveal a range of interpretations and experiences. Upon critical reflection, this shift was a step in the right direction but still assumed that we would create an evaluation design, instruments, and questions that we could use at the remaining performance sites. This approach failed to accommodate the forces of change influencing audience members, Liz Lerman, Dance Exchange artists, and even us evaluators.

Recognizing the situation as complex.

After the performance at Wesleyan University, we began to view the situation as a complex one. Liz Lerman's choreography was not finalized—she continued to refine the piece, modifying

the dance by expanding some sequences, dropping others, and changing voiceovers and images. These ongoing refinements required us to constantly learn the nuances of the latest iteration so that the evaluation instruments aligned with the performance. External events also influenced the performance and the evaluation. In 2011, a tsunami hit Japan and caused a nuclear disaster. This event, covered heavily in the news, forced all of us to reconsider what audience members' reactions would be to two themes of the performance: the ethical issues associated with the discovery of radium and the genesis of nuclear energy. Liz Lerman and Dance Exchange artists modified the tea table discussion guides and added new content about nuclear proliferation to the iPads. We realized that we were part of a complex situation, filled with uncertainty caused by constant change internally and externally *(Patton, 2010; Snowden & Boone, 2007; Westley, Zimmerman, & Patton, 2006)*. Complex situations acknowledge that "cause and effect is contingent on contextual and dynamic conditions, and therefore unknowable, with patterns being unpredictable in advance" *(Snowden & Boone, 2007, p. 72)*. From a developmental evaluation perspective, it is the evaluator's role to foster dialogue, creativity, and innovation; to watch for and interpret emerging patterns; to remain flexible and adaptive; and to engage in reflective practice to capture, understand, and interpret what is emerging as it emerges *(Patton, 2010)*. We eventually adopted a developmental approach to the evaluation, recognizing that each performance site had its own dynamics and requirements, dependent on the physical characteristics of the performance spaces, the latest refinements in the dance, audience members' recent experiences, and our deepening understanding of the audience members' experiences based on collected data. We learned to create evaluation designs, instruments, and questions to accommodate the complexity of the environments.

Our cycles of activity, reflection, and redesign required us to be vigilant about listening to our community partners, noticing new patterns in the data, and adapting our evaluation to our new understandings of the situation. This constant co-evolution between the performance and the evaluation design, especially in spring 2011, when there were multiple performances at three different performance sites in 3 months, resulted in a second evaluation intensive. This time our intense evaluation conversations were based on our own experiences at the performances and on the analysis of audience member data from the earlier performance sites. As our collaborative evaluation concluded, we started to view our experience with Liz Lerman and Dance Exchange artists much like the

experiences of other community-engaged scholars working at the engagement interface—"complex, interactive, iterative, emotional . . . border crossing" *(Fear et al., 2006, p. 13)*.

Crossing Multiple Borders at the Engagement Interface

Our collaboration with Liz Lerman and Dance Exchange artists crossed several borders, including community and university, art and science, and creative performance and scientific evaluation. We spanned the ways of knowing from these different traditions and negotiated our way through the discourses, structures, norms, and roles that define what counts and why in these different systems of meaning *(McMillan, 2009)*. Our work at the engagement interface was possible because we collaborated closely with our community partners to create new approaches to evaluation; to develop shared norms based on mutual respect, trust, and honesty; to honor the unique perspectives, skills, and practices of each member of the collaboration; and to engage in ongoing, honest, and shared appraisal of outcomes *(Fear et al., 2001)*.

Instead of being stymied by the complexity of our border-crossing evaluation, we were able to "learn our way into" designing an evaluation that was rigorous but not disruptive for audience members. Through this experience at the engagement interface, we deepened our understanding and practice of community-engaged scholarship as evolving and iterative, one where the dynamic interplay of internal and external forces of change leads to emergence *(Doberneck, 2003; Holman, 2009)*.

Concluding Reflections

As we critically examined our experience with Liz Lerman and Dance Exchange artists, we recognized significant transitions in our understanding about the nature of our collaboration. We moved from an instrumental to an interpretive to a developmental perspective. Where we once sought a tidy script mapping science ideas to dance sequences, we now embraced a constantly changing, dynamic performance with corresponding evaluation designs, instruments, and questions specific to each performance site. We realized that the strength of taking a developmental approach to evaluation was recognizing that the dance itself and the audience members' reactions to it were complex, requiring us to anticipate differences in advance and to stay open to surprises throughout the process *(Morrell, 2010)*.

Developmental evaluation was the appropriate approach to this collaborative evaluation, because it honored the nature of *The Matter of Origins*, both in its creation and in its content. A major theme of the performance was the Heisenberg Uncertainty Principle, which reveals the imprecise nature and the limitations of measurement *(Heisenberg, 1927)*. During Act Two, the physicist hosts explained the Heisenberg Uncertainty Principle, and tea table provocateurs convened dialogues about uncertainty and measurement. Some argue that this uncertainty principle requires researchers who study human interactions, including learning, to take a less positivist approach to research and evaluation and to acknowledge that "understanding is no longer linear and simplistic, but pluralistic and multifaceted" *(Roth, 1993, p. 676)*. Our experience reinforced these ideas.

Suggested Reflective Questions for Further Consideration

We realized that the transitions in our thinking resulted from intense periods of dialogue, listening, reflection, creativity—on our own, within our evaluation team, and with our community partners. Our commitment to reflexivity meant that we cultivated our knowing-in-action as a valuable source of sense-making and understanding. We offer the following suggestions and reflective questions for readers to consider in the context of their own community engagement activities:

Use ethnographic approaches to understand your community partners and their goals. Ethnographic approaches to collaboration (e.g., gaining trust, developing rapport, prolonged engagement, using dialogue and key informants) are particularly helpful practices early in the partnership. **Consider:** *How might ethnographic approaches to collaboration strengthen your relationship with your community partners? How might you come to know their context intimately? How might you reveal the details of your context to your partners as well?*

Develop shared systems of meaning among community partners, university partners, and funding agencies. Successful community-engaged scholars acknowledge that each partner has different, sometimes competing, ideas of what counts and why. Savvy collaborators recognize these different systems of meaning and understand how to span the boundaries of their collaborative work. **Consider:** *What are the systems of meaning that frame your way of knowing? Your community partner's way*

of knowing? Your funding agency's way of knowing? How might you come to better understand one another? How might you creatively find a way for your engaged scholarship to recognize and bridge these differences?

Recognize that different situations require different strategies. Determine whether your situation is simple, complicated, or complex, and then develop your community engagement activities to match the situation. Forces often influence the community or university partner to view the situation as a simple one and to implement evaluation designs that fail to accommodate the uncertainty and dynamism inherent in the context. **Consider:** *Is your situation a simple, complicated, or complex one? What approaches are appropriate to the situation? If it is a complex situation, how might you accommodate and embrace uncertainty in your work?*

Reflect critically to learn your way into better scholarship and practice. Cycles of action and reflection are essential for deepening understanding based on your lived experiences. **Consider:** *In what ways do you pause, step back from your collaboration, and reflect upon what you are knowing-in-action? How are you practicing reflexivity—on your own and together with your community partner? What are you learning from these critical reflections?*

Seek new ways of understanding your engagement experience. Community-engaged scholarship, especially in complex situations, has elements that come into focus after the project has already started. Conceptual frameworks and theories that were useful initially may not be suitable after some real experience. Discovering new ways of thinking about your community engagement activities, even as the collaboration is under way, is vital to your success. **Consider:** *What new ideas or constructs might be useful to you as you lift up and frame your community engagement experiences? How might you draw upon concepts, theories, or frameworks to make sense of patterns that you are now aware of?*

We hope that our autoethnographic essay describes our deepening understanding of our experience at the engagement interface, and that our reflections inform others who embark on similar journeys through the unpredictable and transformative territory of community-engaged scholarship.

Endnote

1. While this essay's main focus is on the process of collaborating with our community partners, we understand it is important to mention the evaluation findings, as they are a testament to Liz Lerman's vision, the Dance Exchange's performances, and our relationship with them on this collaborative evaluation. Across five performance sites, we surveyed over 4,000 audience members, who showed changes in attitude, interest, knowledge, and behavior toward science in the expected direction at the $p < .05$ level of significance. At the end of Act Two, audience members also reported statistically significant increases in the emotions *engaged*, *amused*, *comfortable*, and *curious* at the $p < .001$ level.

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