



by Bethany Cobb

Dance as Astronomical Outreach

Conveying the dynamic nature of the universe to the general public is a challenge.

Astronomy is renowned for exposing the intrinsic beauty of the universe. What a single Hubble Space Telescope image cannot capture, however, is that astronomy is also kinetic: violent and chaotic, rhythmical and graceful, at turns languid and swift.

This presents an interesting challenge. How can astronomers convey the dynamic nature of the universe to the general public? Animations and computer simulations are one obvious pathway. Less conventional methods, however, have the power to attract new audiences and even to challenge our own minds.

Combining dance and astronomy is clearly a non-traditional approach, but these seemingly disparate realms can be fused successfully to educate and inspire an audience. Dance is defined by motion and is a powerful tool for expressing the character of the ever-changing universe. The profound nature of dance also allows it to connect organically with the audience. Perhaps most importantly, the non-threatening artistry of dance may even attract members of the general public who might otherwise be intimidated by the science of astronomy.

During the last year, I had the pleasure of working with choreographer Kathryn Roszak on a dance/astronomy collaboration inspired by the 2009 International Year of Astronomy. I am not a dancer and have no experience with professional dance other than a sincere appreciation for the performing arts. But this unconventional project has significantly expanded my vision of astronomy public outreach.

Kathryn Roszak is an artist with considerable experience translating novel, scholarly concepts into dance. Her dance company, Danse Lumière, creates dance theater linking arts, sciences, and the humanities. Kathryn and I met at the beginning of 2009 through our teaching at the Osher Lifelong Learning Institute at UC Berkeley. I was a new instructor at the Institute, beginning my first class: “Six Questions for Modern Astronomy.” When we met, Kathryn was preparing a dance inspired by astronomy (“Copernicus, Galileo, and Kepler”) for Humanities West’s Fall 2009 program. Humanities West is a non-profit organization in San Francisco.

Kathryn was excited about learning more about the universe. I provided her with articles regarding the newest discoveries in astronomy. Kathryn invited me to attend rehearsals of “The Star Dances” to discuss astronomy with the dancers. At the rehearsals, I was impressed by how astronomy was encapsulated into the dance both in apparent and subtle, imaginative ways. “The Star Dances” are accompanied by a piano version of Gustav Holst’s “The Planets,” with additional music by Eric Satie.

Prior to the October 2009 première of “The Star Dances,” Humanities West invited us to talk about our collaboration at the Mechanics’ Institute Library in San Francisco. I discussed the astronomical science, while Kathryn spoke about her creative process. I



Left: Left to right: choreographer Kathryn Roszak, astronomer Bethany Cobb, and dancers Todd Ghanizadeh, Rita Dantas Scott, Hally Bellah Guther, Lissa Resnick, and Damon Mahoney. **Right:** Images from the dance.

was pleased that our audience included more women than is typical for the average astronomy public lecture.

“The Star Dances” was presented at the Lawrence Hall of Science in Berkeley on December 12, 2009, as an interactive family program. We interspersed the dance with a multi-media astronomy presentation. To help the kids connect the dance with the science that I explained, Kathryn and the dancers demonstrated specific dance movements before each section was performed. For example, I showed videos of material streaming from the Sun into space, and talked about how these particles impact Mercury and even cause the aurora on Earth. The dancers then illustrated a part of the “Mercury” dance in which they interact by tossing around an imaginary ball.

This program also involved active audience participation. During the talk, the audience answered questions about astronomy. At the end of the program, a group of kids (and parents) became particles moving around the universe and forming into a solar system. Inflatable models of the planets added to the excitement! We believe we succeeded in our goal of inspiring in our young audience an interest in, and enthusiasm for, both the arts and science.

This exciting combination of astronomy and dance promotes intellectual curiosity and makes both subjects accessible to new audiences. Therefore, we plan to continue our collaboration in the future. “The Star Dances” depict, with form and movement, the universe’s energy, grace, and even playfulness, and we hope our program illustrates that science public outreach can successfully incorporate art and beauty. ■

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