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# Kinetic Sculpture in Theatre and Live Entertainment

Francesca Muscolo with Dr. Jocelyn L. Buckner Chapman University Department of Theatre

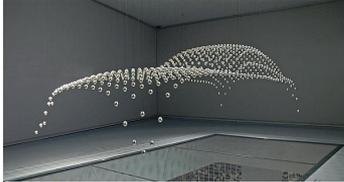


Photo:  
ART+COM

## Artistic History

First sculpture appeared in 1913, but only became a popular movement in the 1950s. Artists have experimented with found objects, woods, metals, wind power, manual operation, and technology.

## BMW Museum

Kinetic Sculpture's first industrial installation was at the BMW Museum in 2008. Installed by the Austrian Company ART+COM, it consisted of 714 aluminum spheres that began in chaotic movement, and slowly formed into the smooth lines of their five most iconic autos.

## Changi Airport

ART+COM was approached four years later by the Singaporean airport. Their installation is very similar, but uses more complex technology. The sculpture was developed in an interdisciplinary team of artistic and technical experts who created custom software and automated pulleys.

## Chunky Move

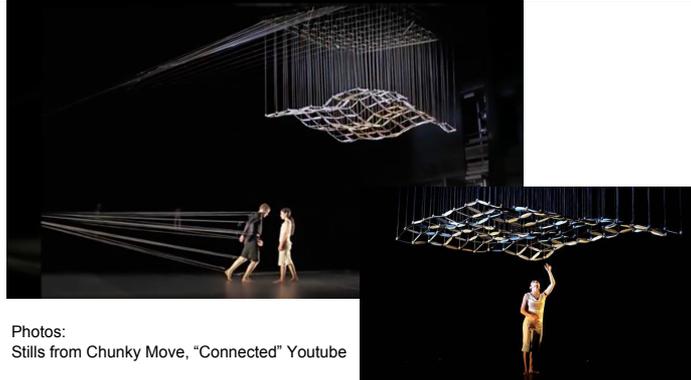
This Australian dance company became the first to use this artistic concept and mechanics, but they also furthered the technology by removing most of it. Instead of attaching the ends to automated hoists, they attached to performers, who manipulated their statue with their choreography. The points connected to form a grid that manifested the dancers' movement outside their bodies. See Right.

## Kinetic Sculpture: 3D art with one or more moving parts

Technology dominates contemporary "theatre," but the theatre is often the last industry to see innovations. Instead, the technical field operates on leftovers from entertainment, visual art, or industrial settings. Companies such as Cirque du Soleil, Diavolo, and Chunky Move blend technology and performance until the two become indivisible. This technology is being developed in an effort to lessen boundaries and create new opportunities that could not otherwise happen onstage.

I have developed a basic understanding of the machinery and software platforms used to create kinetic rain sculpture, it's uses in visual art versus industrial settings, and how this can manifest in live theatre. A case study of Chunky Move's piece *Connected* examines what happens when machinery is subtracted and integrated with human artists; how it can elevate and transcend beyond the performer. I have also examined how these elements interact between performers, choreographers and technicians; and how each are educated, trained and integrated with technology throughout the rehearsal process. Then I have used my understanding of kinetic rain's mechanics to predict new ways this system can be used as a scenic element and for stage action.

These technological innovations often reach the dance and entertainment fields before traditional theatre and opera, because they are more open to change. In entertainment, bigger is always better, which is an open invitation to today's latest creations. Dance has the capacity to change rapidly and become open to new movement concepts. The inherent abstraction in dance creates more opportunity to blend technology with the performer. Whether this lessens or heightens the humanity of the performance is up to each audience member.



Photos:  
Still from Chunky Move, "Connected" Youtube

Photo:  
Christopher  
Jobson



## Conclusion

This technology is being created in an effort to lessen artistic boundaries. Theatre has integrated automated scenery and flying effects for several decades. Rigging, (The practice of suspending scenery, performers, and equipment above ground level) has developed since the 1980s rock and roll concerts.

Kinetic Sculpture is defined as a 3D piece of art with one or more moving parts. In essence: automated scenery. However, the idea behind kinetic rain offers many possibilities. The movement is much more organic. The rehearsal process requires a synthesis between art and technology to create greater spectacle. Also, each point requires it's own attachment. Instead of automated scenery running on tracks or supported by a lever, what if it were suspended in midair? While it requires humans to wear a harness, this opens possibilities for floating effects.

Kinetic art transcends studio art, industrial buildings, and entertainment, who is only just seeing these innovations. Anything can be attached to the points hanging down, such as lighting fixtures or even performers.

On "Connected:" *Obarzanek talked about the final product as a working machine that "allows concrete forms to transcend their own forms. "Similarly," he said, "a dancer is a person with a personality, but once in motion, they can transcend their own personality."*

-Jennifer Edwards, *The Huffington Post*