

Francesco Murano

LIGHT WORKS
EXPERIMENTAL PROJECTION MAPPING



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INTRODUCTION

I've been working for years on artistic installations in which appear light sources or light effects directly produced by these sources.

After the first three books devoted to Light Art in Italy, where were introduced more than 150 installations of light produced in my country, in 2012 I decided to research and document the experimental work carried out in every part of the world.

This decision is based on two considerations:

the Italian market is very limited and therefore you are likely to repeat always the same authors; experimentation carried out with the artistic use of light sources and their effects is held by a multiplicity of actors ranging from engineers to performers, directors for artists, hobbyists, lighting designer.

For this reason, last year I published the book *Light Works*, Experimental light art, in which the term "experimental" was just to indicate one of the fundamental characteristics of artistic research carried out in the field.

For the book of this year I wanted to continue the search for new ways to experience the light and that is why I have chosen to focus my work on what is called "Projection Mapping" in the U.S., "Video Mapping" outside the USA and simply "mapping" in Italy.

All of these terms define a technique that consists in projecting images or two-dimensional or three-dimensional graphical effects on a surface which can be as well two-dimensional or three-dimensional.

The mapping is increasingly being used in Italy in advertising and in the performances on the square and at weekends.

Many times, however, the projections of images on the buildings do not find any topological correspondence with the buildings that are used as simple screens, this technique is improperly called Mapping and has little interest in documentary.

Mapping the other hand, as the name implies, involves the mapping of the object on which the projections are made and it is required to detect on it a grid of points or positions used to overwrite the images and the projected effects.

But the mapping is not limited only to the projection of images and effects on buildings, but it has chosen from the beginning, a variety of subjects on which and with which conduct the first trials, which, according to research conducted by Brett Jones in his *The illustrated History of Projection Mapping* are summarized below.

The first projections on non-planar surfaces were done in 1969 and used in Disneyland to give terrifying effect to 5 plaster busts called "Grim Grinning Ghost" and it was the super-screening of a 16 mm film.

The first experience of immersive projection mapping was done in 1980 by the artist Michael Naimark, that films a camera with a rotating camera on which reprojects some human figures, and in 1994 he patented an apparatus described as "Apparatus and method for projecting on a three-dimensional object".

In 1998 Ramesh Raskar, Greg Welch, Henry Fuchs and Deepak Bandyopadhyay and others submit to the 25th annual conference on Computer graphics and interactive techniques.

ACM, 1998. "The Office of the Future" with Spatial Augmented Reality devices, such as it was then called the Mapping.

In 2001, the group of researchers who follow Raskar introduced what we might call today Mapping, with a lamp - brush that, recognized by a camera, paints colorful lights on a tray.

Later the same group used the mapping to change appearance to a model of the Taj Mahal.

In 2004, the same researchers use mapping equipment to make the inventory of the goods in a warehouse.

Between 2005 and 2006, Oliver Bimber changes the texture with projection mappings in the drapes, creates stamping of a painting and a drawing and for the first time he projects mapping on architecture.

Since then, experiments have increased dramatically, and there are currently many Video Mapping festivals such as the Mapping Festival in Geneva, the Fiber Festival in Amsterdam, the Festival of Light in Berlin, the Vivid Live in Sydney.

The book *Light Works*, Experimental Video Mapping 2013 shows 50 works chosen with the help of Cristina Di Pasquali among the most representative performed in the world.

Each job is represented by an image and accompanied by the description of the work, the biography of the author and reference links. In addition, each work has an QR code so that through the book, with a tablet or smart phone you can immediately enjoy the moving images, that best illustrate and represent the magic of Mapping more than what my book can do.

Reference:

Brett Jones The illustrated History of Projection Mapping, <http://projection-mapping.org/the-history-of-projection-mapping/>

Bimber, Oliver, Ramesh Raskar, and Masahiko Inami. *Spatial augmented reality*. AK Peters, 2005.

Raskar, Ramesh, et al. "The office of the future: A unified approach to image-based modeling and spatially immersive displays." *Proceedings of the 25th annual conference on Computer graphics and interactive techniques*. ACM, 1998.

Raskar, Ramesh, Greg Welch, and Wei-Chao Chen. "Table-top spatially-augmented reality: bringing physical models to life with projected imagery." *Augmented Reality*, 1999. (IWAR'99)

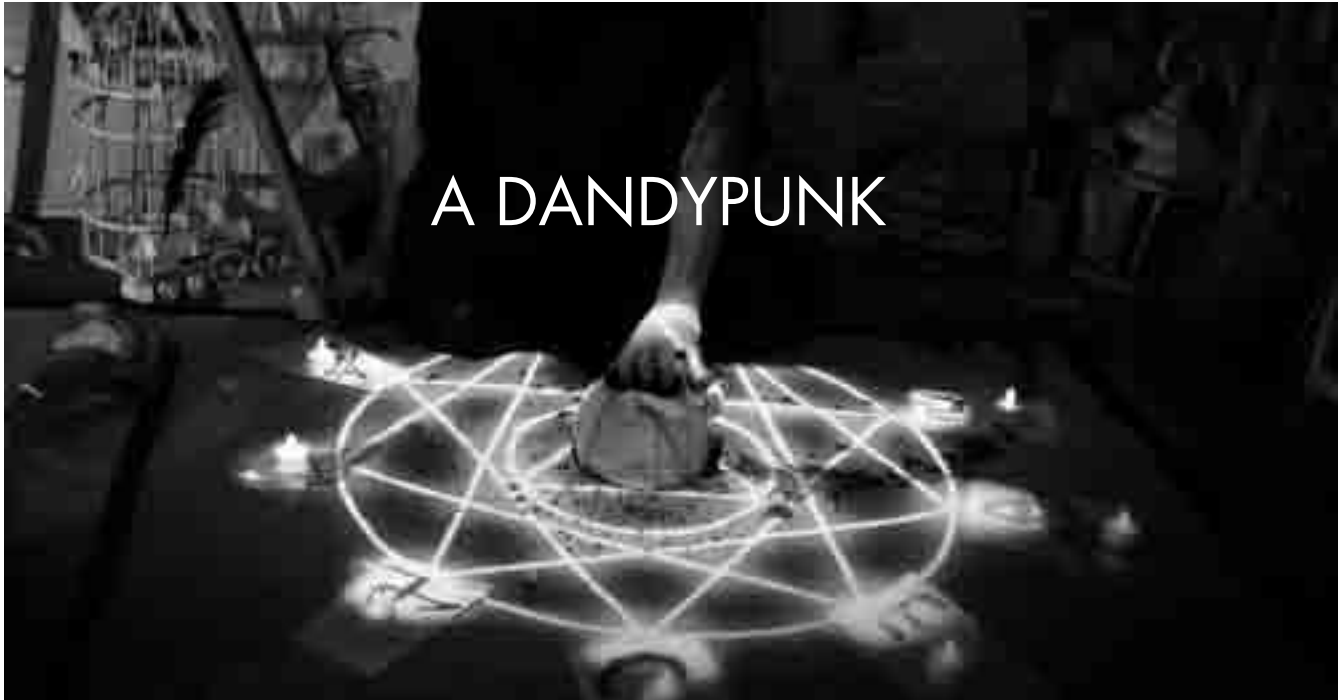
Raskar, Ramesh, et al. "Shader lamps: Animating real objects with image-based illumination." *Proceedings of the 12th Eurographics Workshop on Rendering Techniques*. 2001.

Bandyopadhyay, Deepak, Ramesh Raskar, and Henry Fuchs. "Dynamic shader lamps: Painting on movable objects." *Augmented Reality*, 2001. *Proceedings. IEEE and ACM International Symposium on*. IEEE, 2001.

Raskar, Ramesh, et al. "RFIG: interacting with a self-describing world via photosensing wireless tags and projectors." *ACM Transactions on Graphics (TOG)*. Vol. 23. No. 3. ACM, 2004.

Bimber, Oliver, et al. "Superimposing pictorial artwork with projected imagery." *ACM SIGGRAPH 2006 Courses*. ACM, 2006.

Bimber, Oliver, Andreas Emmerling, and Thomas Klemmer. "Embedded entertainment with smart projectors." *Computer* 38.1 (2005): 48-55.



A DANDYPUNK



A dandypunk exists to inspire and motivate creativity, non-conformity, whimsy, intense curiosity, do-it-yourself mentality and everyday eccentricity in everybody. The new weird.

A digital light poet , a storyteller from future history

A dandypunk is a character from the fictional universe of his own creation . The last of the great 19th century chimney sweeps and a member of the Imagineers in exile collective. Growing up bboying, freerunning and doing graffiti on the rooftops of Victorian London he later taught himself the art of light alchemy from a book he found on the royal park bench. A dandypunk spends most of his time in a half waking, half sleeping state where he is constantly bombarded with visions of creatures, lands and characters from alternate dimensions. He desperately tries to sketch down what he has seen but like gold dust slipping through his fingers the details of the visions sometimes fade too quickly. One such character, a light being named Ulysees, has managed to bridge the dimensional gap and is able to exist and travel with a dandypunk's drawings. Together they embark on a seemingly endless quest to quench the insatiable thirst of the Ink God for new artistic creations.

> adandypunk.com

PROJECT: The Alchemy of Light

Using projection mapping technology with an analog charm, a dandypunk travels through various fantastical worlds, interacting with strange characters and treacherous landscapes, in the hope of unfolding the secrets and learning the techniques from the ancient book of "The Alchemy of Light".

The aim was to create a new kind of performance that fused Art + movement + technology and could not be categorized into a genre of dance, acrobatics, magic or an art installation.

It was very important to approach projection mapping from a different perspective, using hand drawn traditional stop motion animation rather than the usual (very impressive) computer generated images. Using pen and ink with paper cut outs, an intimate, hand made, D.I.Y feel was achieved.

Sometimes the dance choreography was created before the animations, sometimes the movement was fitted to the projection and occasionally the music dictated both the animation and the choreography. The soundtrack and intense rehearsal were key for the performer to know when and where to react, as it is almost impossible to see the projection when performing the act.

Imagineers in Exile - immersive digital story telling

Excerpts from an immersive art gallery show, in which the audience are surrounded by illustrations on every wall. Projection mapping brings the illustrations to life as the audience follows an epic adventure around the space. Some characters from the drawings manifest themselves in live performance. A new concept combining digital story telling, immersive theatre and traditional illustration.

The Light Alchemist works tirelessly to reproduce the world inside his head in ink and paper. By performing

ancient rituals, the Ink God breathes life into his creations, but it is not without sacrifice..

The aim was to create a completely new way to tell a story. Mixing half sketched, messy pen and ink illustrations with the high tech feel of projection mapping, creates the magical atmosphere of being part of a graphic novel or child's story book. The audience feel fully immersed in the story as it constantly changes around them, following the projected light into secret rooms and interacting with real life characters who seemingly emerge from the illustrations.



'ADRIEN M/CLAIRE B'



Claire Bardainne is a visual artist, graphic designer and scenographer, who holds degrees from the Ecole Estienne and the Arts Déco in Paris. Her research focuses on the link between graphic signs, images and space, exploring back-and-forth shifts between the imaginary and the real worlds.

Adrien Mondot is a visual artist, computer scientist, IT specialist and juggler who investigates and inquires about movement. He operates at the intersection between the art of juggling and technological inventions. Founder of the Adrien M Company in 2004, he teamed up with Claire Bardainne in 2011 and together they recreated the company under the name of 'Adrien M/Claire B'

Major projects :

Hakanaï Performance (2013) / **Un point c'est tout** Performance-Conference (2011) / **XYZT. Abstract Landscapes** Exhibition (2011) / **Cinématique** Show (2010 / Jury's Grand Prix at the 'Dance and New Technologies' international competition within the framework of the Bains Numérique Festival in Enghien-les-Bains / **reTime** Show (2006) / **Convergence 1.0** Show (2005 / Prizewinner Young Talents in Circus 2004 program) / **Fausse notes et chutes de balles** Show 2003.
> am-cb.net



**Mobile, organic, ephemeral, random, sensory:
searching for a live digital Art at the intersection
of dance and visual arts.**

The Adrien M/Claire B Company has been acting in the fields of the digital arts and performing arts since 2004. They create many forms of art, from stage performances to exhibitions combining real and virtual worlds with IT tools that were developed and customised specifically for them, in particular the software eMotion, an application based on physics animation system, creating interactions between

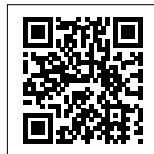
graphical objects and real world information. Relating and reacting in a sensitive way video-projections to the body is an important key of their work. They place the human body at the heart of technological and artistic challenges and adapt today's technological tools to create a timeless poetry through a visual language based on playing and enjoyment, which breeds imagination. The projects are carried out by Adrien Mondot and Claire Bardainne. The company operates as a research and creativity workshop based out of Presqu'île in Lyon.





ANARCHY DANCE THEATRE

ULTRA COMBOS



Anarchy Dance Theatre

Founded in 2010, Anarchy Dance Theatre uses contemporary dance theatre to express their concerns about people and life, by reproducing through movement the intricate power structures and personal relationships in today's powerful social structures. Anarchy strives to create a dance training structure of its own, starting from awareness of the body, and reaching out to explore the relationships between time, space, objects and others, with the intention of increasing one's own sensitivity. In addition, Anarchy also breaks free from the traditional restraints of theater, producing an entirely new performance space. With the dancers, audience, interactivity, theater and environment as its main elements, Anarchy then calls upon the choreographer's distinct ways of handling the "relationships" between these elements, to create a dance vocabulary Anarchy calls its own, and which has as its vision the exploration of a expressionistic dance style of our times.

> anarchydancetheatre.org

Ultra Combos

UltraCombos is an interactive and new media design studio founded in 2010. The idea of the name "Ultra-Combos" came from the generic term of the three most important divination tricks in ancient China. When looking for novel ideas for our clients, they hope to have broad but thorough thinking just like the "Ultra-Combos" divination. With their interactive technology and innovative ideas, they skillfully combine art with tricks into our creative projects. They are professionals in crossover integration execution services such as all kinds of interactive programs, visual art designs and hardware devices. They provide our clients with various creative proposals, and work them out in accordance with the needs of our clients. In addition, they are more than willing to add more excitements and challenges into each of their new project, for making customized business applications with distinct styles. It is the unswerving ambition and persistence shared by all of the members in UltraCombos. Their team also participates many local and international art events including Taipei Digital Art Festival, SIGGRAPH US, FILE Electronic Language International Festival Brazil, TSONAMI Festival of Sound in Argentina, TodaysArt festival in Holland, and World Stage Design in UK. UltraCombos is a commercially innovative and artistic energetic interactive and new media design team.

> ultracombo.com



PEOPLE Seventh Sense

"People" is the main subject in the pieces by Anarchy Dance Theatre. "Seventh Sense" is a collaborative project between Anarchy Dance Theatre and Ultra Combos to build up a real-time interactive space for all participants including audience and dancers. Not only performers but also real-time interactive media, the entire performance environment is "alive". The whole thing just relates to the moment. Everything happens because of its reason. "Live", the spirit of performing arts is remained. Seventh sense, which here contains the five senses sensory, and also includes sixth sense, "Yi" ("consciousness", "intention" in the language and Chinese philosophy), which allows us to realize our life, which place in the per-

formance venue. The audience is invited to walk into this piece. The structure of whole piece is "event". Because of the audience surrounded by the events, they have to react those events. People couldn't just standing like an outsider, they have to face to this performance; they have to be involved in this performance. Therefore, we can see "people" through those "react", indifferent, fleeing, curiosity, and even positive participation. It shows the character of human beings. Meanwhile, real-time interactive media emphasizes those feelings to make communication between the piece and the spectators. This theater is really close to the people who are involved in this theater.