

# Technology and theatrical tradition in art exhibitions: "Earlier Mona Lisa" in Shanghai

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## ABSTRACT

Light is the connection between objects and human being and it assures visual perception. Changing light the colours and the feeling of painting change.

The new lighting source (Led) offers many advantages and also a wide variety of different lighting spectrum not expected in the past years.

But, very import to know the "language" of visual art.

Wrong light can damage the quality and the aspects of the artwork.

A Important recent research ( 2015) by National Research Council inside the laboratory of Opificio delle Pietre Dure in Florence have investigate the changing of perception with the different light [1]



“Sant’ Agostino nello studio”  
Sandro Botticelli

This painting were lighted with different type of led source: Ra 84 3000 K and 4000 K, Ra 98 3000 K and 4000 K, Ra 92 3500 K and 4200 K.

For the test 25 people are invited : experts in art and other professional skills.

The preference were for the lighting sources with Ra 84 and not Ra 98 as expected. In the Ra 84 the presence of red is more inside the spectrum and the incarnate and other details were more impressive.

What is the Ra? [2]

The colour rendering index (CRI) defines the ability of a light source to identify colours, and is measured on a scale of 1 - 100.

On this scale a rendering of 1 is monochromatic light, and a rendering of 100 is natural sunlight, so you can think of the scale as a measure of the quality of light produced by the source.

For example, have you ever stood under an old street light at night and wondered why the colour of a car or your wheelie bin doesn't seem the same as it does during the day? Although the lamp used in the street light gives off a lot of light, the CRI is very low so the appearance of any colour is transformed.

What does it mean?

Lighting is not an exact science.

It is not enough to study the correct quantity of light, its Ra, and its qualities.

There is a deeper relationship in the act of vision and its reaction to a work.

Importance of the visual experience.

Each work has its own specific character.

The luminous reading of a painting should have the ability to recreate the original atmosphere, the luminous climate present at the creation of the work.

Importance to analyse the psychophysics of vision.

Obviously there are different schools of thought but also related to different types of works of art.

The light in the museum is like the light for the stage: it creates an experience.

For example the lighting designer Scott Rosenfeld [3] in the «Colour Field Gallery» of the Smithsonian American Art Museum in Washington: «Our objective when lighting our modern galleries, especially the one dedicated to Colour Field painting, is to help artworks appear as a natural extension of the white wall. The lighting should subtly ,pop' works off the wall without making them look ,spot lit'. If the relationship between the wall and the work is perfect, it will appear almost to float on the wall.»

The paintings of the Renaissance are different, tell stories, every painting is full of symbolic references, in many painters light reveals the truths and transports the spectator into his world.

Interesting exhibition have analysed these relationships : "In luce, storia arte e simbolismo dell'illuminazione " [4] was set up by the conservator of the Ethnographic Museum, Tiziana Ribezzi, with the collaboration of Lucia Stefanelli from the State Archive of Udine and Lucio Fabi (2015)

The Earlier Mona Lisa exhibition [5] in Shanghai hit me a few years ago (2015) in this logic of research and attention to lighting.

The whole exhibition is focused on the scientific and historical path of the discovery of the painting, a long visual and interactive journey.

In the last room, we enter, in a dark room containing the painting.

The exhibition is transformed: from a scientific event to a theatrical event.  
 The visitor is suddenly transported into a theatrical experience.  
 The painting slowly comes alive, slowly unveiling (about 2 minutes) all the elements of the artistic composition.

The EMT European Museum Technology with the Senior Engineer Dieter Colman have designed a complex lighting system with:

24 LED's, dimmer controlled by DMX ( the dmx 512 is a light control protocol)  
 and dozens of Precision beam (microspot) from 5 – 60 degrees with the possibility of adjusts pan, tilt, spot and flood (CRI 97 3000K)



All products are LUXMAN.



With a Netswitch device the lighting and the animation starts automatically in the morning and stops automatically at night. This also allows local people to use a phone or tablet or laptop to turn on the lighting (with the animation) for a private showing outside exhibition opening times.



The images show the lighting sequence.



I would like to conclude with a quote from Marcel Duchamp: "It is the spectators who make the painting"....An interesting reflection.



Fig.1



Fig.2



Fig.3



Fig.4

## References:

- [1]"How the Visual perception of artworks changes with lights " Elisabetta Baldanzi e Alessandro Farini September 2015
- [2] What is the colour rendering index? from General Lamps Buckinghamshire United Kingdom
- [3]Scott Rosenfeld Smithsonian American Art Museum in Washington
- [4]"In Luce, arte e simbolismo dell'illuminazione"mostra of the Ethnographic Museum of Udine curator Tiziana Ribezzi
- [5]Mona Lisa exhibition Shanghai 2015