Works of light integrated into architecture
Light, colour and architectural expression

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ABSTRACT
For many years I have been experimenting with devices using natural light as well as artificial lighting to create works involving space. Some of these projects were designed for architecture.

1. SOME WORKS USING NATURAL LIGHT
Some of these projects are based on the special nature of reflected light, essentially natural light. My artistic project is to “dematerialise” that which appears to be solid and unmoveable, for example, a stone wall, sheet steel, a partition made of concrete or various materials. Some arrangements play with the fluctuations of light according to the weather. The idea is to give the impression that the architecture has become porous and that it breathes. The characteristics of a building, its use as well as the amount of sun, determine the choice of devices.

1.1. REFLECTED LIGHTS
The colours which appear in the work titled The colours fallen from heaven (fig.1) are the results of reflected natural light on the substances deposited on the wooden lattes. When the lattes are lit from the inside, they are white. To make Reflected gesture (fig.2), the painted lattes when lit from the front are grey.
The materials are chosen as a function of the type of architecture and the desired effect. They are adapted to create the device Solar Wall (fig.3) which is a prototype designed to make ensembles of luminous walls. The structure is identical but the chromatic aspect is variable.

1.2 A NEW STAINED GLASS
Other studies concern the characteristics of light transmission. I made silk-screen printings on polycarbonate sheets and on glass. These works are positioned like stained glass in front of building openings. These creations are particularly adapted to large dimensional glass openings. The polycarbonate sheets or glass are positioned in two
or three coats. This feature influences the colour mixture. The colour of these works varies with the position of the spectators. These works are silk screened on polycarbonate sheets. When the sheets are superimposed, the colours merge. The graphics and colours of each layer are designed so that their sum appears to be a whole. Obviously the dimension of the work plays a role in choosing the technique. *Lights* (fig. 4) was made for one hundred square meter windows. The windows were made from 90x70 centimetre modules. The colours form a spectrally coloured series. The colours of each module are identical but according to the position of the spectator the chromatic mixture varies. Particularly important is that the mixture of all of the coloured lights which go through the windows is neutral, that
is, with no dominant colour. This technique is well adapted to a project like that of the stained glass windows in the « Carreau du temple » in Paris, for the rehabilitation of this 19th century architecture (fig.4bis).

2. SOME WORKS USING ARTIFICIAL LIGHT
My work has brought me to explore certain characteristics of colour and light. This work is based on three specific studies: the differences in perceiving spectrally opposed colours.

2.1. TWO COLOURS OPPOSITE
Azure in a flowering field (fig.5) is an installation in a half hectare field. Two sources of light were placed 2.30 metres above the ground, one blue, the other red. The focal point on the retina is different for each one of these two colours and causes a slight vibration creating an impression of movement on the entire surface of the field. The dif-
ference of focalisation of these two colours on the retina creates a faint vibration giving the impression that the entire field is moving.

2.2. SELECTIVE ABSORPTION OF COLOURED SURFACES

Signal (fig.6) is a large dimensional work using the properties of selective absorption of coloured surfaces. The graphics painted in two main colours on the walls of the building changes aspect according to the colours of the lighting. When the colour of the projected light is identical to that of the painted surface, the wall is light, but if the colour is complementary, the surface seems dark. Thus a more or less marked contrast will render the painted graphic elements more or less visible. Alternating the coloured lights will alternately make each graphic appear. An illusion of movement is created whenever the variations are sufficiently rapid. When the two sources simultaneously light up the painted surfaces, the wall seems to be immaterial.
2.3. COLOURED SHADOWS

Colours of mind (fig.7) is a work using a strange phenomenon of perception. The Saxe-Anhalt parliament in Germany had created an international competition for the realisation of a work designed to decorate the premises of Parliament situated in the city of Magdeburg. A constraint was to use “the phenomenon of coloured shadows “. Otto von Guericke who was an eminent figure in Magdeburg in the 17\textsuperscript{th} century was one of the first in history to have observed this phenomenon. Here are the characteristics. If one lights up an object placed on a white surface, logic would have it that two lights, one neutral, the other coloured would create two shadows, one neutral and the other coloured. In fact, if the conditions are favourable, we see two coloured shadows appear. This characteristic enables the creation, for example, of six colours from three light sources of which only two are coloured. In certain conditions, the phenomenon also is produced with natural lighting.

3. CONCLUSION !..

These works are a function of the « theatricality » of a site and/or of an architectural element. Its dramatic art stems from social life, for beyond the user, the concept of theatricality concerns the inhabitant, the citizen (a). Taking into account the scenographic dimension of space opens artistic creation to a wide variety of expressions.

REFERENCES