Towards an Architecture of Chromatic Immateriality

Pietro ZENNARO
Associate Professor, University Iuav of Venice, Dorsoduro 2196, 30123 Venice, Italy
E-mail: pietro.zennaro@iuav.it

ABSTRACT
For every human being the colour is a sensation. This affirmation hold in his own the tendency to collide with the science purists, that prefer to entrust to the scientific approach studying colour as relation between physical phenomenon, that means the approach started from Newton (1672) arriving to our days. The physicians believe that colour generation is a physical event not really involved with colour, but simply with the electromagnetic or quantum behaviour. That approach is difficult to integrate with all others sciences when a comparison is needed, especially with physiology, psychology, historical and cultural, all merging to the definition the knowledge of “colour”.

Because of visual event not exclusively light induced, it’s needed to support that colour is an expressive and cultural factor, able to involve all the vital processes: physiological, neurological, psychological, behavioural, social and so on.

In parallel, as happened in the history of architecture, we had a continuous and uninterrupted process of reduction of materiality of products, their de-materialization, and one might say exponential, in behalf of the increase of the “intangible” aspects. The colour, in this reductive process, took part not at all negligible. Being intimately joined to the substrate on which is deposited, on which it appears, that reveal or change, held its multiple functions: protective, hygienic, healing, vital, expressive, communicative, representative, religious distinctive, imitative, falsifying, conditioning, and so on. From time to time the colour adjusted it, following the many society changes, and sometimes complying the behaviours and consequences that acted into the social, cultural and material evolution.

Keywords: Colour, Architecture, De-materialization, Impermanence

1. COLOUR SUBSTANCE: THE COLOUR COME FROM NATURAL SUBSTANCES
In the caves of Lascaux, Altamira and those of countless other natural ravines, known or unknown to us, prehistoric man drew. At thousand years away there is still someone who makes assumptions about the motivations that led the “designers of the period” on fiddle, by joke or seriously, leaving traces that are submitted to us thank to a number of their preservation propitious conditions. Here is of little use to understand the act justification, but the effect produced. I am still excited by the fact that, caressing them, the drawings are now in relief. The dye deposited on the stone surface has played a protective role, by ensuring that moisture, by dripping water, the frost or the cold air itself, consumed parts free of pigment.

The colour, understood as a substance capable of generating colours, is capable of protecting, together with repre-
sent. In all the architecture or in building techniques writings, when the colour is mentioned, these two aspects seem to be the only ones to be taken into account: protect and represent/express. For a long time this was the dominant thought in terms of colouring (as Donghi said).

Is the era, which lasted for a long time, in which the colour-generating materials derived directly from the nature, or as result of low tech transformations. Clays, dusts, coals, liquids coming from plants, animals or any kind of animate or inanimate form, are the palette of substances capable of generating the colour to be deposited on any medium. Undoubtedly these are the substances considered by man, yet not charged of meaning, only as a tool, a kind of working tool that produces a result. So much so that in many cases the tools equivalents of the brush are fingers, hands, feet.

The improvement of extraction and production techniques of colouring substances travels hand in hand with a cultural transformation that requires more sophisticated representations, where the colour coating of surfaces and objects becomes necessary to celebrate someone or something.

When it is no longer the need for survival to totally influence the lives of human beings, slaves of essential needs, which leaves only a little idle time when someone may attempt in unproductive activities in which there is also the design decoration. In that moment begins a new way to consider the substances. These vary the statutes, from indifferent to their jobs they take a charge of signification, they become materials.

2. COLOUR MATERIAL: THEN IT ASSUME CULTURAL IMPORTANCE

A material may be understood as a substance or matter, because it has mass and occupies space. The moment at which the material undergoes interference by external factors of anthropogenic origin, it acquire a charge of signification and undergoes a radical transformation. A material becomes so when the matter is invested by some deliberate action external to his being. “Such exogenous interference loads the field of meaning, is named, in the sense that is given a name, is inquired, in the sense that is characterized by performances, is given a metaphorical sense, in the sense that are attributed meanings outside his own essence” (Zennaro, 2000, p. 91).

Also the colours, when interpreted as coming from some matter, obey to such rule. Indeed the names of the colours, in every language, are intimately connected to the materials or to event they represent, or to some historic-cultural aspect. For example the red colour is not clearly defined if is not followed by another noun or adjective. The fire red colour is remarkably various from the blood red, the purple red one, the Cardinal red, the red-faced one, the amaranth red, the poppy red, from the clear red one, dark or showy. The green, in its turn, equipped of a long poisonous history (in viridis venenum: in green poison), can become green from bile, green copper, green sage, pea-green, green march, water green, and down along a list that could be endless.

In the history the colour always is held in great consideration, of big importance from the point of view of the social distinction. Still today it maintains its charge of mean in many aspects related to the religions, the racial distinctions or discriminations, the prohibition and the permission, the signalling and so below. In short the colour has always been the most important phenomenon for every age. Furious arguments have been alternated around its employment in the religious expressions, so like in those social and cultural ones. Its influence never is put aloof, and indeed has en-
joyed attentions, above all in the representative function. Its use in architectures, in interiors or outside, has covered a necessary role. Splendid examples of this age of the colour material have seen the light of day to Knossos, in the Egyptian pyramids, in the Pompeii villas and down along an infinite history of beautiful imitations of the nature and illusionist inventions that a certain use of the colour has allowed to obtain, and that still today we can appreciate on the walls of some buildings of the Veneto urbs picta (painted city).

Great painters and sculptors, as well as great architects, haven’t had to contend with the colour physicality and the combinations of substances, whose formulas had in some cases something magical, alchemic, gave the solution necessary to attain certain artistic results. In this period is the culture, custom, tradition, social interpretation to classify colours. There are no formulas or measurements possible. Is the era in which the colour of dress is sign of social level. “Indeed, along all the Middle Age, striped dress is considered diabolic, and therefore banned everyday people. Dress with striped or two-coloured is shameful, imposed on those who don’t belong to the Christian society or living outside of it: Muslims, Jews, heretics, bastards, servants or serfs, prostitutes, sentenced, jugglers, musicians, clowns, the devil and all his creatures” (Zennaro and Gasparini, 2007, p. 129). Even today in some hierarchical events the colours of dress determine the extent of the wearer (the Pope as white, the Cardinals of red, the priests of black and so on).

When society changes, trusting the advent of new machinery, new production systems, where the precision adopts the temporal space organization in the world even the colour can only obey the new order. The colour becomes measurable.

3. COLOR MEASUREMENT: THEN SCIENCE APPEARED

Man has first made a quantity of tools, techniques for improving his living conditions, then the machine. This apparatus of knowledge and practice has accompanied the evolution till today, when science, technique and technology have entrusted the destiny of survival.

This attitude towards the knowledge of the material world, allowing you to achieve more ambitious goals, always needs to adopt a scientific criterion in the issues understanding. Science is essential to understand the mechanisms that govern the new approach, but needs to measure every thing and every phenomenon, without exception, if wishes to pursue its goal of knowledge.

Therefore, the colour can’t longer be considered a scope that only responds to social rules, measurable with great difficulty or even impossible to quantify and qualify. It is much easier to understand the phenomenon in its physical terms and locate some rule that lie within limits. That’s exactly what Newton starts to do with his experiments of refraction of light.

Suddenly the colour no longer exists, it disappears, swallowed by the voracity of white light, which seems to contain all frequencies of colours. In one moment are erased centuries of searches that had honed materials, techniques and instruments, in order to manage and control. Some districts, where the main activities were of dye type, far one each other, both physically, both for the diversity of working in the sense that artisans dying fabrics of red not shared spaces and knowledge with those who were of blue ones, are devoid of origins of separation. The dyer job has always been heavily fragmented, even by city. With the advent of industry, which needs to have certainty, continuity and constant result and, which relies on the technology, understood as an intermediary between science and the technique, the
colours can all be worked in the same place. Their classification, that had already had some precursors (ex. Fludd in 1631), takes shape starting with the chromatic circle of Chevreul (1864), developed more precisely through a strict classification, separating the three primary colours from any other. By combining the primary should descend all other, defined as secondary, ternary, quaternary etc. In short the colour, with the advent of science becomes a scientific construct (sometimes pseudo-scientific), which puts aside his long history. The real split occurs between chromatic colours, of whom only three have right to mastery, and the achromatic range that goes from white to black. These two, in particular, it does seem to be no more colours, but placed in a sort of limbo functional to complete the range of the other colours.

This distortion affects not secondarily the architectures. Are rare cases when the facades of buildings or interns are decorated. Only some artistic movements of the late 19th and early 20th century adopt still chromatic decorations (Secession, Art Nouveau, etc.). The scientific measurement and the new classification push to manage the colour in another way, by coating the surfaces of unique colours, mechanically geometric decors. Moreover, the machine era celebrates the movement, the instant, the rapid change, and no longer contemplation of something that is static and immovable. Is no longer the tale to communicate through images that meet the new era, but impermanence, change, consumption. The new society needs different messages than the past.

4. COLOUR-CHANGING: THEN THE COMMUNICATION

“The medium is the message” supports McLuhan. With the advent of the society that bases its development on consumption we need to convince the population to consume. The production and consumption cycle is the vital engine for the new economic structure. How do then to persuade the population to consume more and more? Probably convincing to change his lifestyle through the transmission of messages, transmission that finds some privileged channels in the tools used to send information. The media, fundamentally one-way, in the sense that doesn’t allow the opinions exchange, like those direct interpersonal and not mediated, constitute therefore the message itself. This all happens because these tools employ predominantly the colour. The colour discriminates and makes possible all speeches broadcast mass media. But what kind of colour the new media need? They aren’t those who served the painter, dyer and all workers devoted to static representation on durable physical media. The new operator uses colour printing, photography, neon lamp, the cathode ray tube.

In turn the architecture should compare with le colours derived from artificial light, from materials that have lost a big amount of substance, or that have replaced this with thin film layers covering the wall surfaces. The glass and synthetic materials, combined with those that don’t come directly from nature, but produced industrially, in casting or composite aggregation, produce the new building reality, configure new landscapes. The new man-made environment generates and needs, in the meantime, artificial colours.

The artificial colour derives from chemistry, from electricity and electronics. Therefore its validity is all part of the science and technology source. Is no longer imaginable a colour that has some link with biological existence, with nature, with his rhythms and sequences. Finally seem to be missed all the uncertainties, areas of random subjects reported physiologically by the messages receiver. The calculation has pervaded every sphere of life, conditioning and dominating with the precision of computer processing that first infiltrate into the research centres, and then dis-
tributed widespread increasingly in every nook and cranny of society. Throughout all these messages architecture, which has already experienced a dematerialisation, which hit both its tectonic structures, both individual walls, external or internal, require a further reduction. The shape, which seems to be the only inalienable aspect of architecture, had to confront the new information empire, down to its essence. A kind of minimalism hit the architecture, by determining the new landscape, thus affecting necessarily also on all colour aspects. The colour no longer needs to beautify or protect. Inherently belongs to the new environment and, beyond the single communicative function, no longer has anything to offer. The colour of this period is only functional to demonstrate the technique power. It’s emptied of historical and cultural meanings, deprived of distinctive peculiarities of social separation, degraded to signal for beings-automatons who have forgotten their origins and purpose of existence, captured by the frenzy of consumption to be identified as beings.

The technique, for its part, has one single goal, to improve more and more. To do this need of science, that continues to define increasingly widespread the rules that manage what is natural and requires technology that moved to products the new discoveries. In everything the materiality of the world is an obstacle that somehow needs to be passed. It would seem more appropriate a new environmental context, completely immaterial. Need something that is free of permanence, capable of changing continuously. An ephemeral world would be.

5. COLOUR EPHEMERAL: FINALLY THE IMPERMANENCE

The artificial world has increasingly expanded its territories, by reducing or cancelling the possible influence of nature. The materials used for buildings have become increasingly artificial, light, and impermanent. Architecture, having to represent its own time, seems to have forgotten each reference to the form, devoting her to only representation. Technology, abundantly able of conditioning the realization, seems to follow a significant architectural kind of delirium of power. This hegemony seems to weaken every possibility to recuperation of thought. The latter is confronted with situations never before brought, totally unexpected. And colour?

Disregarded each relationship with materials, the colour can only become manifest through contemporary structures. These belong to the so-called artificial intelligence, able to generate real-world simulations, impersonation using screens, led, projections and all structures able of producing a quantity of colours, which reach beyond perceptual capacity of subjects. In fact, computer screens can display millions of colours, while the body tracking ocular-cerebral cannot go beyond 100,000 colours, including the smallest nuances.

Exaggeration and exasperation of useless seem to have become necessary. It’s to prove definitively that we live in the age of the technique empire. The technique may not show limits, because need to be overcome as soon as a limit appears.

The colour of architectures, therefore, take place on the surfaces, following decisions planned far from the architect design, inside the production and computer science. That happens because of involuntary confluence of multiple competencies (electronics engineers, programmers, physicists, mathematicians, etc.) and because messages to be transmitted by the walls have the only purpose of entertaining, shocking, impresses you, but only for a moment. Are colours that in turn increase the tone and saturation. The architecture of astonishment never goes beyond the fleeting moment, become a toy, a call to the next subject.
Impermanence that connotes the contemporariness colours is emblematic of our time, where there is nothing left that deserves to be celebrated for whatever duration.

Probably the only one thinking able to counteract the technological delirium might be the artistic thinking, the only able to detect new roads for the future. “No one can see many opportunities. Forecasts and advances seem all still excessively not up-to-date” (Zennaro, 2009, p. 154).

REFERENCES