1. The conscious vision and representation

The graphical representation is in its true essence a tool to explore both what you see, and what you do not see making it visible, capable of realize a simulacrum of an object that represents both the reality and his fiction.

This type of representation embodies a code of intellectual understanding of the world and, for what interests us, tends to consolidate the urban and architectural image, shows the membership of a building and urban category, confirms its origin and correlates it with the cultural matrix.

However, not everything can be usefully represented by means of a so-called traditional figurative system of the drawing, and the sketch, for which represent mean compose analog and symbolic forms identified by lines and colors.

Visual communication has assumed a wider dimension, also determined by the rapid technological development achieved by the production of images. In front of at same problems do not always the experiences conventional capture all the expressive possibilities. The result may be more immediate if, for example, a building is represented by an electronic simulation of exploration of a digital model, rather than from a drawing survey.

Indeed, the contemporary visuality, which is pervasive of the physiological and cultural experience, to the detriment of any other sense, exercised an pressure colonizing of the consciences - although with the stated purpose create a general consensus on consumption - this by replace almost completely the view of the real world and often replacing it, and feeding on the visual materials more and more "realistic" to reproduce it.

The process of graphic communication comes from the observation of natural and artificial phenomena for relations with the theories that justify them. You are in a position to visually outline an object and describe its structure, that is the particular state of relations with which certain phenomena occur in it. On one hand, cognitive processes, at the origins of which there is the perception, the other side the processes that we can call ideation.

But as are formed the ideas, meant as elements of mental discourse or as a specific mental discourse? All one has in mind, comes from data collected by the senses that give specific content to the different mental operations. The relationship between the feelings and the ideas is probably regulated, as hypothesized since the eighteenth century, of the theories of associationism who imagined the complex states of mind governed by principles and rules of association. The join or not join of the single sensory data, their relative permanence and their combination, was supposed to be
subject to mechanisms that in time were hypothesized and that still today the neurosciences have not been able to explain them completely.

The continuous discussion on the topic, have produced interest formulations on the way of the identification of some hypothetical principles followed by the associative process. Concepts such as those of: Succession, Sequence, Series, Similarity, Opposition, Coincidence, Simultaneously, etc., up to the more vigorous position of the associationism supported by James Mill who said: "Our ideas are born in the order it has followed the sensations of which they are copies. This is the association of ideas, an expression which, remember, is not intended to indicate other anything than of the order in which they occur"\(^1\). Always Mill, explained our perception of physical objects as the result of associations "synchronous", namely the shape, size, weight, color, etc., that form our perception and therefore, our idea of an object. This would seem to also apply for the chance to learn and understand the language and graphic language that depend on a sequence of associations between objects, words and signs, in accordance with rules that describe the sequence in which usually occur.

Mill's son, Stuart, have developed and completed the formulation father, arriving find the mental mechanism that allows us through the memory of past sensations to construct a priori the idea of possible sensory states and to anticipate them. In front of short and transient sensations we are able to conceive of physical objects as permanent entities, we expect to have those feelings in a durable manner. Expectations or anticipations, allow us fill in the gaps of sensory flow and together form our personal knowledge of the perceptible world.

At the thought of the schools of 'associationism', was added in the last century, the contribution of the supporters of the psychology of Gestalt, who completed it, honed it, and above all opened the world of visual perception and of the imagination.

The field is known, the psychology of Gestalt, of the shape, or better of the organized form, argued, inter alia, that observing a phenomenon, from the beginning, we perceive the whole rather than its parts, that is considering the phenomenon in its entirety not as a sum of components. This takes evidence in the visual perception and in the so-called optical illusions, and above all in the famous experimental drawings, that observed in two different views show different forms of interpretation never perceived simultaneously\(^2\).

But, the concept of Gestalt perception as sequence of actions next time leads us to face - although in a form perhaps too brief - the theme of communication and improvement of ideas and of course of the conscience as well as faced by cognitive neuroscience.

It is a complex concept and therefore difficult to insert into a single definition\(^3\).

To simplify, we can groped to think at the conscience, premising a fitting metaphor, as well as explains the Boncinelli\(^4\).

He considers the operating procedures of first-generation computer, which defines the serial, which is regulated by the execution of an operation behind the other, i.e. sequentially, and the contrasts it to that introduced in the latest

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\(^2\) For groped to understand how the perception of reality (or the representation of the already received and then release) is structured in units, some laws were identified (mental or cognitive mechanisms) defined "training units phenomenal", which in their view, overseeing the formation, amendment and development of ideas, not unlike those identified dall'Associazionismo, albeit with different ways, refining, and completing them.
\(^3\) Boncinelli identifies three types of conscience: the awareness, explicit and shared self-consciousness and phenomenal conscience. See E. Boncinelli, op. cit.
\(^4\) See E. Boncinelli, op. cit.
generation of computers called parallel, multitasking\(^5\), and which compares with our nervous system, that is organized to operate in parallel because at the same time it leads to the cerebral cortex dozens nerve signals coming from the senses, the so-called “neurostati”, while our conscience, like computers less advanced, select them in sequence. In other words, conscience can be considered a process of serialization of mental and nervous events perceived at the same time.

The emergence into conscience of a mental or sensory event is due to the temporary alignment of a number of parallel nerve processes, in a serial sequence in temporal succession, becoming "psicostati".

The forced serialization of parallel neural events is a process that shapes our perception of the surrounding world, our actions and the our storage. An act of conscience can start because we are affected by a specific event, and evolves in a process fact according to confirmations and confutation of the expectations of what is to happen on the basis of what we know based on our personal experiences\(^6\).

An episode of conscience, may contain mixed in different proportions, a nervous event (perception) and a mental event (planning-conceptual). This alloy the conscience to the language – in which is realized - i.e. at the human ability to combine observation and imagination.

If the external stimuli are acceptably conform to our expectations and to our ability to interpret it, the act of conscience continues (so we can get an idea of the observed phenomenon), or the episode ends\(^7\).

From this point of view, the process of conscious observation, but also that the conception and elaboration of thought, driven by the need to isolate the separate components of a phenomenon, and then serialize, show it at the conscience in time sequence, using each technique, each type of representation that so permits. Often the understanding, the birth of an idea and its representation are whole, and in this sense several, have been the awards of the prominent role, for the construction of knowledge, of the representation techniques.

Physically at this stage, we express ourselves taking by a vast repertoire that includes the sketch, the graphic note, annotation, the mark on a representation exists. We use a graphical language very personal because the images are used to discover, invent, simplify, in an act that is substantially self-communication.

But the idea, came to light, produced by the conscience, consisting of “neurostati” serialized, can be communicated to others, and to ensure the effectiveness of communication we must strive to build our messages, based on the mental mechanisms of understanding of the phenomena, that appear to the conscience, well that use of the repertory of signs that have available our stakeholders.

The logic of drawing and science of the representation uses, reproducing the lines and angles, analog instruments that allow us to address and solve problems. So did the Euclidean geometry, so do the projective geometry, using a model that reproduce the mechanics of vision eye, to draw shapes similar to those perceived or conceived, helping us to understand as well as to see.

\(^5\) In fact, this mode allows the processor to run two processes do not simultaneously, but in quick succession and alternating current.

\(^6\) We recall the concept of “anticipation” of the Mill, and the role it has in the perception of reality.

\(^7\) It is inevitable that when consciousness is present to a certain state of affairs that take an emotional coloring, that compare with the emotional reality. The emotional involvement is very strong, our every action is accompanied by more or less intense emotionalism, which refers not only to the vicissitudes of real life but also to imagine and promised to mind, and is the essence of our individual conscience. The emotional life but never abandons us, to emerge, events must take advantage of the serialization of elements most closely associated with it. Cfr. J. Ledoux, *Il cervello emotivo. Alle origini delle emozioni*, Milano, Baldini Castoldi Dalai editore s.p.a., 2008.
Represent is to simplify. Among the wealth of the components of a real phenomenon, we operate a selection, according to a criterion or point of view, to put them in sequence, make choices, and then identifying the categories of representations, for example according to the degree of interpretation, i.e. the level of iconicity, but also the graphic technique or attributive, of the degree of use of conventional standard signs, as well as the Moles\textsuperscript{8} classification of in the early sixties of the twentieth century.

Or, as more recently did the Purini\textsuperscript{9}, pervaded by a pessimistic view about the quality and quantity of visual material produced in the contemporary world, calibrate the communication on the importance and duration of the object of representation, distinguishing the categories (spheres), consisting of messages “mobile, hybrid and ephemeral,” as those conveyed by the advertising, the television and the cinema; then those visual materials provided by art and science, present mainly in the documentary equipment accompanying the book; and finally those with more accentuated durability that relate to the images of the physical world, landscape, cities, buildings.

Comes to mind the myth of Plato’s cave, and that group of people forced from birth to visually explore the world only through the shadows of statues of men, animals and things projected by a fire lit behind them and brought there by men silent, and then imagined free to reach gradually the light and observe and contemplate directly the forms of nature. Those men whose reality figurative had been the vibrant shade of an object on the cave wall, which is a schematic representation willed by others, will can recognize the shapes of the world, because prepared of the knowledge, or from the conscience of their representation.

“ They are the images that invite at the reflection prepare to know the truth”\textsuperscript{10}.

2. Old city and new scenarios: a denied horizon

The city of Bari, often on the borderline between an important steps forward and sudden setbacks, between brave predictions and escapes in the tradition, offers diverse urban settings in which the opening to the Adriatic Sea is not always a guarantee of innovation. Some areas of the city appear to have any future. Unchanged and mute for a long time, these areas are not open to renewal, except for an act of imagination, visionary and creative act entrusted to capacity of the designer that foreshadows an event, that measure it, applies a method, building rules, select the visual noise, listen to the voices of those souls that space and develop the project. The task of translating the data of reality in graphic design, of developing ideas and turn them into images, has been entrusted to digital design. 

*Bari Urban Visions* intended to be a meeting place of ideas, expectations, which is reflected on the identity of the places where the city is tested to verify its ability to host between its historical traces and its consolidated physical weight, new forms, new languages, new architectures, and develop a possible model for urban growth. The search for the identity of places and the desire for change, find their expression in the draft of *Bari Urban Visions*, built with faith and patience by the students of the Design Courses, inspired by a visionary and a creative ability that has opened a new horizon for architectural research and for debate over the city.

\textsuperscript{8} A. Moles, *Informationstheorie und Gelstaltung*, Ulm, Seminar, 1965.
3. Bari Urban Visions: the research project

The project starts from real situations, from real places, and from unresolved and complex spaces of the city of Bari. The project aims at the rehabilitation and the enhancement of the site that it was chosen to exercise the own expressive and creative abilities and to experiment new languages and new forms of representation and communication of ideas. The project is expounded through the search of a new image, in all directions, that is obtained elaborating visual and graphic material and crossing the threshold between real and virtual. The project goes through the teaching experience at the School of Engineering of the Politecnico of Bari, that deals the relationship between information technology, architecture and digital environments, where the digital design is the "place of learning a new system of cognitive and creative values"12 and it is the main tool to read and tell something. The digital design has the task of making visible and understandable the creative process of interpretation and manipulation of space. The project is developed through three matrices: visual, constructive and interactive; each of them represents a precise stage of the creative process.

3.1 The images search: the visual matrix

Figure 1. Visual Matrix and the reference models - Thematic graphics tablet in Computer Aided Design course at Politecnico of Bari (students: Giuseppe Ruospo, Gennaro Sinisi)

In the first matrix (visual matrix), we explore the infinite visual backdrop of images from the web that tell of the city not yet built and buildings not yet constructed through digital models and virtual reality spaces. An image search on specific topics, to create an archive of visions, and situations drawn from the virtual world and to draw inspiration in the design phase. The digital images which constitute a virtual reality helps to broaden the concept of representation, especially in the production of iconic images and hypertext in the communication of architectural thought.

On the web, where we wrapped up and screened in parallel realities, so we could feel exposed to emotions such as joy, surprise, fear etc., the images are selected and analyzed according to the object that is represented, the visual language used, the representation technique, the adherence to the identified challenges and goals.

3.2 The story of the place and the image of the city

The passage from the virtual to the real world is through the identification of the work area in the urban contests of the city of Bari. The choice of the work-area is focused on those areas that have a compromised or hidden identity, unstable systems, transit areas, etc..

The research on the identity is not a secondary objective of the project and it follows every stage of the knowledge of this place and leads the graphic definition of the work-area.
A tale told with pictures that starts from the observation and the description of the place. The tale of the city, in its actual state, is entrusted to the digital tools of visual communication and spatial representation, such as photography and digital graphics, video and three-dimensional modeling.

To investigate the relationship between architecture and contemporary visual languages is the specific objective of the research: the architecture becomes the protagonist of the process aimed at upgrading knowledge and enhancing of the rich and complex architectural and urban heritage, through the construction of images, to implement the existing documentation, to provide new data elements to communicate and to suggest new design strategies.

The results of the visual matrix of the project is the targeting of the visual noise and the negative aspects relating to the work-area that has been chosen.

3.3 The project between real and virtual: constructive matrix

The second level of *Bari Urban Visions* is defined by the construction and texturing process of the 3D-model: this is the phase where you create a completely new images of the city, reconstructing this space with architecture, surfaces, new objects, etc. and developing a project using the stored images and letting the characters and the language of the virtual world, through montage and solid modeling operations. The functions and the contents of this new architecture respect
the characteristics of the real city and, in the form of digital images, they are entered into the existing space modifying and creating complex images with multiple expression values where it is difficult to find traditional references.

And it is here that the representation is the thought, idea. In this radical form of graphic design the project idea is contaminated by the mass media, in which digital images hide something real and show a new events, in a continuous motion that mimics the action and virtually simulates the perception. The imagination is guided by the ideas that need to be clear, the result of a careful look, scientific and conscious look, and the it is the result of research and study. The Projects of Bari Urban Visions do not tell the city through plants, elevations and sections; in most cases you can not recognize the metric scale used but they repaired breaks, interrupt serial events, reconstruct missing parts, replace items with others, fill empty spaces, clear the full spaces, insert new objects, give shape, color and light where there is anything, and suggest activities. Some of these operations are such extremes, but all turned to suggesting possible strategies of composition and design and encourage debates. In Bari Urban Visions we work on surfaces, spaces, forms that allude only to the content and whose vision is postponed to a possible future implementation of this project.

3.4 A (urban) story to tell: multimedia and interactive matrix

Figure 4. Constructive Matrix: the contraction of the new image of the city through the photo-montage of the reference models - Thematic graphics tablet in Computer Aided Design course at Politecnico of Bari (students: Giuseppe Ruospo, Gennaro Sinti)

Each project in Bari Urban Visions ends in the third and (for now) final stage, in which the designer, following the considerations relating to the specifics of the project and compared to the ideas to communicate, takes on the role of
director of the complex system of data that result by the previous phases. The choice of mass media submit the project to the check and delivery it into the hands of citizens.

The new visions of the city of Bari Urban Visions are told through the development of communication projects where the video is a tool that have a great potential of expression since it allows the vision of an architecture in its context and its possibilities of use. It includes, summarizes and updates the traditional methods of description of the architecture in a better form suitable to the media, immediate and understandable. The animation video tells a story to be discovered and defined yet, perhaps, among the many possible, to suggest other plots by visual impulse. The architectural space described by the moving image introduces the definition of a figurative code used by the project, in addition to other codes (such as photography, drawing, writing) that govern the reporting of objects of study and contribute to build an overall image to which you assign the value of a paradigmatic model of reality. Measured with this instrument and with figurative language such as film, applied to the theme of the city and the representation of architecture, to communicate, among other things, values and identity, suggests a number of issues and openness to new themes. As the instigator of ideas, the video aims to reach all recipients of the project, offering an immediate approach to the content, to the message and to the fulfillment of the project. It makes the architecture more understandable not only because it is virtually reproduced in a figurative sense, but also because the video tell this story through the visual communication that submitted the projects to the attention of people in visual form. In this way, the video becomes a tool that produces visions, solicits comments and encourages the emotional involvement. The research, in this sense, attempts to address the need for improved communication between technicians and between them and the future users of the project: consider, for example, the participatory planning and the difficulties that the personalities involved in this process meet during the debates, round tables and discuss the issues. It is very important to facilitate the transfer of information from one category to another so that the process is not likely to be assessed in all its aspects.

The communication of the project, in addition to the videos, is through the establishment of thematic drawings. On the same support (computer, as well as a paper) live heterogeneous elements together. The 3D-model of the work is integrated with other tools for communication the project ideas: the images produced through the operations of photomontage and rendering, design drawings, preparatory sketches and other graphic element that has contributed to the genesis of the ideas represented.

4. Towards a sharing model of ideas

Today Bari Urban Vision is a box ideas still only addressed to the academic world; it is necessary make the project more visible through the definition of a model to make it shareable, available online, to stimulate the debate on the development of the city. This project must broaden the horizons towards Apulia, starting a dialogue between the different actors of the transformation process, through a network of topic projects.
References