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Geography education's: a new approach to urban environment

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Pollution visuelle, Education environnemental, Livourne

Livorno is intended as a paradigmatic case-study. Indeed, after World War Two, numerous Italian cities, above all those heavily damaged by the war, have grown similarly to Livorno. Therefore, the Tuscan city should not be considered exceptional: visual pollution and its effects could be easily observed in every Italian city, and outside of Italy too.

1. Interpretation, planning and design in post-WWII Italian city

During large part of the Twentieth century, urban and territorial planning determined a radical renewal of the territorial assets. Such a renewal has been particularly relevant in Italy. After WWII, industrialization and urban growth have been rapid all over the country, with usually negative outcomes. Indeed, theories concerning the form and structure of the industrial city have been applied in quantitative terms only, with scarce consideration of quality. Moreover, historical identity of the cities have usually been ignored. Therefore, inherited assets have been rapidly altered all over Italy: the territory, indeed, has mostly been considered as a 'white sheet' on which the monofunctional buildings necessary to the modern industrial and post-industrial societies have been built, with no regards to the local peculiarities (Magnaghi, 2001, pp. 7-11).

Such an attitude has surely been facilitated by the war damages and the consequent need of reconstruction. The 'new' has been chosen as the only way, applying the banal identification of new with good, despite the several aspects and qualitative levels of the concept of 'new'. Therefore, traditional vocations of the territory have been destroyed or at least altered. In history, the image of Italy has been associated with beauty and aesthetic qualities in urban, agrarian and natural areas. Regions such as Rome and the Roman Campagna, Florence and its surroundings, the Sorrento Peninsula, and so on, have all been enthusiastically described and lived by innumerable artists, writers, travelers, etc. (Lanzani, 2003, pp.19-20; Brilli, 2006). Italy was considered as the emotive multiplier of historic and artistic suggestions heroically and romantically amplified by the landscape frame of the country. Summing up, Italy was considered as a place where art, nature and life were in harmony (Botta, 1989).

After WWII this long-lasting tradition has been altered and often destroyed in order to adopt 'the new'. Moreover, 'the new' has not given an answer to the needs and demands of the people. In this way, functionalist and rationalist purposes often at the base of settlement and architectural choices have been deceived too. Good quality enclaves have therefore been surrounded by a massive urban sprawl without quality. Uncontrolled building determined the 'real estate flood' typical of post-WWII Italy, which characterized the bigger cities, the small villages and the tourist resorts (Lanzani, 2003, pp. 16-19)

Modernization of Italy could be interpreted as a 'real estate flood' due to its massive and invasive character. The institutions responsible for the urban and territorial planning aimed at exhibiting some works and buildings (industrial areas, pay- and free-ways, viaducts, power lines, antennas...). Indeed, such elements symbolized the abandonment of the traditional agrarian society in favor of a new, modern and technological society, linked to the 'progress'. Development and modernity, in contrast with rural values, were exhibited, almost screamed out

in order to underline the social and economic emancipation of the country as a whole. Therefore, the building elephantiasis of the 'palazzinari', contradictory with the Italian traditional settlement, found its roots, and also persists today (Rognini,2012). Indeed, building expansion continued after the post-war emergency, with even more evident building speculation and massive land use. The quality of public spaces has been particularly compromised, due to the attention to the merely monetary value of the buildings. In most cases, streets have been created or transformed with attention to cars only, with scarce or no consideration for slower means of transportation, such as bicycles. Meanwhile, pedestrians have also been marginalized in the modern Italian city.

However, in recent years a new society has formed, dazzled no more by certain myths of progress and their emergency declinations typical of the immediate post WWII era. The new society searched for and requested more qualitative settlements.

In particular, attention initially focused on historical settlements. Indeed, their quality contrasted with the lack of quality typical of post WWII settlements. Later, a more general settlement quality was searched for. This new cultural environment is critical to the 'new'. In particular, a sensitivity has recently grown towards the visual pollution of the everyday environment.

2. Visual pollution

In general, the term 'pollution' refers to the insertion, by human beings, of chemical and physical elements altering the inner and external equilibrium between the environment and living beings. Such an insertion derives from actions influencing the equilibrium itself, with consequent reactions. During the decades between the Twentieth and Twenty-first century, pollution has grown. Indeed, both the sources determining it and the individual and collective sensitivity towards it have grown. Therefore, a new form of pollution could be identified: visual pollution. In psycho-physiology, visual pollution refers to the saturation of images to which human beings are subjected every day. Such a saturation compromises the capacity to manage the informations which have access to the mind and the brain in its recognizing and classifying activity on the base of subjective criteria. Together with the quantitative elements, we could also find a qualitative one, according to which visual pollution could be defined as the alteration of a spatial unity under the influence of incongruous acts. These incongruous acts are unpleasant for the viewer and could induce discomfort.

The impact of visual pollution on men is both sensorial and aesthetic. It could negatively influence the quality of life. Indeed, the elements that form the viewed space are a relevant parameter in order to determine the human wellbeing. All the people search for places that are capable of lifting them up with a sense of harmony, vivacity or uniqueness. For the same reason, we escape disordered, dull, and banal places (Rognini, 2006, pp. 490-91).

Psychological research has demonstrated how Gestalt Psychology is what visual perception is based on, with particular reference to the relation figure - background (Koffka, 1935; Köhler, 1922, 1940 and 1947; Wertheimer, 1959). According to this theory, in order to individuate a shape and a subject, the viewer should separate it from the background and perceive it as an autonomous entity. Therefore, altering proportions, inserting elements which are incongruous in terms of form, color, and dimension with the rest of the view, and the exaggerated confluence of visual stimuli in a place could affect human perception, inducing a sense of overwhelm, stress, personal and social discomfort, aggressiveness, isolation, and depression (Milgram, 1970; Scherer (ed.), 1981; Fuligni and Rognini, 2007). A remarkable and mutual link between man and the perceived environment could be found, according to a circular scheme. Relevant studies have been developed in this scientific field. Amongst other scholars, we could name Rainwater (1966), Baron, Byrne and Kantowitz (1982), Campanella (1995), Wilson e Kelling (1982), Bandura and Walters (1964), etc. Results of the researches by these scholars, found that inhabitants living in neglected places are often stressed, marginalized, and alienated; they frequently reveal an antisocial and violent behavior; moreover, they often vandalize structures which are perceived as visual pollution. Therefore, visual pollution not only could determine negative aesthetic effects, but could also induce psychological and nociceptive stimuli capable of compromising the wellbeing and the quality of life of people. Moreover, tolerance and inurement determine an unconscious reception of visual pollution, inducing a mental disturbance named "Syndrome of false adaptation". False: indeed, perceptive systems and psychic reaction induce a discomfort which is not consciously perceived.

3. Taxonomy of the landscape

Landscape could be considered as an individual mental construction. Indeed, it results from a psychic selection of the elements which are viewed in relation to both personal and objective interpretations (Turri, 1983, 1998; Guarrasi, 2002; Barocchi, 2005; Vecchio, 2002; Mezzetti, Santuccio, 2004; Lynch, 2006; Wylie, 2007). The personal and sensorial perception of the landscape could induce, in the perceiving subject, an aesthetic enjoyment on one hand or an

unpleasant discomfort on the other (Rognini, 2008). These two reactions could alter the state of mind. Therefore, we could depict an 'emotional geography' cartographically representing the 'wellbeing places' and the 'discomfort places', according to the psychic reaction of the subject or the population exposed to landscapes (natural, agrarian, urban, industrial, etc.).

Presently, it is impossible to associate the concept of landscape with the 'beautiful view' of a postcard. Landscapes continually transform and transfigure with new industrial and commercial 'big boxes', intermodal ports, viaducts, etc. Industrial, technological, and urban landscapes, with their maze of streets, buildings, traffic, and billboards, represent an ever-changing world. Therefore, contemporary landscape could cause anxiety and criminality (Serafino, 2008), depression, and emotional and cultural disease.

In particular, the agrarian landscape is characterized by the form consciously and systematically given by men to the natural environment, while practicing agriculture (Sereni, 2007, p. 29). The physical qualities of the soil and the territory, added to specific productive techniques, generated diverse landscapes. For example, agrarian models prevailing in Europe determined a unique agrarian landscape, historically stratified in specific regions. Some of these agrarian landscapes have survived despite recent technological innovations. Others have been destroyed or are hardly recognizable. Others are presently similar to the past: for example, Mediterranean gardens and orchards, open fields, and sharecropping landscapes have not been substantially altered. The latter ones are typically related to Central Tuscany. These landscapes are characterized by trees, mixed cultures, and disseminated settlements (with particular reference to the *poderi*, i.e. traditional Tuscan farmhouses). They are landscapes resulting from a seven-hundred-century sharecropping relationship between land owners and farmers. Aside from these traditional landscapes, a landscape resulting from the modern, intensive agrarian practice also exists: it is a landscape which is totally mechanized, banal and conform, where an evident separation between the urban and the rural contexts is hardly found (Finotto, 2004). Moreover, the landscape of abandonment and marginalization typically related to the mountains is found. There, contemporary agrarian techniques are difficultly applied (for example, large part of Garfagnana, Tuscany).

4. Livorno as a symbol of the changes in post-WWII Italy

The general situation of Italy is emblematically reflected in Livorno, a city along the coastline of Tuscany, founded by the Medicis in the second half of the Sixteenth century. The city was

founded and has grown in the modern era and was initially a very particular urban settlement, characterized by the Renaissance theories of the ideal city (Matteoni, 1999, pp. 11-12).

During the Twentieth century, Livorno rooted its identity on large-scale industry and port activities, with consequences also in the historical heart of the city. For example, until the 19-Seventies some relevant historic buildings have been obliterated in order to build new buildings, which were incongruous with the context in terms of structure and shape, and unpleasant for the viewer. The process faced a first affirmation during Fascism, when massive urban renewals were started up in the center of Livorno, as in several other Italian cities. Operations of destructions were based on renewal principles which began in the Nineteenth century, officially justified by hygienical and functional needs typical of urban areas which were effectively obsolete and uninhabitable under several parameters. Instead of restoring those areas, it was decided to destroy them in order to build the 'new'. Actually, in most cases, destruction and obliteration of ancient quarters were due to income properties and were functional to the expulsion of the low class people from the center of the city. In this way, houses of the lower class were replaced by more lucrative buildings, targeted to the well-to-do, with consequent much larger incomes for the owners and the builders, with a general improvement of the image of the city as a whole in terms of 'respectability' (Romby, 2005, pp. 76-77).

During the 19-Thirties, the demolition of via Grande, the main street of Livorno, was planned, with the construction of a new building exactly in front of the cathedral church. The project, by Marcello Piacentini, was not carried out due to the war, but it was realized during the post-war reconstruction (Matteoni, 2003, pp. 35-91 and 101-109). Indeed, after WWII, which heavily hit Livorno, draconian reconstructions invested the areas damaged by the bombs, with a general preference to the destruction of surviving structures even when reclaimable. Therefore, via Grande has been totally recreated with buildings of poor architectural quality. In particular, the building of Palazzo Grande, wanted by Piacentini but built only in the early 19-Fifties, separated into two smaller squares the formerly enormous Piazza Grande, which was designed in the late Sixteenth century as a classical umbilicus urbis. Due to the building of Palazzo Grande, the square has been totally altered, despite the enthusiastic depictions of the ancient, much vaster square by several foreign visitors. [\[1\]](#)

This and several other destructions in the city determined visual pollution, with consequent sense of rooting out and de-self-identification from the formerly beloved places. Therefore, Livorno underwent not only war damages, but aesthetic damages too. The growing discomfort towards invasive and alienated interventions and the overcoming of the social, economical and political motivations at their base, determined a new consciousness toward the settlements and the environment.

For example, in the last decades, movements, associations, organizations aiming at preserving the common goods have arisen in Livorno as everywhere else in the world. The attachment to the places of life (topophilia) determined a new consciousness and a sense of responsibility. Undoubtedly, the attention to a more livable environment originated in the 19-Sixties with those movements and organizations which criticized the Western society: environmentalism, the attention to minorities, the preservation of the historical centers, etc. Later, the attention to the quality and wellbeing of the urban settlement and the environment found a large response in the society, along with its growing economic richness. Indeed, people are more and more interested in the quality of the places they live in. Such an attitude is largely amplified by the mass media. Not by chance, legislation concerning urban and territorial planning, design and the valorization of cultural goods have recently become of interest to large part of the population. Therefore, new laws, norms and programs have been applied so as to preserve the heritage, the historical elements, the natural and environmental resources, and in order to adapt traditional elements to the contemporaneity. In general, it is not nostalgia the real motivation of such reforms. Indeed, some traditional elements are perceived more consistent with the unique peculiarities of the places. The European Landscape Convention (Florence 2000, ratified by several European governments, Italy included) is particularly relevant. Other regional laws and norms have been adopted all over Europe, in order to contrast the metropolitan and centralized growth model, to favor the reuse of what still exists and the diffusion of services not only to the main center but to the entire region as well (Butelli Massarelli). In this cultural approach, the so called Codice Urbani (legislative decree 42/2004 concerning cultural and landscape goods) and the Regional law of Tuscany n. 5/1995, then updated by the law n. 1/2005, have been adopted. In the latter law, Statuto dei Luoghi (dei Territori in the 2005 definition) and Invarianti Strutturali are the fundamental instruments apt at selecting and promoting the identifying characters of every place, as defined with the participation of the entire population: the regional law n. 67/2007 identifies specific modalities for an effective participation of the people.

The new sensibility has been applied to pedagogical paths too, with significant results.

5. An experiment in the Middle schools of Livorno

Experiences of landscape education have recently been implemented in many parts of the world. For example, in the Parco Valle Lambro, North Milan, Italy, an experience with the involvement of school-age children has been put in practice. Students from diverse schools joined a series of meetings, both at school and outside, in the natural park, in order to promote

and stimulate in the young the purposes of the European Landscape Convention, a shared vision of the landscape, and the self-identification with the places. The main objective is indeed making the young feel responsible for the territories they live in, so as to make them actively participate in the landscape protection and preservation.

Also in Livorno a project aiming at a new method of environmental communication has been implemented in 2012. The project is targeted to Middle school children age 13-14. The project is promoted by the Middle School 'G. Micali', based in Livorno, in partnership with the University of Pisa. It has involved the students of the third year of the Middle school and of the Degree in Environmental and Territorial Science and Technology.

The specific target was chosen based on the capability to use educational softwares, the expertise in video making and the manual, artistic, and technical skill acquired during the two preceding years at the Middle school. Moreover, 13-14 years-old children are considered particularly interested in rules and problems concerning the urban environment. Indeed, they feel more involved with it due to the growing emancipation from their parents, especially during short moving and commutes.

The project focuses on a new communication method capable of conveying contents apt at modifying attitudes and behaviors which could affect the natural and urban landscapes. In particular, a 'restoration of perception' has been implemented, in order to make participants aware of the visual stimuli considered as a 'background', therefore scarcely perceived.

The theory of Gestalt Psychologie has been the theoretical and methodological frame of the project. Such a frame, with adequate experimentations, induced a communication method based on: a) Restructuring of the perceptive field, intended as an insight, i.e. restructuring data and relations which were not perceived prior the experimentation. Therefore, it has been possible to represent the whole scenario in a new way, with consequent change of behavioral and cognitive aspects (Köhler, 1917): b) Acquisition of awareness as a platform for the transformation of attitudes, approaches and behaviors. As a means apt to obtain such a purpose, frontal lessons and direct, on-field experiences have been preformed: c) The use of a modified peer education, with the involvement of the students of the university as 'experts' and coaches of the Middle school students. The young age of the experts activated useful processes of identification and emulation, with a positive influence on the acquisition and educational process.

Students were particularly receptive when they connected the diverse forms of visual pollution with their personal experiences. As expected, phenomena particularly impacting for the young, such as graffiti and traffic, found a particularly strong reception and determined the maximum interest, favoring a stimulating debate. Exempla strongly linked with the local territory spurred a particular interest in the young. Generally, attention and participation have been relevantly high during the entire educational experimentation. The on-field lessons also helped increase the awareness of the ubiquity and diffusion of the elements responsible for the visual pollution. Digital cameras have been used too: they highlighted those mundane elements which were given for granted and perceived as obvious, banal, renown, therefore not consciously seen.

While preparing an exhibition open to everybody, which took place at the Certosa di Calci, close to Pisa, with the collaboration of Soprintendenza BAPSAE, Pisa (the government department responsible for the environment and historical buildings) and the University of Pisa, some materials have been created: information and propositional posters, designed and printed through the use of images, accurately searched for around the city; posters made up of photographs digitally retouched; comic strips; researches concerning visual pollution; drawings; essays made up of interviews or personal considerations; videos; interviews to relatives, friends, inhabitants of the city, concerning the awareness about the matter and requiring improvement suggestion; numerous Power Point presentations; etc.

Summing up, the experimentation which took place in Livorno was very successful. Indeed, it clarified to the students how pervasive visual pollution can be, and how difficult it can be to identify it, due to inurement and disattention. Moreover, the experimentation stimulated the young people to represent visual pollution, and helped making them responsible for their everyday space of life, with a creative approach capable of attracting their attention and of facilitating their active response.

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[1] Some European squares are probably inspired by the original Piazza Grande, for example Covent Garden Piazza, London, built by Inigo Jones after a trip to Livorno (Pevsner, 1998, p. 199).

