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AN INNOVATIVE APPROACH TO A NEW PUBLIC SPACE "STERRA: Manipulating Strata"– Europan 9 selected project

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ABSTRACT:

In this paper, 'Innovation' within the design process is investigated through three different but interconnected areas: **The creation of a 'New Public Space'; the idea of creating systems instead of formal entities as a design methodology; and the idea of phasing as an inseparable part in the construction period of a project as a sustainable approach.** These three areas are investigated through the lens of the project 'sterra: manipulating strata', a Europan 9 co-winning project that was further developed in a one year design workshop initiated by the City of Clermont-Ferrand, France in 2008-2009. The topic for the competition was "European urbanity, the sustainable city and new public spaces".

The site of the project is a key landmark within the urban fabric, in the heart of the city Clermont-Ferrand. The site is currently inhabited by the Central Children's Hospital, and will move to new premises by the end of 2012, leaving a void in the city centre. 'Sterra' explores how this move will have a positive impact on the urban fabric preserving heritage, memory, social mixity, soft mobility, landscape and sustainability.

The creation of a New Public Space:

The proposed new public space will revitalize and at the same time connect the urban fabric of the city. Social and programmatic mixity are explored, as is the meaning of the word 'flow'.

The idea of creating systems instead of formal entities as a design methodology:

The 'sterra' project is realized through the combined use of three main devices: the grid superimposed on the site; the platform placed on the site in successive stages; and voids which serve as activated exterior spaces.

The idea of phasing as an inseparable part in the construction period of a project as a sustainable approach:

The proposal is built on the logic of phasing. At any point that construction will cease due to economic limitations or shifts in the city's needs – the project will look complete and the site will be useable.

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Fig. 1


Fig. 2 Aerial views of the project

In this paper, 'Innovation' within the design process is investigated through three different but interconnected areas: **The creation of a 'New Public Space'; the idea of creating systems instead of formal entities as a design methodology; and the idea of phasing as an inseparable part in the construction period of a project as a sustainable approach.** These three areas are investigated through the lens of the project 'sterra: manipulating strata', a Europan 9 co-winning project[3] that was further developed in a one year design workshop initiated by the City of Clermont-Ferrand, France in 2008-2009. The topic for the competition was "European urbanity, the sustainable city and new public spaces". The architects of the 'sterra' project are Alessandra Swiny and Maria Hadjisoteriou. The principle landscape architect is Dermot Foley[4] and the consultant landscape architect is Krystallia Kamvasinou[5].

Clermont-Ferrand & the Europan Competition Brief

Clermont-Ferrand is the capital of the Auvergne region, located three hours south of Paris and has a population of 141,000 people. It is a nucleus for industry, services, higher education and research.

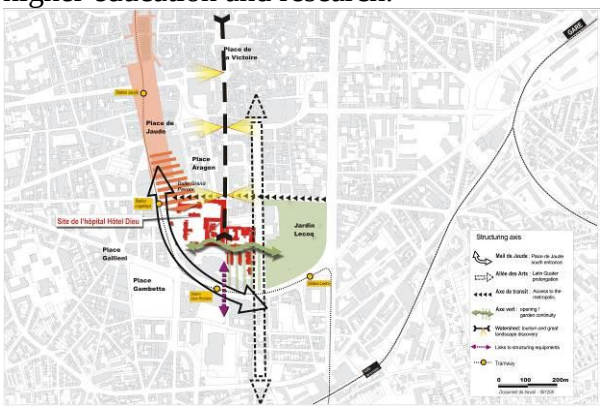

Fig. 3 The competition requirements from the City

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The study site lies within the first ring of the extended center, a large part of it, including the actual footprint of the hospital, is strongly defined by its topography which makes it a viewing point over the volcano chain. The site is a key landmark within the urban fabric. It is located next to the towns oldest and most prestigious (Jardin Lecoq), the Cathedral, and the commercial centre (Place Jaude). The city sees the site as a major component in its urban regeneration strategy – and believes that it is the only land in Clermont where the town can enhance and define both its appeal and reputation. A primary objective of the city is "to structure a site that is accessible to non-motorised traffic and is well integrated into the town's street network". Three urban priorities were identified by the city in the competition brief:

- a deep concern for the environment, resulting from links between the urban and rural
- humanistic and community principles that place human beings at the heart of development
- innovation

1. THE CREATION OF A NEW PUBLIC SPACE

The 'sterra' project seeks to shift the site from a single-function enclave to a genuine activity generator within the urban fabric. Our solution in dealing with the complex situation is to respect the memory of the site and propose the following in our project proposal: carry the feeling of the natural topographies of the region into the site (Fig.7) tailoring them to be respective of the sites scale; utilize the existing extreme topographies of the site; utilize the built topography of the heritage buildings on the site (in the1800's hospital facilities were built with a thick stone base raising them up off the ground for health and hygiene purposes. Currently visitors to the site do not walk at the level of the façade, but at the level of the base); restore the heritage buildings to their prior glory allowing them to be 'seen', thus the surroundings must be cleansed; protect and restore the historic gardens and elegant mature trees. We believe that the site must be given back to the citizens of Clermont-Ferrand but it must be refreshed and linked to the present and future needs of the citizens.

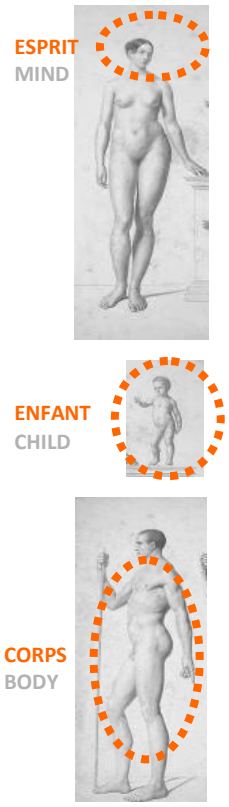
Flow

The project also explores the meaning of the word '**flow**'. Lava flows through the earth (this is a volcanic region and a key concept within the project), people flow through and on-top of the 'platform'. The flow of people, landscape and urban spaces begin to interconnect and merge with one another.

The site in its existing condition is isolated. A key contributor to this isolation is the inherent nature of hospital facilities in that they are difficult to access both physically (people can't walk through easily due to crowding of cars and medical related equipment) and psychologically (it does not feel comfortable walking through a hospital site associated with pain and suffering). The inhabitants of the city are now used to this modus operandi and it will take time to change their routes through the city and change their feelings towards the site.

Fig. 4 Programmatic Mixity

Memory



The move of the children's hospital to its new location outside the city limits will have a profound psychological effect on the people of the city. Its absence will create a dead zone in the heart of the city, which is also a prime real estate property. The projects intent is to re-insert a soul into the site by concentrating on innovative programs and activities that address the health and healing of the public as well as the historical and natural landscape of the site.

Mixity

Through the development of this project we expanded upon the notion of mixity (Fig.4). We want the site to function 24 hours a day/ 7 days a week/ 365 days a year, and for it to not only suit the needs of children but also of teenagers, working people, parents, and the elderly. It is a key factor that our project makes the site feel accessible to all different types of people from different ethnic, economic, religious and social backgrounds. The project is designed to accommodate large groups of people for different types of gatherings, and also to adhere to the scale of the human, creating more small-scale zones of comfort and safety.

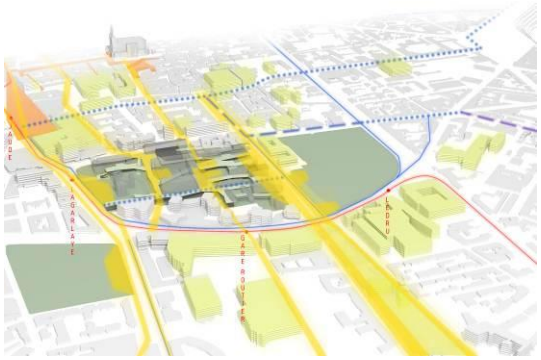


Fig.5 Urban flows

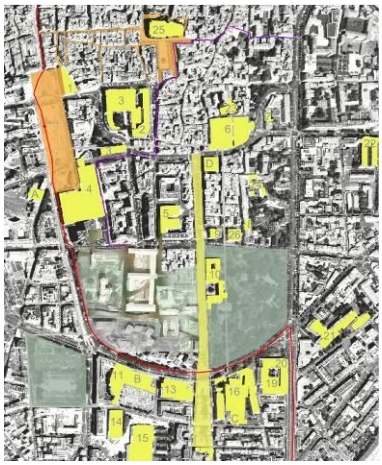


Fig.6 Polarized cultural facilities

Urban context. City analysis

After exploring the urban context and conducting a detailed city analysis we noted the city itself is divided into two alienated spheres. The major cultural, educational, commercial and government facilities are polarized to the North and the South of the city with the Hotel Dieu site located in the center (Fig.6). Our proposal is to create **links** (Fig.5) and have our site become the missing link in the existing urban fabric. Our solution is to design a circulation cross axis that links the commercial center of the city, the Place Jaude, and the historic center of the city, the *Cathédrale Notre-Dame-de-l'Assomption de Clermont-Ferrand* to the proposed Alley of the Arts and the beautiful Lecoq Gardens.

The second issue to solve was how to link the site itself to the city. Our proposal is to create a main artery of circulation (with secondary systems and routes connected to these) while simultaneously creating a **central spine** that ties the site to the city and the heritage buildings with new program.

We also had to demonstrate how we proposed to link the existing buildings, most of them being protected heritage landmarks, with the new programmatic requirements. Our solution is that each existing building that is preserved becomes an **activator** of each proposed programmatic element be it educational, cultural, health, commerce, or residential. Thus all new built program introduced to the site will be physically linked or connected to an existing building. This provides the public with an opportunity to re-define the use of the existing buildings as the new program activates and transforms them.

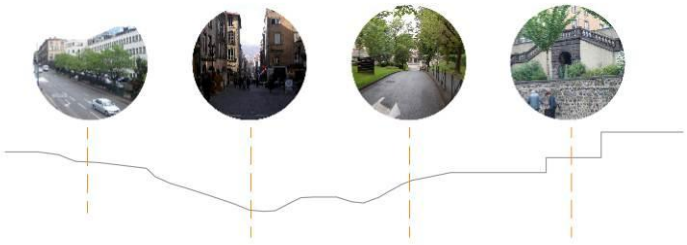


Fig. 7 Topography of the site

2. THE IDEA OF CREATING SYSTEMS INSTEAD OF FORMAL ENTITIES AS A DESIGN METHODOLOGY

The main concern of the project is to solve the dense programmatic requirements and the diverse needs of the city without covering the entire site with a solid mass of buildings that would block light and air, remove green space, existing trees, and mask the heritage buildings. An approach through a flexible and dynamic system is our proposed solution to allow the city to grow and interact with its environment in a new dynamic way.

Definition of the term "system"

We view and developed the system in our project through a similar lens as stated by Jose Alfonso Ballesteros, "*…A system according to Ludwig Von Bertalanffy, the founder of the general theory of systems, is 'a set of elements that stand in interaction – that is, they are linked by such relations that if one is modified, the others are too, and as a result, the entire set is modified.'… It is not only real things (physical or social) that can constitute a system; so too can abstract entities such as a system of equations or a theory…"* (Gausa, Guallart, Müller, Soriano, Porras, Morales, 2003).

We continued to develop our project along the same lines of thinking as Gausa Manuel's '*The city as system'* as described in the following exert, *"the contemporary city cannot continue to be approached in terms of a single place or a single shape; nor in terms of a single evolutionary stage. On the contrary, today, the city manifests itself as a complex and interactive system engendered through the accumulation of manifold, simultaneously and, often, contradictory actions and experiences: states, stages and strata…the contemporary city thus presents itself as an increasingly dynamic system – a process…"* (Gausa, Guallart, Müller, Soriano, Porras, Morales, 2003).

Thus we focused in developing an **urban system**; **flexible** enough to allow the diversity of the city to grow and re-adjust or evolve its entity simultaneously with the city's life. The main ingredients of this new system that would be appropriated on the existing site should allow the flow of the city to penetrate, to be flexible enough to readjust its structure if the needs of the users are modified, address issues of mobility and create a new urban scape. This would work as a new prototype of an urban development.

SYSTEM'S COMPONENTS

The 'sterra' project is realized through the combined use of three main devices: the **platform**-manipulated **strata**; placed on the site in successive stages; the **grid** superimposed on the site; and the **voids** which serve as activated exterior spaces.

The "inserted platform" - manipulated strata.

The new built environment is understood as "a platform"; a "new strata". The **inserted platform** is a system of structures that fit into and work with the existing natural and built topographies of the site. It has program underneath or inside it, but can be walked on (soft circulation), and used by the public as a diverse and innovative landscape. This new strata seeks to re-define the concept of a 'building' as Alejandro Zaera-Polo says: *"We do not view architecture as a vertical passive entity constructed over a horizontal passive ground but rather as a horizontal active plane that redefines the ground."* (Gausa, Guallart, Müller, Soriano, Porras, Morales, 2003). The building becomes the landscape and the landscape the building.**This new ground** acts to connect existing heritage buildings (Fig. 8 & 9), to connect a disparate city, and to create street-scapes. It links the city scale to the human form at a multitude of levels and; and links the alienated heritage buildings remaining on the site with new structures and uses, thus creating a diverse urban, cultural and social **mixity**.

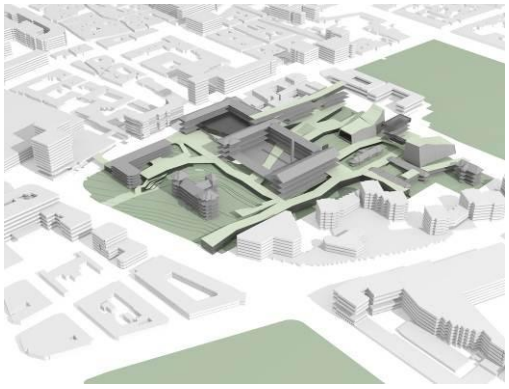


Fig. 8

Fig. 9 Inserted platform as activator

The platform is a three dimensional device that:

- **Rises and falls** to accommodate existing and new building floor levels and ties into existing levels at the periphery of the site.
- **Widens or folds up** to link buildings or programs.
- **Eextends, connects, and becomes**; housing units, the Municipal Library, the Business School, and other municipal/commercial spaces.
- **Touches and cantilevers out from** the **existing ground**, so that it can function as a park, a bike path, a running track, or a viewing platform for the impressive panorama of the volcanoes surrounding the city.

Through the insertion of this inhabitable platform we respond to the dense programmatic requirements (that are much larger than the area of the site) while simultaneously giving back a useable and dynamic sequence of spaces to the city.

Fig.10 Photos of the model of the project

The grid superimposed on the site

A grid (Fig. 11) is superimposed and intertwined with the site after the demolition phase. It is an **ordering device** throughout the whole of the site that performs two roles. The one relates to the landscape approach of the site, and the other to the geometry of the platform.

The interesting aspect of grid configurations as Manuel Gausa describes them,*"… is their flexible and infrastructural, rather than pure and rigidly structural nature. These are not, in fact, monolithic megastructures – but rather adaptable and deformable systems, open to manifold variables and singularities (according to context and use)"* (Gausa, Guallart, Müller, Soriano, Porras, Morales, 2003).

Fig. 11 The grid superimposed on the site

These elements of flexibility and adaptability are the main key aspects of our system. For the landscape, the grid (landscape grid) is acting as a mechanism that gives rise to a number of temporary spaces during the phased development of the site, as well as providing a mature matrix of trees in the final stages. Each demolition site is being planted with a tight grid of trees as soon as it becomes available (Fig.11).[6]

For the platform the grid works as a matrix, an organizational structure that defines its geometry. The platform is organized in three-dimensional strips that follow

[6] D.Foley, K.Kamvasinou

the nodes of the matrix, allowing plasticity, flexibility of movement and connection throughout. These strips are working as a topographic operating system an artificial geography creating an ambiguity of what is a surface and what is a space. A **new flexible ground** is inserted within the site (Fig.12).

The strips can touch or de-touch, fold or drop, connect or disconnect with the existing ground, allowing for heritage buildings to penetrate, for green spaces to exist, for lighting channels to form and at the same time it facilitates an artificial landscape.

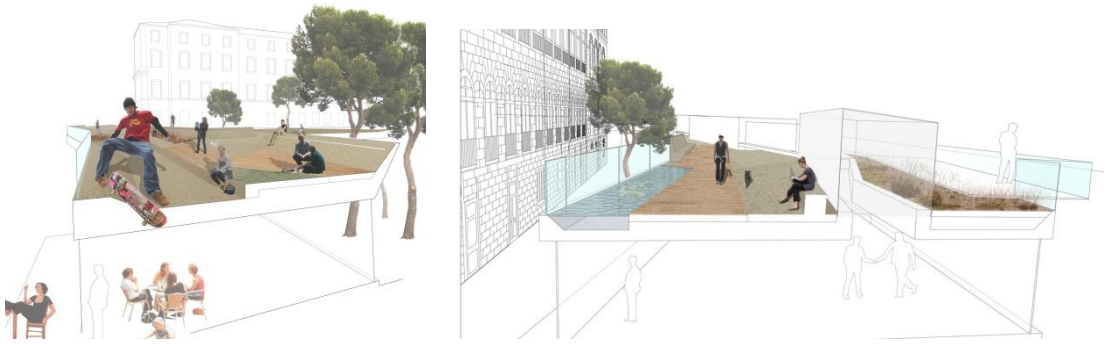


Fig. 12 Sectional cuts through the main circulation axis of the platform

The "landscape grid" allows for a network of soft spaces for relaxation and slow pace. The platform contains a busy and exciting mix of uses including skate-park, play areas, amphitheater (Fig.14), cycle lanes, water and mist features, formal courtyard treatments and access to caves (existing heritage) as well as private open space for residential users (Fig.13). Functions are integrated into the platform so that the functions are shared and appear to form part of an overall landscape treatment as opposed to being 'fenced-off' separate elements. The platform and the grid merge and diverge throughout the site.[7]

Fig. 13

Fig. 14 Private and public use of the platform

The Void: Merging the Grid and the Platform

At key points in the site both grid and platform merge, so that the characteristics of both give rise to a new landscape treatment. The two main courtyards (Fig.15) are treated in this way because of the functional requirements of both spaces but also because of their importance within the overall hierarchy of spaces. The "landscape grid" (Fig. 11) includes a large proportion of soft green spaces which are strongly tied to topography and the terrain. Where the grid emerges through openings in the platform it brings this softness into the voids between buildings in the form of small courtyards and light wells.

[7] D.Foley, K.Kamvasinou

Fig. 15 The Central courtyard of the project

3. THE IDEA OF PHASING AS AN INSEPARABLE PART IN THE CONSTRUCTION LIFE OF A PROJECT AS A SUSTAINABLE APPROACH

Fig. 16 Phasing and links

The proposal is built on the logic of phasing. At any point that construction will cease due to economic limitations or shifts in the city's needs – the project will look complete and the site will be useable. The idea of an inhabitable platform can be constructed in phases without losing its identity and always 'feel' complete even if it is not realized in its entirety.

Therefore we provide a clear series of phasing scenarios (Fig.16): Clean the site – demolition of unnecessary buildings and unsightly hospital apparatus; restore a healthy ground scape, thus create useable public spaces and a useable landscape. Stop all parking on the 'surface' of the site, begin underground parking in the specified zones; begin the rehabilitation of the site - place a grid of new trees, temporary pavilions, installations, and events; begin construction of platform as city and site 'link'; parallel implementation of chosen programs. A flexible strip system, deriving from the grid matrix superimposed on the site, is developed that allows the continuous surface of the platform to be broken up to smaller areas and be implemented in stages.

Through our implementation, we are proposing that there be a continuous conversation between the built infrastructure, the new surfaces, the landscape and the natural topography. The density of the tree grid will be an indication of time and phasing: the tighter the grid, the younger the trees, and therefore the closer we are to the date the land was acquired.

We see the future visions of the 'sterra' project to be adaptable and flexible so that both the City and the investors can change their minds and make decisions through the process of development – yet retain a strong identity. We offer to the City

Public housing options, but also allow the City the flexibility to choose a private investor.

CONCLUSION

Fig. 17

The main goal of the 'sterra' project is to create a **new public space**; a destination for all different age groups, social groups, or interest groups. A space where the elderly can relax, a teenager can skate and an experimental group can perform. The concept is that this new public space will revitalize and at the same time connect the urban fabric of the city. It is a public space that can evolve over the years; as it is transformed from a 'topography' to an 'infrastructure landscape', and is continuously 'given back' to the user in varying ways.

A key point in our project is the idea of giving back landscape and useable public space to the city (fig.17). Whatever land area is built upon is given back to the public as useable space (either public or private). Thus even as more and more built programs are introduced into the site, the useable landscape is not diminished, nor is the green spaces removed.

What we propose is a new and innovative urban condition that allows the public to adjust to the site's transitions and become involved in its development. We are proposing a new innovative urban prototype - a system that does not follow the rules of a fixed formal entity, but allows for readjustments according to the cities rhythm and the energy and pulse of its inhabitants.

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