

L'Île Mystérieuse*

Histoire d'une autophagie Insulaire

* « L'Île Mystérieuse » L'histoire retrace celle de cinq naufragés, qui échouent sur une île déserte. Ingénieurs et persévérants, et grâce à leurs compétences variées ils s'organisent alors pour s'adapter à cet environnement de prime abord hostile. Telle une mère nourricière, l'île offre des ressources admirables et tout à fait inattendues. Mais une série de faits inexplicables, de coïncidences troublantes les obligent à croire à la présence d'une puissance mystérieuse qui conduit leur destinée, leur imposant sa volonté par des voies détournées, intervenant pour les sauver aux moments critiques..... »

[L'Île Mystérieuse, 1875, Jules Verne né à Nantes en 1828]

L'Autophagie, un processus naturel des organismes vivants,

Du grec « auto » : soi-même et « phagos » : manger soit « se manger soi-même » est un processus naturel d'auto-nettoyage et régénération des cellules de l'organisme. Ce mécanisme adaptatif de l'organisme, régulier et ordonné, consiste à recycler des composants cellulaires défectueux pour en créer de nouveaux lorsque l'énergie nécessaire à leur survie est devenue insuffisante.

* « L'Île Mystérieuse » tells the story of five castaways stranded on a desert island. With ingenuity and perseverance, they use their diverse skills to adapt to this hostile environment. Like a nurturing mother, the island offers admirable and unexpected resources. But a series of inexplicable events and disturbing coincidences force them to believe in the presence of a mysterious power that guides their destiny, imposes its will on them, and intervenes to save them at critical moments... » [L'Île Mystérieuse, 1875, Jules Verne, born in 1828 in Nantes]

Autophagy, a natural process within living organisms (L'autophagie, un processus naturel des organismes vivants)

From Ancient Greek « auto » : self et phagie « manger » meaning « self-devouring » is a natural process of self-cleansing and regeneration of the body's cells. This adaptive mechanism of the organism consists of the recycling of defective cell components in order to create new ones when the energy required for their survival is insufficient.

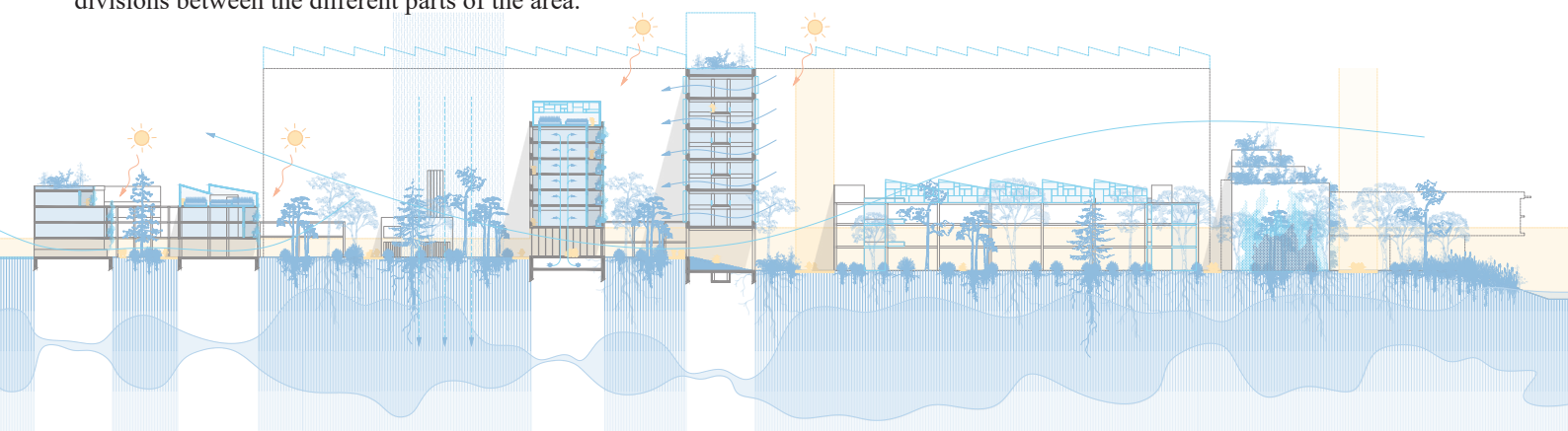
Nantes's CHU, A future cell in the process of renewal (Le CHU de Nantes, une future cellule en renouvellement)

When the hospital and the university leave their current site in 2027, the old CHU of Nantes, like a cell, will begin a process of autophagy aimed at revitalising and **renewing itself locally and autonomously**. It uses its own local resources to renew itself, to clean itself, to adapt and to forge new links with its immediate environment, to become once again a functional cell linked to others (the neighbouring districts, the Loire). The *déjà là*, is used to the benefit of its survival, development and adaptability. The opportunities and materials available on site will determine its future. The aim of the project is not to provide a fixed response to this complex site, but rather to **propose a methodology** for action that is open and flexible.

The Body ; the Territory, its Heart ; the Loire (Le Corps ; le Territoire, son Cœur; la Loire)

In terms of territory, Nantes is at the crossroad between **the maritime and the cultivated Loire**. Its tides and tributaries are a structuring element in this particular area. From the land to the sea, along the Loire, there is a repetition of **similar sequences** : places of production, places of cultivation, places of habitat, places of nature etc. The river is also dotted with numerous islands of various types: natural/wild islands, crossed islands, productive islands, inhabited islands, functional islands, disappearing islands, islands swallowed by the water or by the city, urban islands, which includes the old **CHU site: a single-function disappearing island**.

Nantes settled on the northern bank of the river and used it as **the heart and the driving force of human life**. At this time, many islands in the Loire are nearby, not yet exploited, but crossed. On one of them is located our current project site, the **Gloriette Island** : a former undeveloped island where, after the physical crossing and its urban development, the first Pavillon hospital (Hôtel Dieu) was built in the 19th century, with some large green spaces opening onto the Loire. At this time, **hygiene, fresh air, sunshine and Nature** were prioritised thanks to a privileged relationship with water. Then, at the beginning of the 20th century, the filling in of the branches of the Loire drastically reduced the island's **relationship with the natural elements**. Later, the car contributed to this by creating sharp divisions between the different parts of the area.



After the destruction of the hospital during the Second World War, a new « Hôtel Dieu » was built : the « Bâtiment Croix » and the « Chapelle ». Following the model of the university hospital imported from the United States, the built environment has been developed to combine both university spaces and professional practice areas. The result today is a **large, autonomous, functional and overbuilt complex** in the centre of the city, with very little connection to the surrounding area. A cold and austere place where you wouldn't dare to go, but which struggles for Life in the shadows...

Man has left his mark on this land since the beginning of his settlement. This model of development has resulted in the programmatic and urban insularity of the site, which has led to **its decline**.

The CHU, a cell undergoing Devitalisation (Le CHU, une cellule en voie de Dévitalisation)

Today the CHU is a **complex, dense and watertight set of buildings**. It has very little open space and very limited connection to the surrounding urban network. An independent, single-function complex in the city that serves the city. **Fertile land has disappeared and nature has no place in this environment**.

However, the imposing built environment seems to offer **great potential underground, in the buildings and on the roofs**. With some great resources of elements inside the site, this island is just waiting to open up and forge links with the city. Nature, unexpected on the ground, struggles and develops despite the inhospitality of the concrete roofs...

Observation and analysis of the elements within this cell provides another interpretation grid : **it's the material present in situ that creates the project, with limited external input**.

An Autophagic process (Un processus Autophagique)

Based on a **synthesis of the territory, its natural dynamics and its history**, the project aims to rediscover the original Gloriette island, wild, in close contact with the Loire and its vegetation banks, and in harmony with its natural environment. **That's the realistic utopia proposed here**.

By synthesising the territory and all the islands that are part of it, our island, inside the city, will create a place that is both productive, where people live or pass through, wild, connected to the Loire, the land and its natural dynamics. **A place connected to the city, but above all to Nature**. To achieve this, it is planned to reduce or even eliminate the major impact of the motorway along the Loire and inside the area by restricting access or moving inland.

To achieve this, a methodology is proposed that adopts a sustainable, pragmatic, scalable, flexible and reversible approach. Most of all, the aim is to create **a multi-faceted place in the city**: a place to welcome, share, exchange, research, learn, relax, play sports and enjoy leisure activities that promote life, health and well-being. A place where **physical and mental wellbeing** in the city is finally starting to get considered.

A place where Nature and People have their rightful and equal place in the city. A connected and interdependent relationship where people nourish themselves by watching nature grow, understanding and respecting living things in order to live in a more harmonious world. To achieve this, the following methodology is proposed according to **three phases of Autophagy** in our cell :

- 1. The Transitional Phase ou la Phase Transitoire***
- 2. The Building Recycling Phase ou la Phase du Recyclage des Bâtiments***
- 3. The Ground Renaturation ou la Phase de Renaturation des Sols***

The Transitional Phase (la Phase Transitoire)

The story of the site's renewal begins in 2027, the day after the health functions left. **The cell uses its intracellular components**, in this case the **existing built environment**, to initiate its renewal.

The old Hôtel Dieu is now entering its « Transitional » phase also called « Temporary use » urbanism. Moving **from monofunctionality to urban living**. During this phase, the aim is to use the buildings that are now **vacant**, pending their future refurbishment, to offer usable space (at a low rental cost) for the needs of associations, young structures or those in the process of being created, artists, craftspeople, etc... This system minimises the amount of empty building within the CHU by optimising the use of space for new uses.

The first step in this phase is the creation of a specific « **activating** » **structure** to manage and organise the site within **the former Chapel**, which has been deconsecrated. This structure, in the form of an association or cooperative, will be responsible for allocating premises and acting as a link between the actors inside the site and the City of Nantes (owner of the buildings).

The premises are allocated on the basis of the building's previous activities, thus **limiting the building adaptation work** to the strict minimum. For example, the Croix building has a number of rooms that can be used to quickly set up emergency shelters (for refugees, the homeless, victims of domestic violence). To achieve this, we will need the support of associations and social emergency services such as Restos du cœur, secours Populaire (Food aid), la Maison des Femmes, Ôvives, Adelis, Espace Agnès Varda, la MAJ (emergency accommodation)...

The role of the « Chapel » is developing rapidly and is becoming a real *catalyst for activities on the site*. The people who live there are brought together to work in the recycling centre, *reintegration programmes* are being set up, Artists take over the facades to breathe new life into this dull place, which had previously been forgotten by the city. The floors and ground floors of the buildings are bustling with activity, drawing the people of Nantes into the heart of this Mysterious Island island. The *barriers of the site open up* to interact with the city.

This phase makes it possible to *test and pre-figure uses* without being tied down in terms of time and space. During this time, some uses will function and be perpetuated in the future project, others will remain for a period and disappear to be renewed by others. This will give rise to a new imagination that makes room for everyone and that *trusts the city, its users, its surprises, its unknowns and its uncertainties*.

The Building Recycling Phase (la Phase du Recyclage des Bâtiments)

This phase is based on the idea of creating a more pleasant public space and energy-efficient buildings based on a bioclimatic strategy. To achieve this, the existing buildings will be rehabilitated and partially demolished. The materials resulting from these demolitions will be *processed in the Reuse Centre and reused to reconfigure the buildings*.

The Reuse Centre is the *activating entity* for the rehabilitation of all the buildings in the cell in a sustainable and self-sufficient way (using the natural energies available on site). This Center will be located in the heart of the existing logistics centre and rheumatology area, with potential for storage, offices and workshops. The aim of the Building Recycling phase is to promote *local development* and resource autonomy as much as possible, by *limiting external inputs*. Certain elements of the buildings will be deconstructed and reused to create new ones : (prefabricated concrete walls and slabs for pedestrian walkways and carpentry for the creation of greenhouses on the roof).

The issue of Reuse also includes *the refurbishment of the buildings themselves* and their *existing shells* in order to adapt them to the new programmes that will be established on the site. In this way, the carbon emissions already generated during their construction can be taken into account and those generated during their renovation can be limited.

After the transitional phase, some programmes will be permanent, while others will be set up according to the spatial qualities of the buildings once they have been renovated : the Renaturation Centre (la Pepinière and le Laboratoire de la Nature), social housing with shared spaces, Learning centre and « la Maison de Quartier ». All of this will be supported by an active ground floor to provide lively public spaces linked to the city.

- **The active ground floors** (Rez-de-Chaussée Actifs) The active ground floors create a permeable, open base connected to the urban space.
- **The Capable Volumes** (Volumes Capables) between the ground floor and the roof provide open, flexible and scalable spaces.
- **The Roofs**, in contact with the natural elements (sun, rain and wind), are central to the project. They offer two complementary programmes. Some of them will be *productive*, greenhouses will be built (with recycled windows of the building) and cultivated by the vegetable farmer and produced for the residents. Some areas will be left free for collective vegetable gardening or just as a collective space. The others will be *refuges for biodiversity* and will *complete the renaturation process* begun on the ground by the presence of local fauna and flora, which require few nutrients and are adapted to climate change. In this way, these roofs form a synthesis between the Loire Maritime and the Loire Cultivée. These two interdependent programmes enable additional contributions to be made to these two environments (nutrients, pollination, etc.) They are a major tool for collecting rainwater and using it to run the site (irrigation, toilets, etc.).

The public Institution and Associations at the service of social well-being, learning and education (Les acteurs publics et associatifs au service du bien social, de l'apprentissage et de la formation)

The aim is to maintain *public control of the land*, which could be shared between Nantes Métropole Aménagement (NMA), the City of Nantes and SAMOA, with a common programme management policy.

The social housing buildings including shared spaces may be sold to social landlords such as Nantes habitat, Habitat 44 or La Nantaise d'Habitation.

The research and education areas (Centre de la renaturation, Centre du Réemploi, etc.) will combine institutions such as Ademe, Cerema and LPO, with *networks of associations with local actors* such as Ecopole (Centre Permanent d'initiatives pour l'Environnement du Pays de Nantes)

These entities will also be at *the service of social welfare and job creator*, providing employment opportunities for the people housed and accommodated on the site during the transitional period and beyond. They will act as a lever for *social integration and reintegration*.

A bioclimatic approach (une Approche Bioclimatique)

The project pursues the idea of bioclimatic and sustainable rooftop *architecture, at the service of Man and Nature*. The project proposes to *disassemble the buildings or parts of buildings* in order to restore a more natural breathing space, allow water to flow and infiltrate naturally, and take into account of the prevailing winds. The aim is to restore natural functioning, adapted to the local climate and climate change. The south and east facades, which are the most exposed to the sun and heat, are to be opened up as much as possible

and set back from the facade, complemented by the creation of terraces and integrated planters with support for vegetation. The aim is to create **outdoor spaces** in these directions that are protected from the sun, especially in the summer, and sunny and comfortable in the winter. The social housing buildings will have dual-aspect flat that encourages natural ventilation of the living spaces. The buildings takes also advantage of basements to cool it in summer and warm them in winter using geothermal energy (earth-to-air heat exchanger). The roofs, exposed to the natural elements creates areas for biodiversity or productive spaces. The more important thickness of these elements helps to reduce the heat inside the buildings.

The aim of this approach is to make all the proposed **spaces liveable, habitable and comfortable at any time of the year.**

The Ground Renaturation Phase (la Phase de Renaturation des Sols)

The Renaturation Center (la Pepinière and le Laboratoire de la Nature) is **the ground activator** for developing a living connection between devitalised soil and new inputs. After the soil has been stripped of its imperviousness by the Reuse Center (« Décroutage »). The Center centralises and mixes the substrates needed to revitalise the ground (site earth, compost, sediment). Then its research will be based mainly on : **observation**, analysis and in situ experiments of the renaturation process. Observation and research will monitor the development of seeds carried by the wind and birds, as well as typical species of flora and fauna that develop on the soil. **Research and experimentation** will focus on taking samples to determine the evolution of local species in the face of climate change and their resistance to it, as well as 1-scale experiments in a laboratory-nursery (Pépinère). Eventually, the Research Centre will be able to export its results and systems for renaturation to a wider area.

Over a long period of time, **the land will be sacralised** (inaccessible to humans except for research) and nature will be free to develop at it wishes. Only two main paths are accessible to users: **the Cardo and the Decumanus**. This is a time to re-establish the **right balance between the Natural world and the Human world**. In a more distant future, when a forest has evolved and places that were once sacred will opened up to new interactions and uses : this is the Inhabited Forest.

The Ground Renaturation will takes place **from the Loire towards the city**. The main roads have been moved inland. Only a traffic-calmed and permeable lane remains to run alongside the buildings. The riverbanks have been cleared and the riverbank vegetation has grown up and taken over the former roads, which are now fertile again. Nature enters the site and develops along ecological corridors, running from the Loire towards the city. News places for biodiversity are set up, allowing **water to infiltrate the ground**. This process is part of a virtuous autophagic cycle. **Nature is placed in its own time frame**, not the one of urban policies. Nature is part of its own long-term process.

A cell conected to its Heart and its Body

L'Île Mystérieuse, a devitalised body cell, is being reborn from its territory, its history and its natural dynamics. It uses its available components and resources, its constraints and opportunities to adapt, transform and open up to understanding itself and its environment. It understands that it is part of a body, a system larger than its own existence. The autophagy of the various components of this cell raises questions for the Human Being about the path he has to take to stay alive, be healthier, be able to eat and breathe healthily, be safe and live in greater harmony with his environment and Nature.

Then, Human Being opens his eyes and understands that he is part of a much bigger, stronger and greater whole. A whole that goes far beyond his own understanding of the world. They understand that they are not at the centre of the world, that they are not at home, that they are only there for a time, they do not dictate the rules, they must be humble, observant and attentive to a slow, invisible, fragile, complex world that is constantly fighting for its own survival and on which they depend. He slowly reconnects with that forgotten world, that distant memory of a lost harmony, the one that gave birth to him, the one that nourished him, the one to which he owes everything.

Une cellule connectée à son corps

L'Île Mystérieuse, cellule dévitalisée du corps, renaît de son territoire, de son histoire et de ses dynamiques naturelles. Elle puise dans ses composants et ressources disponibles, ses contraintes et ses opportunités pour s'adapter, se transformer et s'ouvrir à la compréhension d'elle-même et à son environnement. Elle comprend qu'elle fait partie d'un corps, un système plus large que sa propre existence. L'autophagie des divers composants de cette cellule questionne l'Être Humain sur le chemin qu'il a à prendre pour rester en vie, être en meilleure santé, pouvoir manger et respirer sagement, être en sécurité et vivre de manière plus harmonieuse avec son environnement et la Nature.

L'Être Humain ouvre les yeux et comprend qu'il participe à un tout beaucoup plus vaste, plus fort et plus grand qui va bien au-delà de sa compréhension du monde. Il comprend qu'il n'est pas le centre du monde, qu'il n'est pas chez lui, qu'il n'est là qu'un temps, qu'il ne dicte pas sa loi, qu'il doit être humble, observateur et à l'écoute d'une Nature lente, invisible, fragile, complexe, en perpétuelle lutte pour sa propre survie et dont il dépend. Il se reconnecte alors lentement à cette oubliée, à ce souvenir lointain d'une harmonie perdue, à celle qui l'a fait naître, à celle qui l'a nourri, à celle à qui il doit tout.

