Architecture of/in the marginal spaces
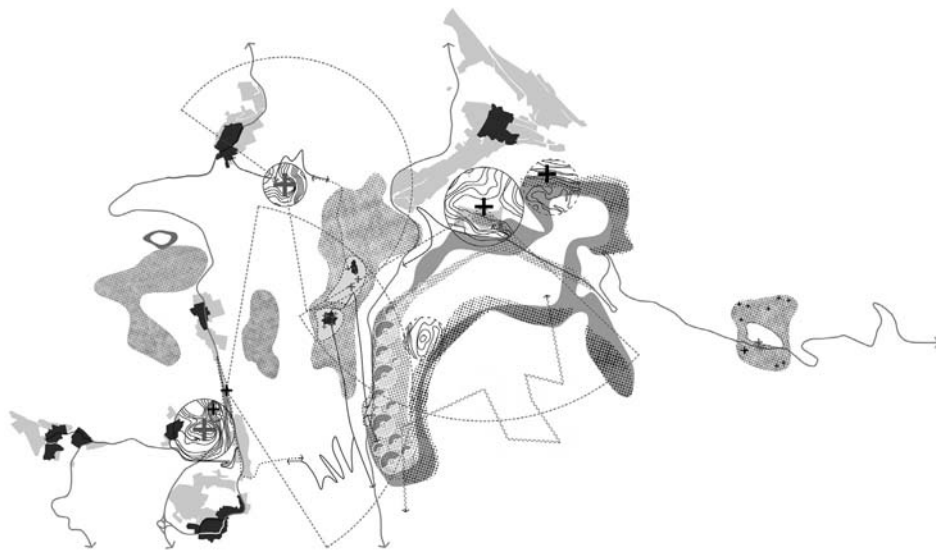
A methodological approach for the territory of the low and medium mountain

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to Franca and Santino

Aknowledgements

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Architecture and design of/in the margin[al] spaces

"Creo, en efecto, que el concepto de margen, de límite, no tiene sólo una dimensión teórica e incluso poética, sino que puede ser también una categoría operativa para el proyecto contemporáneo. En los "márgenes" entre diferentes realidades territoriales y geográficas se generan nuevos lugares caracterizados por la hibridez y la mescolanza, rasgos inherentes a la cultura contemporánea. Por eso creo que ahondar en los márgenes da pistas para entender la esencia de los lugares del mundo en el que vivimos." Joan Nogué

0. Marginal spaces of low and medium mountain areas

This research can be intended as an architecture, a project, a new way of seeing reality.

Architecture and projects of/in marginal spaces propose a reflection on "invisible" spaces, often not well known, that currently occupy a great proportion of territory.

One generally attributes to the margin/marginality a negative connotation (what "is placed at the margin of something" or has "emigrated" there, a space of secondary importance which is not essential to the system, seeing as it has no role, a place of poor quality where waste is accumulated, the residual space in a state of abandonment, etc).

This research proposes a new way of seeing certain aspects, in which the conceptual space of the margin is thought of in a positive way, and within an operative category.

The evidence of the margin/marginality for a new contemporary project, is the theory that supports the research, a necessary approach given its consistency, production, accumulation of marginal space both in urban and in suburban territory.

The many views, the definitions, the interpretations and the recognition of marginal spaces as a problem for the project are the "background noise" of an investigation that touches upon various disciplinary fields that, before architecture, have investigated the issue of marginality from art to literature, from music to architectu-

re, from sociology to geography[1].

The depth of study on the theme is in proportion to the built context of the territories in the low and medium areas of the mountains, in which, also in terms of the orographic complexity, the marginal spaces acquire very particular characteristics, all to be investigated.

The phenomenon of the marginal space, as regards the Cembra Valley in Trentino, is that privileged space for observing and understanding a specific reality on which to base approaches, narrations and new projects.

0.1 Problem field

As statistics confirm the overtaking of the rural population by the urban one, the fate of these two poles - margin and centre - remain more uncertain than ever: the depopulation of the one and the conurbation of the other together with the accumulation of waste and abandonment of scrap, strengthen the evident and problematic traces of the margin. In the background, the global economic crisis implies further redundancies and abandonment which add places rejected due to their unpleasantness or disruption, to the environmental, social and economic marginalization.

In the context of low and medium altitude, the marginality of an area has its own characteristics and specificities. This condition, in terms of geographical underdevelopment and marginalization, is due to for instance particularly unfavorable geomorphologic characteristics (narrow sections, lack of valley space, steep slopes difficultly accessible with modern technologies), to the isolation due to road communications systems, structurally poor and with no connection to the main arteries of the regions, the lack of industry located elsewhere and to the limitations of trade, to the lack of tourism and consequently the phenomena of depopulation.

The marginalization related to the elevation is a significant phenomenon, common to many areas and secondary valleys of the Alps. It regards low and medium[2] areas, namely mountain areas that have neither extensive valleys for urban development, nor heights or relevant details for the natural exploitation of tourism and agriculture/forestry. In the absence of valley towns and high altitude tourist destinations, in these areas are deposited the *"visible and invisible*
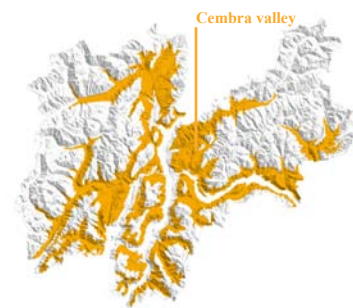
Trentino region, low and medium mountain areas.

1. The marginal spaces are investigated primarily as an urban and metropolitan phenomenon in their socio-anthropological, physical-geographical, ecological aspects (Z. Bauman, G. Leingruber, G. Clement).
2. The low and medium mountain areas are generally considered to be between 600 and 1200 meters.

signs of a new qualitative margin" necessary for the development of/in other "stronger" areas. The visible signs are the results of mining, exploitation of energy resources, or those resulting from indifference to the phenomenon of second homes for poor quality tourism, the abandonment of small towns and lands once cultivated and now covered by poor quality degraded and potentially dangerous forests.

At the same time, the invisible signs correspond to mental isolation which does not give these marginal spaces a role in the territory, resulting in an uneven balance between central and marginal areas, a disappearance of the peculiarities of the place caused by global systems that tend to eliminate them.

The marginal space-signs identify and determine new territorial disadvantages.

This research investigates a significant case study, the Cembra Valley of Trentino, an area of 130 sq km, of which about 15 are occupied by vineyards, 13 by mining areas and 35 by abandoned agricultural areas. The area is one of many secondary valleys of the great mountain range in the heart of Europe, the Alps, an area in which the process of modernization has accumulated waste products and residue which are the result of typical western development.

In the case examined, as in other mountain areas, the problem is still tackled according to quantitative and sectorial statistics, which struggle to recognize the marginal space as an "appropriate and necessary" space to build the future of the community.

0.2 Objectives

The objective of this research is to identify new compositional design tools for transforming/constructing the landscape over time, which can be translated into strategic directions for the design of the territory that wishes to turn its marginal condition into an opportunity for development[3]. In this sense, the marginal spaces are located at the top of the list of "territorial materials" capable of producing significant projects of transformation/construction over time, with a distinctly operational outlook. The proposed approach goes beyond the current abstractions of the context or the breaking down into "sector plans" of the territory. In the specific context of the case study, the aim is to re-conceptualize the marginal space and

3. In line with the inclusive concept of "landscape" introduced by the European Convention (2000) - to the landscape belong also archeological findings and outcasts - the goal is to verify if there is a space (theoretical and operational) for the project, that as well as introducing new uses and re-uses for the sites, is able to highlight different natural and cultural aspects of marginal landscapes, innovating their elements of connectivity, accessibility and architecture for visitation, also through the use of waste materials.

the condition of marginality as an operative area of the project, a project that works on what already exists, recycling what has been physically or conceptually discarded. This means taking the problem of and within marginal areas as a problem of design, architecture and construction of the territory.

0.3 Gaps, main research questions, interviews

The problem of spatial marginality has been widely studied in urban and metropolitan terms, from the study *wasting away* by K. Lynch, to the *terrains vague* by Morales and *drosscape* by A. Berger[4].
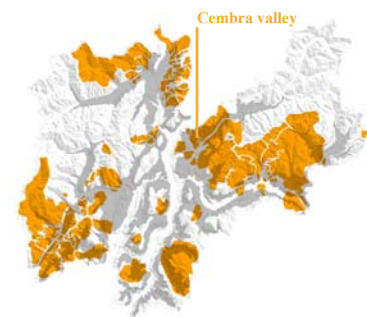
Within the alpine mountain area the attention has been mainly focused on areas occupied by contemporary urban functions, in particular urbanized valleys and high altitude sites intensively exploited for tourism.

What happens when we look at suburban marginal spaces that occupy vast portions of unidentified territory, with an urban centre and "strong" functional areas? In particular, what happens in extra-urban territories of complex orography? Are there any peculiarities and are the instruments able to capture them?

Disadvantaged mountain areas (*Objective 2 EC*) in the Trentino region.

The problem of marginal spaces present in a given territory is currently faced by breaking up different types of space, and therefore problems, sacrificing the relationships that a global vision would allow. Mountain marginality is dealt with by statistics (demography, agricultural disadvantage, occupation etc) which correspond to incentives and sectorial contributions that only in some cases become individual projects, while the marginal spaces, discarded or residual, are eliminated by current design instruments and management of the territory.

What happens when we look at marginal spaces within a given territory? Can we recognize a structure and a role in the designing of plans of general intervention and coordination? What is the best scale at which to provide such strategic paths? Which are the viable architectural operations?

In order to have a comparison on the main topics dealt with, I asked for some researchers - architects, geographers, artists -, of particular interest to this research, the same main research question:

4. The issue of marginalization of certain spaces of/in the suburban territory was less investigated as part of the project that instead addressed this issue in recognizable forms of space such as the urban periphery. The urban research on marginal areas is primarily concerned with the demise of former industrial areas, of areas affected by new infrastructure and the issue of degradation of the suburbs of the city (P. Viganò, A. Koolhaas, A. Berger, NioArchitects). The origin of marginal space is highly dependent on the forms of the Earth; as excluded and marginalized areas separated from sight and the construction of reality, marginal space constitutes the other half of reality itself.

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What means, on your researches, the themes of the margin[al]? Do you believes that the issue of "marginal space" can be, as well as poetic and interpretative tool, even a operational design category for the contemporary project?

"Creo, en efecto, que el concepto de margen, de límite, no tiene sólo una dimensión teórica e incluso poética, sino que puede ser también una categoría operativa para el proyecto contemporáneo. En los "márgenes" entre diferentes realidades territoriales y geo-gráficas se generan nuevos lugares caracterizados por la hibridez y la mescolanza, rasgos inherentes a la cultura contemporánea. Por eso creo que ahondar en los márgenes da pistas para entender la esencia de los lugares del mundo en el que vivimos."
Joan Nogué[5]

"When marginality becomes the main stream culture there is no place for anything else except elements of marginal character."
Aristide Antonas[6]

"I would state there are at least three levels of marginality:
1- Geographic marginality. A good deal of our projects are situated outside the main urban areas and growth centers. we work rather with emptying areas, or more interestingly, areas with resources that then are being delivered/ offered to cities to be consumed: ener-gy, food, nature (tourism) among others. This is good; we offer our services where they are needed, not where there are plenty of them already, and also the resources become more and more scarce, and thus important.
2- Product marginality. Our projects are small in size (economy) and usually made of simple economic materials like sawn pre-cut wood or steel that you can by by meter (not special-made). They usually also comment the negative aspects of the mainstream house production, and thus are outside that possibility. This we see as a good sign: All changes start as marginal phenomena, and the con-struction ways in Western Culture has to change. We try to do it our way, starting from marginal rather than mainstream.
3- Professional marginality. Our office is not just designing/ drawing. We teach actively, have workshops, build 1:1 scale our-selves (in fact most of our projects are built by ourselves) and are

5. **Joan Nogué**, is a geographer, Professor in Human Geography (University of Gi-rona), Director of the Catalan Landscape Observatory. Recently he published the book *Entre paisajes*, Àmbit, Barcelona, 2009 (It. tr. *Altri paesaggi*, Franco Angeli, 2010). From the interview at the internatio-nal seminar *Fringes. The Landscape of the Periphery*, Olot, 11-12 november 2010.
6. **Aristide Antonas**, is an architect and a writer, Professor of Architecture (Vo-los School of Architecture, University of Thessaly, Greece), co-founder of *Built Event*, spatial practices for architecture, art, curating and urbanism, presented in Mestre, Italy, 2008.

active in the field of arts as well. We feel this gives a more social, communicative, dynamic and not least grounded and therefore real way of approaching architecture than solely office-room-driven activity."
Sami Rintala[7]

"We does not feel that we could claim we are or we want to be marginal. It seems for us a comfortable argument to self justify this kind of belonging, as a mirror of a kind of egotism. We are just doing our stuff and try to articulate knowledge and production, through different apparatuses (des agencements et des dispositifs). But the field of architecture is so much reactionary now, and using plagiarism to keep an illusion of authority and power, that sometimes, we could appear as a perfect anomaly, what we are not."
 F. Roche/R&Sie(n)[8]

A. Mateus, *Casa Coruche*, 2008.

"When using the word "margins" I am thinking of spaces that can have different shapes and still fulfill their tasks, like for instance a water tank, it can have many different shapes (it has margins) and still be a water tank. Other functions do not have such broad margins however."
Jan Olav Jensen[9]

"The margins are the edges, the limits of a stable society, and are more in flux than the usually stable center. More and more people are living in unstable conditions, that is, in changes of every kind. Sometime even the center can become more like a margin, that in a state of rapid change."
Lebbeus Woods[10]
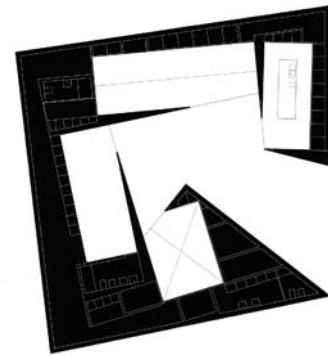
7. **Sami Rintala**, is an architect and an artist at Rintala Eggertsson Architects, Professor at the Faculty of Architecture and Fine Art (Norwegian University of Technology and Science - NTNU). He works on the *Detour Project along 18 National Tourist Routes* in Norway.
8. **François Roche**, is an architect at R&Sie(n) Architects. Work was presented, among other editions, at the Venice Architecture Biennales 2010.
9. **Jan Olav Jensen**, is an architect at Jensen & Skodvin Arkitektkontor, Professor Oslo School of Architecture. He works on the *Detour Project along 18 National Tourist Routes* in Norway.
10. **Lebbeus Woods**, is an architect, Professor of Architecture at the Cooper Union School of Architecture and Professor of Visionary Architecture at the European Graduate School (EGS). He is the author, among other, of *Borderlines*, Springer Verlag, 1998.

0.4 Methodological approach

The methodology used corresponds to a sort of "parametric method", in which the parameters do not correspond to a linear process from general to specific, but rather the attempt to make the marginal condition of some areas an *outil*, instrument of design, according to their availability to transformation.

This parametric method, which aims to tackle the problem of marginal space in both its figurative and functional terms, is summarized in the following four points.

1. The identification of a **scale** coherent to the investigation of the presence of different types of marginal areas and able to grasp their future: the scale corresponds to a territorial unit, recognizable by its physical and geomorphologic structure.

2. The analytical/design use of the figure of the fragmented archipelago to describe the **structure** of marginal spaces within the defined geomorphological unit. In the archipelago the fragments represent the new marginal lands, where the scarcity of relationships, the partiality of the form, the modesty of the traces, make project interventions more urgent and significant. The archipelago is the structure-shape that captures the topological properties of the individual fragments and indicates their ability to transform.

Typologies of the marginal spaces-fragments.

3. The definition of project **strategies**, starting with an analysis of case studies, looks for a general plan of action rather than individual projects.

4. The clarification of **tactics** for designing fragments, and groups of fragments, based on consolidation and/or margin strengthening, in order to activate relationships that are not necessarily physical but also visual, recycled content, waste and debris, recovering the "void", finally made available to other practices or other projects. This is essentially re-cycling and re-configuring them, these pieces of marginal land whose general sense has gone partially lost, which means working on the surface and internal points, crossing borders to make them permeable, leaving empty space available to other possible changes, producing networks of remote visual relationships for recognizable narratives.

Architectural tactics of/in the marginal spaces.

In the analyzed case study, the Cembra valley in Trentino, the conditions of marginality recognized and described find their place
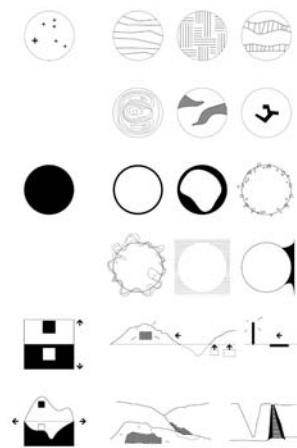
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between hillside settlements and foothill terraces (abandoned and scattered terraces and settlements), between the active quarry site, hillside settlements and wood areas (landfills of waste materials, former quarries), between woods and abandoned fields (used for weekend homes), which further affect the distortion of the summit areas at the margins of mining activity, the visual and physical disruption caused by the margins of new infrastructure, the disposal of agricultural terraces with the ruralization and abandonment of smaller settlements, the sudden abandonment of former mining areas, the pressures caused by a pattern of improper use of second-home tourism: as a defense of the territory; the current total marginal space accounts for approximately 40% of the area and will potentially reach 70% (considering in particular the quarry areas that are still active but destined to run out); the design of fragments thickens in the two zones corresponding to the mining areas located on the bottom of the valley and terraced areas on the upper territories. These two main areas of consolidation are superimposed by a series of smaller fragments corresponding to the minor territorial areas, on the edges of streams, on the crests and at the summits, at the margins of small lakes. The territorial architecture consists of an archipelago of mostly closed figures, simple and complex, the dominant character of which is void. An archipelago of marginal voids of which it appears significant to retain present and future, horizontal or vertical sections of the voids.

Polimarginalia, the structure of fragments of marginal spaces in the Cembra valley.

0.5 Structure
The research is divided into eight chapters.

The **first chapter** traces the role of the concept of margin/marginality as a key tool for the interpretation and reading of the contemporary project. It underlines the possibility that the design strategy of things and marginal spaces for "weak" or "invisible" places in the territory may be an opportunity for the construction of the territory. The meaning of the marginal space is discussed and the possible variations (metaphoric, semantic and syntactic) of the project are highlighted. The marginal areas are discovered as a category of project and space from which to observe and experiment with new ways to make uninhabitable-uninhabited living spaces truly inhabi-

table: a necessary and complementary space, "marginal-pole", with a specific role in the territory.

The **second chapter** investigates the conditions for the formation of marginal spaces: continuity, as a product of geographical conditions, and for variation, as a product of accumulation and abandonment that every era produces. The conditions of invisibility, of disadvantage and degradation, that the marginal space produces and which represent the challenges of the project, are turned from negative aspects into opportunities.

The **third chapter** proposes a general methodology for the topic, followed by the discussion that corresponds to the proposed methodology for the design of/in the marginal areas.

The **fourth chapter** addresses the issue of an appropriate scale for the problem of marginal spaces present in a territory, recognizing the scale in the geomorphologic unit of the valley.

In the **fifth chapter** the structure of the archipelago of fragments is determined by the marginal areas that coexist within a geomorphological unit. This figure is conceptualized as architecture for the construction of the territory.

The **sixth chapter** proposes the strategy of a diffused network of operations, through the analysis of relevant case studies that, in different contexts, have adopted such diffusion, namely a capillary network of architecture-fragments according to fluid and partially indeterminate models. A project as a process over time, which represents a form of preservation of residual spaces and discarded objects, based on the ability to change and adapt, such that becoming something "else" may continue to be something.

In the **seventh chapter** the architectural "tactics" for the figuration of fragments are investigated, working on their borders with minimal intervention. In particular, here are proposed the tactics of accumulation of matter, time and vacuums, which allow to compose new stratigraphies of the earth, recycling disparate materials found in a marginal space.

The **eighth chapter** is the conceptualization of marginal spaces as fragments to configure in autonomous and recognizable figures in an archipelago of marginal voids. These marginal voids, that is, the island-architecture-fragments of the archipelago play the innovated role of the old "collective goods" diffused in mountain areas, places a strong identity in which a community recognizes itself and which are subject to a project- process of continuous construction/regeneration over time.

The application of the strategies under investigation to the Trentino **case-study** of the Cembra Valley concerns the construction of a new map that quantifies the phenomenon of marginal spaces and highlights the different availability to transformation, proposing strategic directions. Tactics and strategies are translated into "rules" of work on the thickness of the margin, on its ability to acquire the capacity to contain spaces large enough to be crossed and lived in, generating new architectural configurations.

A. Mateus, *Casa Monsaraz*, 2008.

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Title Tattic [TT]*S
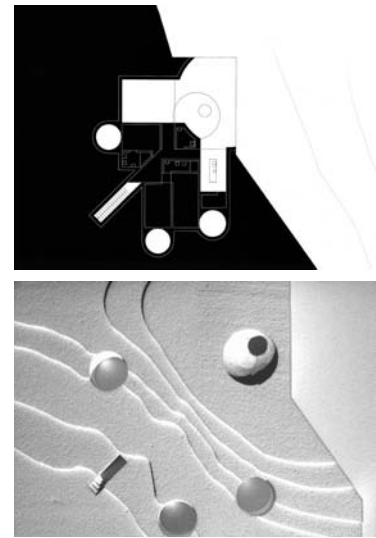
Descriptive explanation

O **A** **d**

Tattic category
S stratification
P porosity
I intrusion

Abbreviation

Design domain
d Distributive
p Programmatic
f Formal

Design timeline
A Absolute: current design
P Progressive: preventive design
T Temporary: impermanent design

Topological motivation
O Open objective: margin[al] open space
C Close objective: margin[al] close space
V View management: preserve views/make visible
I Invisible management: hide views/make invisible
U Up management: re-establish margin[al] space value
D Down management: e-establish margin[al] space connection

Architectural tactics of/in the marginal spaces.

Making space

O P p

Action to free space through the accumulation of materials and things on the edges.
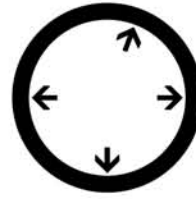
Collection heterogeneity

[CH]*S

O P f

Action to collect different elements to build new [in]formal accumulations (artificial mountains).
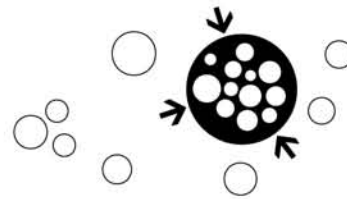
Accumulating

[AC]*S

U A f

Action to add new layers to create perceptual values through multi-layers landmark.

Transporting

[TR]*S

U P p

Action to transport elements from one place to another; to build new functional values, economizing time and space, building mechanical relationships in the landscape through the construction of light infrastructures.
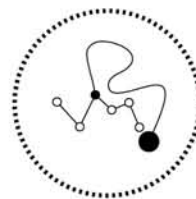
Ruin process

[RP]*S

I P p

Action to let go to ruin as a preventive project that governs changing architectures and landscapes through time; geological, vegetation, human.

Architectural tactics of/in the marginal spaces.
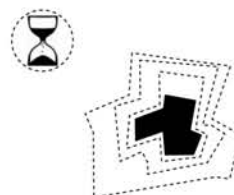
Margins stratification

[MT]*S

C A f

Action to build the edge to wrap and define a space.

Porous voids

[PV]*S
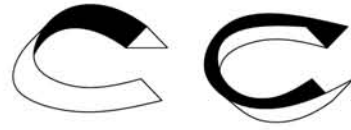
O P f

Construction by subtraction of matter. Holes that connect or voids that inhabit the matter.

Topographying

[TO]*S

I A d

Land manipolation.

Folding edges

[FE]*P
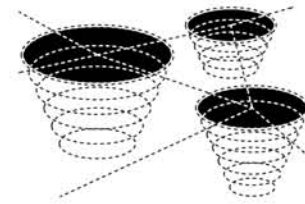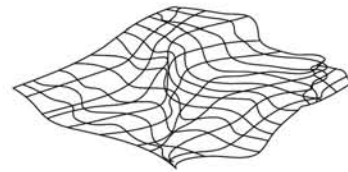
C A d

Folding edges to accommodate spaces and functions, making it inhabitable, allow we see inside/outside, draw the line "between", to reconstruct the thickness.

Doubling edges

[DE]*P
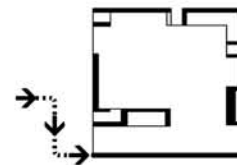
O A d

Action to double the limit to build a transitional space functional and/or inhabitable.

Architectural tactics of/in the marginal spaces.
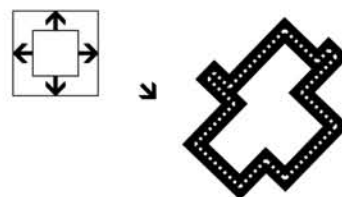
Separation

P **P** **c**

Special protection of a space.
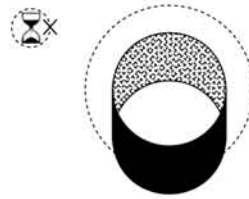
Land screaning camuflage

[LSC]*I

F **P** **v**

Construction of barriers/limits through vegetation.
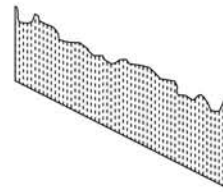
Hidden camouflage

[HC]*I

D **A** **d**

Placing objects in hidden places; camouflage of objects in the landscape.

Mimicry

[MI]*I
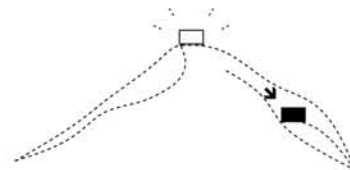
F **A** **i**

Natural/artificial architecture and landscapes.

Parasite

[PA]*I
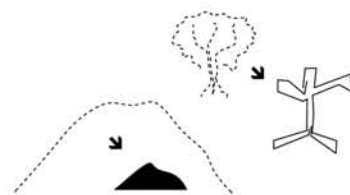
F **A** **u**

Parasitize a margin (or a object) through micro-architectures.
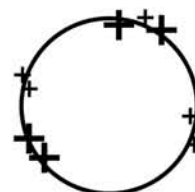
Architectural tactics of/in the marginal spaces.

Open/Close

P **P** **o**

Action to remove a limit or to build it, allow or exclude the view.

Contain voids

[CV]*P
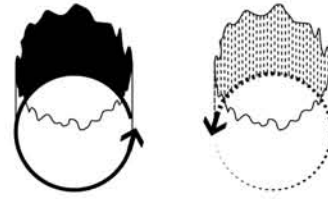
D **P** **c**

Action to build voids in the thickness of the margin and make it permeable.

Walled landmark

[WL]*P
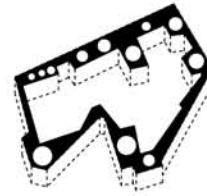
D **P** **v**

Action to build landmarks on the edge to make it visible, ambassadors on the outside of an internal special space.
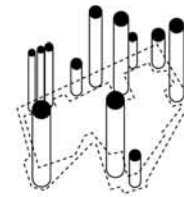
Phenomenological Caves

[PC]*P

F **P** **d**

Action to build empty porous in the Earth to cross and turn it into a phenomenological machine.

Intervalling

[IN]*P
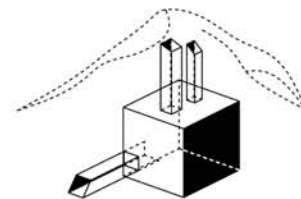
D **A** **v**

Action to distance the parts to achieve a formal balance, it is related to the perception.

Architectural tactics of/in the marginal spaces.
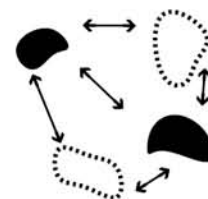
Colonization [CO]*I

P **P** **i**

Colonizing a space through micro-architectures.
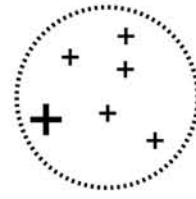
Nomadic [NO]*I

P **T** **i**

Occupation of a space and live it on the move.
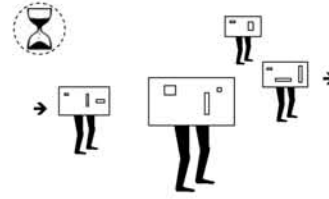
Mirror landscape [ML]*I

F **A** **i**
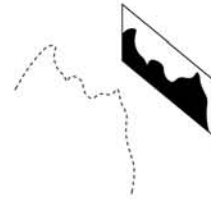
Cut/lift [CL]*I

F **P** **i**

Cut and lift the ground, working with the land line.
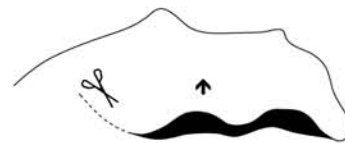
Geomachine [GE]*S

P **P** **u**

Process landscape to excavating and building on the time such as a natural geologic process.

Architectural tactics of/in the marginal spaces.
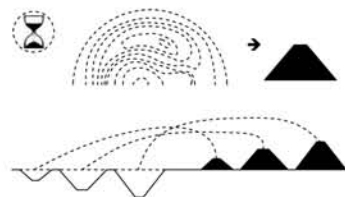
Land line

D A u

Design rules about the correct rapport with the land line.

Solar access

[SA]*P
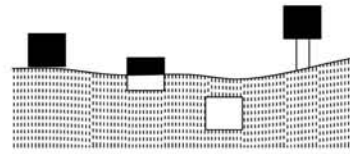
P A o

Preservation of the solar light access for to use it.

Scenic drive

[SD]*P

P A v
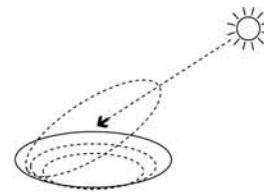
Preservation of the open views of the scenic road.

Canyon drive

[CD]*P

P A v
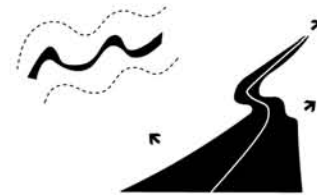
Preservation of the formal characters of the scenic road inside the close natural/artificial canyons.

Iconify

[IC]*P

P A v
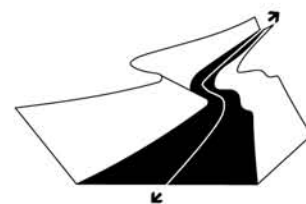
Preservation of the relevant point of view along the road. Building "rooms" to Perceiving Significant elements of / in the landscape.

Architectural tactics of/in the marginal spaces.
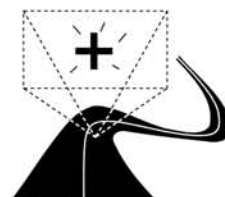
1. [Views] Marginal space

This chapter deals with the forms/conditions of the marginal space that are capable of defining it: **margins** or on the liminality (in its relation with the line and the margin); **relations** or on the secondariness (in its relation with the centre); **contents** or on the scarcity and residuality (in its inclination to welcome the rejects and to become a residue).

The aim is to recognize the complexity of the marginal space, a space that is ambiguous by definition because it keeps together the ideas of *margin of-* (primary element of our perception, representation and construction of reality), of secondariness and of poor quality *in comparison with-*.

Such space occupies a great amount of the present territory, but it does not identify with a precise form, because it can take many and different forms. In a world that takes shape increasingly as an ensemble of *"archipelagos"*, often connected to the flows of the global network but locally disconnected, the marginality of the spaces excluded from the network represents the most significant condition of the contemporaneity, where the ideas and plans of centrality can be to put in crisis: metaphorically speaking, the marginal space represents the sea that allows the islands of the archipelago to exist.

1.1 [Margins] A limit space

"Perception operates only upon difference. All receipt of information is necessarily the receipt of news of difference, and all perception of difference is limited by threshold." Gregory Bateson[1]

"Architecture works on this relationship. [...] We put signs. We look." Peter Zumthor[2]

The first meaning of the marginal space, which is the subject of this paragraph, concerns the fact that it takes shape as a limit space, as a space that lies on the margin of something.
Let us start by the definition of the term: the margin indicates the farthest part, the border, which is often regularly delimited, of an area that is qualitatively characterized. It derives from the Latin word *màrgo*, that is the blank space within which is framed the writing on the page, the welding or the scar of a wound, and it is cognate with the German word *mark*, which means borderline.

The margins are a primary element of the relation between man and world: through them we perceive and build the reality around us. As stated by Batenson[3], to perceive means to draw some distinctions within the reality that we observe, that is to extract the figures from the background. Besides, while the perception goes through the distinction of the margins of the figures made by our eyes, the construction represents the delimitation of a space through physical margins. In this sense, we can define our existence on the Earth[4] as a continuous process of interpretation and addition of margins, which is realized through perception and construction.
A mutual relation exists between the margin and the line. Perceiving and constructing a margin is related to the action of drawing lines - *de lineàre* - and, starting from the relation between the line and the margin, we will investigate the threshold condition of the marginal space and the terms that semantically belong to it (limit, boundary, frontier, border, threshold): in order to recognize it and to restore its tridimensionality, to discover it as a possible category of plan or as a way of looking at things.
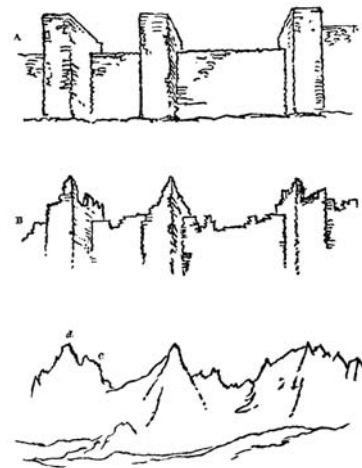
J. Ruskin, *Aiguilles de Chamonix*, in *Modern Painters*, Smith&Elder, 1843-1860.

1. Gregory Bateson, *Mente e Natura. Un'unità necessaria*, [1979] It. tr. by G. Longo, Adelphi, Milano, 1984, p. 46.
2. Peter Zumthor, *Atmosfere. Ambienti architettonici. Le cose che ci circondano*, [2006] It. tr. by E. Sala, Milano, 2007, pp. 45-46.
3. Gregory Bateson, *Mente ...*, cit.
4. Cf. Martin Heidegger, *Saggi e discorsi*, [1954], edited by G. Vattimo, Mursia, 1991. In particular, we refer to the idea of *inhabiting*, as the ultimate aim of architecture, that is to make the Earth available to reside there.

1.1.1 Lines: drawn, crossed, inhabited

The line is at the root of the plan and of its devising, it is a primordial tool, as stated in *Borderline*[5], that is the radical manifesto according to which at the beginning of a plan the architects do not build tridimensional objects but they draw lines on bidimensional surfaces. This definition refers: to the *tractus* that is moved in space and time, between two places, with a rapid and continuous movement of the pen; to the exterior *figùra* of things, which are differently shaped and placed according to their nature; to the *con-figurazione* that is the tool through which one can give figure to a thing or to symbolize it as such. The line is *limes - licmes/licmitis -* that is the path that acts as a boundary between adjoining territories, the oblique and fold side road - *limus/licmus -*; it is *con-finem*, that is the common term, the extreme line dividing two adjoining territories.

It is then necessary to start from the phenomenology[6] of the line - stroke, figure, configuration, limit, boundary - that is from the description of the phenomena that are ascribable to our relation to the line and to their meaning: drawing, crossing, living a line.

To draw a line correspond to the archaic gesture of the land surveyors[7] of measuring the ground, marking a boundary and delimiting an area. In architecture, the action of *de-lineàre* (to draw lines in a space) turns into the construction of simple structures, such as the wall that *con-terminates* a place, marks this and that side, an inside and an outside. In the undifferentiated emerges the difference. The foundation wall of the town[8] establishes a separation between the definite inner space and the unlimited exterior space where there are not any signs that express the relation between it and man.

To draw a line means to classify the space, because the line divides it. As stated by W. Kandinskij[9] the line is the elementary form of the sign, the first signifier[10] (the external face), which allows to identify the sign itself: in this sense, the wall and the furrow are signs that, while separating, classify and establish new ways of use and hierarchical relations between town and country. The continuity of the space meets in the line a caesura that is recognizable both in space and time - of sign and *nomos*[11] - because, where a line exists, everything acquires its own identity. In other words, if the continuous and the uniform is the geometric *locus*[12] of the indistinguishable, the line introduces the discontinuity, the identity and the relation,

5. *Borderline* is the title/manifest of the Hungarian Pavilion at the 12th Venice Biennale of Architecture, 2010.

6. *Phänomenologie* is the title of a part of the work by J. H. Lambert, *Neues Organon* (1764). By phenomenology we mean "the orderly identification of the phenomena, the description of the way in which reality appears and shows itself". In M. Heidegger phenomenology is the activity accomplished by the philosopher in order to reorganize and reveal what appears in the experience of reality - the phenomena - that can be perceived through the act of observing and, more generally, of living.

7. Land surveying: the Latin word *agrorum mensura*, and the term *ager, agri* is used in the meaning of cultivated field. Cicero gives to this term also the meaning of country, in contrast with the town, referring to the sacred act of tracing the *Cardo* and the *Decumanus* during the foundation of a Roman town. Ovid highlights its bidimensional nature by using this term for flat places.

8. *"According to the ancient writer Hyginus, the priests that inaugurated a new Roman town had to place the first axis in the cosmos and the boundaries were never marked without referring to the order of the universe, because the decumanus is aligned with the path of the sun, while the cardo follows the axis of the sky."* Joseph Rykwert, *L'idea di città*, [1976], Einaudi, Torino 1982, p. 249.

9. Wassily Kandinsky, *Punto linea superficie: contributo all'analisi degli elementi pittorici*, [1968], Adelphi, Milano 2003, p. 109.

10. In linguistics, in the definition of *sign* formulated by F. de Saussure (1857-1913), the signifier is the visual or acoustic image, the formal element, the "external face" of the sign (the internal one is the *signified*) that allows to identify it on the level of the word.

11. *Nomos* is the Greek word that indicates the *"first measurement, from which derive all the other standards of measurement; the first occupation of ground, with the division and allotment of the space; the original subdivision and distribution"* Carl Schmitt, *Il Nomos della Terra*, [1950], It. tr by E. Castrucci, Adelphi, Milano, 1991, p. 54.

12. In mathematics, and in particular in geometry, a geometrical locus, or more simply a place, is the totality of the points of the plane or of the Euclidean space that have in common a certain property. Usually, this property relates to geometrical notions and it is expressed by mathematical formulae, and the geometrical locus forms one or more continuous figures in its environment (the plane, the tridimensional space, etc.).

that is it *makes places* in the sense given by Augé[13].

The line needs a stable surface on which being drawn: the *surface* of W. Kandinskij like the surface of the Earth[14]. Only on such surfaces the line can resist as a *full* (solid) element, physically built by adding matter, or it can exist as an *empty* space, obtained by removing matter. In this second case, the line represents a wound in the body of the Earth, just like the cutting of Fontana is a wound on the canvas, referring to a "beyond" and to an "under": the forced intrusion of the emptiness, realized through the gestures of removal and cutting, becomes the way to open to the eye what is otherwise hidden.

N. A. Constant, *Terrain Vague II*, 1973.

To cross a line is the act of passing from one space to another by making the physical and mental experience of two different conditions; it means becoming *foreigners*. The act of crossing a boundary expresses the space of time during which we modify our social status; it includes the simultaneous experience of danger, abandonment and intrusion; it requires the exchange and the translation in order to making homogeneous what looks heterogeneous in comparison to our everyday life. To live a line, to go along it, is the condition to understand reality, as stated by G. Olsson: *"[…] the act of understanding does not lie in crossing boundaries, but rather in staying exactly on the boundaries. Every experience takes place on the boundary, because in the centre everything is so natural that it goes unnoticed. Being on the limit means then having moved from the acceptance of the taken-for-granted to the prohibition of the taboo. Being suspended in that position is lingering in the crack among categories, refusing the safety of being caught: being rebels instead of revolutionaries"*[15].

As a limit-dimension, to live a line means to take place between here and there, up and down, nature and culture, between two nations, two different functions or uses: because on the line the opposites co-exist, they speak different languages, cultivate the hybrid, the traditional dichotomies of classification of reality (inside/outside, up/down, full/empty, light/shade, etc.) are contained in new syntheses.
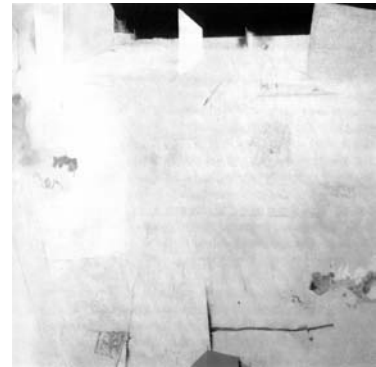
13. A place *"can be defined as identitary, relational, historic"* while *"a space that cannot be defined either as identitary or relational or historic, will define a non-place"* Marc Augé, *Nonluoghi. Introduzione a una antropologia della surmodernità*, [1992], It. tr. by Dominique Rolland, Carlo Milani, Elèuthera, Milano, 1993, p. 73.
14. *"Every fundamental order is a spatial order. When we talk about the constitution of a country or of a continent, we refer to its fundamental order, to its nomos. Now, the real, authentic fundamental order is based, in its essence, on certain boundaries and spatial delimitations, measures and divisions of the land. At the beginning of each great age, then, there is a great conquest of land"* Carl Schmitt, *Terra e Mare. Una riflessione sulla storia del mondo*, [1942], It. tr. by G. Gurisatti, Adelphi, Milano, 2002, pp. 73-74. The *fundamental order* discussed by Schmitt is the *nomos* considered in its triple meaning of *taking, dividing and pasturing*, which are acts that belong to the man living on Earth; they also distinguish the Earth from the Sea, which is lacking in character and resistant to prints. Cf. Bruno Accarino, *Confini in disordine. Le trasformazioni dello spazio*, Manifestolibri, Roma 2007.
15. Gunnar Olsson, *Linee senza ombre, La tragedia della pianificazione*, Edizioni Theoria, 1991, p. 165.

1.1.2 Margins lines

The margin is the thickness of the line, it is a space. In the margin, the line of the *con-finem* (boundary) becomes the space of the *ària in frònte* (air in front) where the adjectival ending - *iera* - that is air (common in Italian terms like costiera *coast*, riviera *coast*, etc.) indicates the furthest space of a politically ruled territory that lies opposite the space of another territory.

The separation between two territories, which in modern cartography is conceived as a line - a borderline -, in ancient times was a frontier space[16]: there was a neutral area, the *marchlands*, that keeps its literal meaning of transit from one territory to another through a neutral zone.

The line, in its graphic and mental representation, is infinitely long and infinitesimally narrow: the line is a two-dimensional element that does not have any thickness, that is to say its width cannot be measured. The margin, on the contrary, is a three-dimensional element having thickness: the *limes* gains the spatiality of the border, like the *burdo* of a coarse and thick fabric.

In architecture, reasoning about the margin means reasoning about the "shapes" and material "thickness" of some spaces, about their inclination and ability to interact with other spaces; about the way in which a margin is, or can be, generated, modified, used, destroyed; finally, about the way a margin is, or can be, perceived, identified, re-identified. According to Kahn, for instance, the margins of its architectures (in the dialectic between serving and served spaces) function as a separating filter among different spaces: they are thick, equipped and inhabited.

While the line is essentially a geometric concept - from which derives the term *perì-pherein* (to carry around), that is the space enclosed by the circumference line of a circle and the distance of this line from the centre - the margin belongs to the *con-torno*[17] of far more complex and articulated figures. In the contemporary world, these margins correspond both to external areas and to the internal areas of the city and the territory, to the areas that lay along a river or a infrastructure, and to the middle-areas - *between* - different geomorphological elements. Often, the margins coincide with the residual spaces of a territory that was built without considering what remains besides the single transformations and plans.

Nevertheless, the margin is necessary: the characteristic of empty

G. Guidi, *Senza titolo, Fiume 07*, 2008-2009.

16. Piero Zanini, *Significati del confine. I limiti naturali, storici, mentali*, [1997], Mondadori, Milano, 2000, p.26.
17. *Con-torno*, to lead around (Pliny). Etymologically, the contour indicates the extreme line that circumscribes every figure, and derives from *contornare*, that is to surround.

space allows the fruition of the written text, as well as the fruition of the built-up territory.

Just like the line, also the margin has its own phenomenology that, while giving a space to the above-mentioned properties of the line, modifies them: between, in the middle, double, hybrid.

1.1.3 Betwixt/between, double, hybrid

The poetics of the margin sometimes belongs to the space/time *between* things. We can translate the margins - betwixt and between - in taxonomies: there are margins where the *between* is the tool to construct the spatial continuity - the movement of space - just like in the architectures by L. Mies Van Der Rohe (from the *pavilion in Barcelona* to the *court houses*), where the spaces fluently penetrate each other, but where it is impossible to clearly establish when one becomes the other; there are margins where the *between* defines a clear interval - empty and closed - between two events, just like in the Japanese spatial concept *MA*; there are margins where the *between* defines an interval - empty and open - as in *4'33''* by J. Cage, where silence and background noise negotiate their reciprocal taking and surrender.

From the film, *Stalker*, by A. Tarkovskij, 1979.

With reference to the territory, there are many different forms of *between*: *periphery, urban fringe, terrain vague, no man's land, brownfield, ecotone*, etc. These and other taxonomies reveal the constitutive property of the margin: *con-tenere* (to contain-to keep together) and simultaneously what is *com-presente* (present at the same time) in the same place and time: the movement, the interval, the silence of the pause.

The contemporary presences that live the margins *between*, by making the classification of things more uncertain, find their correspondence in the ancient *rites of passage*[18]. These rites take place in the sanctuaries built on the frontier (the Greek term is *eschatia*[19]): their geographical marginality corresponds to the social and biological marginality of the teenagers living there; their change of condition and identity, as described by V. Gennep, occurs in three stages: separation, threshold phase, new position. The threshold period corresponds to the dual, not classifiable, character of "transnational beings" living an intermediate space/time between all the

18. Cf. Arnold van Gennep. I *riti di passaggio*, [1909], Bollati Boringhieri, Torino 2002.
19. Claudia Montepaone, *Introduzione*, in *Lo spazio del margine. Prospettive sul femminile nella comunità antica*, Donzelli Editore, Roma, 1999, p. 3-10.

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fixed points in reality. The dual character of the margin, formed by the superposing of the prolongations and the advances that come from the near past and future respectively, causes its oxymoric identity, which allows us to recognize it as the "place of touch"[20] where the opposites coexist and it is impossible to touch without being touched, because up and down, inside and outside, in the margin touch each other.

This space of *con-tact,* (frontier, margin) condemn to the exchange: from the tools to see it, to the logics to plan and live it. In this sense, in order to see, plan and live a margin it is necessary to work on the continuous translation and mediation between the homogeneous (traditional worlds and ways) and the heterogeneous (non-conventional worlds and ways).

G. Debord, *The Naked City*, 1957. Guide psychogéographique de Paris, 1957.

From the artistic experimentations of the Seventies, the crisis of the centrality culminates in the "non-representational" described by R. Krauss[21], of which the classic classifications cannot answer anymore. The vagueness - the indefinable that is at the heart of the poetics of G. Leopardi - approximation, relativity, quality rather than quantity, breaks the binary relations, by introducing a third element - the margin - and its uncertainty. A margin where the hybrid, the impure, the formless are cultivated, where transitory and unexpected configurations, *"bizarre and partial elements, agglomerates, heterogeneous, hybrid, bricolage of signs and things"*[22] emerge. This is the condition of being a third party of space[23] that makes possible its transformation, to plan new configurations and meanings: pre-eminently space of rule, the margin lays the basis for its transgression through gaps in meaning of/in the sings that characterize it.

1.1.4 Marginal spaces as trans[24]-forms

In the contemporary cities and territories, many marginal spaces are deserted because they are hybrid, ambiguous and uncertain; they are perceived as useless, not worthy of being seen or uninhabitable spaces. This is a paradox. In reality, as we tried to demonstrate in this first interpretation of the marginal space (that is called liminality condition because of its relation with the margin and the line), the margin is a primary fact, not only as a difference that allows us to perceive the world and its figures, but also as the space that is
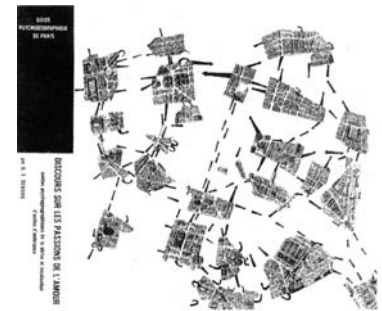
20. Maurice Merleau-Ponty, *Il visibile e l'invisibile*, edited by M. Carbone, It. tr. by A. Bonomi, Bompiani, Milano, 1993. p. 163.
21. See for example Rosalind Krauss, *Passaggi. Storia della scultura da Rodin alla Land Art*, [1991], edited by E. Grazioli, Bruno Mondadori, Milano, 2000.
22. We refer to the description made by Lucretius of the transit from chaos to cosmos in "*De rerum natura*".
23. About the mathematical concept of the law of excluded middle see for example: *Logica e aritmetica* edited by C.Mangione, Boringhieri, Torino, 1965, p.501. The condition of being a third party is the one of the *"third"* in the sociology of G. Simmel, the *"unspeakable"* of J. Derrida, the *"Third landscape"* of G. Clement.
24. *"The prefix trans means to cross something right through, without stopping in any moment of being in contact with it [...] so that, once the route is finished, you do not arrive to a final point that is separated both from the starting point and to the movement itself, but to a transformation of all points that changes completely the sense of the route and of what we covered"* Félix Duque, *La fresca rovina della Terra. Dell'arte e i suoi rifiuti*, [2002], edited by L. Sessa, Bibliopolis, Napoli, 2007, p. 169.

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nearest and most available to transformation. To stay at the margins means to be near both to the objective and to the metaphorical transformation[25]. In this sense, the marginal space is first of all the space of foundation, both physical (construction) and mental (perception), the space of a still unexplored and available possibility, a way of being or becoming otherwise: a trans-form.

This is the reason why it is necessary to rediscover the marginal space as a category of plan, that is as a space from which one can observe and build - draw and trans-form - in new ways that architecture has to experiment.

1.2 [Relations] A space of minor importance

The second form of the marginal space, which is the subject of this paragraph, concerns the condition of secondariness[26] of a non-essential space in a given system. The idea of secondariness is closely related to marginality, that is to the condition of what, or of who, is in a marginal position.

If the marginal space, investigated in its dimension-limit of the margin (See 1.1 Margins), exists "between" or "in the middle of" something, the marginality as a secondary element always exists in "relation with", "subordinated to" and consequently "marginalized by". It is the phenomenon concerning the role that, in time and space, is played by different elements of reality: from the individual to the territory.

In order to think about secondariness, the theme of *relations* is fundamental. In mathematics (*set theory*) relations, that is the relation among the internal elements of a set or among the ones belonging to separated sets, can be of different kinds: belonging, inclusion, disjunction. The transfer of this concept to the field of the real space, is helpful to interpret the "weak relations" characterizing the condition of marginality. As the relations between elements and sets, also the - weak and unequal - relations between spaces and territories, can be of different kinds: economical, political, social, cultural, environmental, or connected to perception, which excludes some parts of the territory and consider them as *terra nullis*[27]; they are invisible because they are effaced by mind, abandoned as *derelictae*[28].

25. Claudia Montepaone, *Intro...*, cit., p. 3-10.
26. From the Latin *secundarius, secundus*: something of minor importance or value, not principal, not fundamental, dependent, subordinate.
27. *Terra nullius* (No Man's Land) is the Latin term that indicates a territory that is debated or not clearly subjected to a specific national authority; it defines the strip of territory dividing the positions of two opposing armies. *Res nullius* (nobody's thing) is the term used in contemporary civil law, derived from the Roman law, to indicate things that do not belong to anybody.
28. *Res derelicta* (abandoned thing) is the Latin term that indicates the state of neglect of a thing, which we can reappropriate through *occupatio* (occupation); it is still used in civil law to refer to what is abandoned or destined to be abandoned, like the waste. *"Res derelicta [...] is a metaphor for considering the fringe areas, and for thinking about that which is left over from all rational territorial planning and production processes. Thus, it is a metaphor aiming to show how our society is characterized by its incredible ability to producing scraps, relics, waste, making abandonment into a widespread and ubiquitous condition. Environment/dump, consumption/waste, use/disuse: among res derelictae you can find not just the negative aspect of our society, but also other possibilities. Art is a research that actually seizes this potentiality, these possible further meanings and knows how to develop them into new ways of participation and communication. Thus abandonment and the emblematic meet in spaces and practices that are experimental and ductile, as well as paradigmatic."* Vincenzo Casali, Built Event, Harald Gsaller, Armando Lulaj, Mostra Collettiva *Res Derelicta. Dall'abbandono all'emblematicità dei luoghi*, Galleria Contemporaneo, Venezia, September 11th/October 12th 2008.

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The non-centrality is both the cause and the effect of the little importance of who is marginal, but the marginality indicates at the same time something out of the rule, therefore, something exceptional[29]; this makes sure that its connotation is not always negative. We want to think about this ambiguity of the marginal space, about its territorial role as a place that is available to *happen*.

1.2.1 About the chora and the relation of belonging

At the territorial scale - that is the scope of this research - we can recognize a significant difference between the role of the parts of/ in the territory that characterized the ancient organization of space and the contemporary one. While in the past the marginal space was a vital space in the relationship among different territorial entities, nowadays the very same space lost its importance, being reduced to mere support of the strong territories.

The spatial conception of the Greek *polis* is formalized by a relationship of belonging, where centre and margin, city and territory, form a set composed of different parts: the urban centre (*asty*), the cultivated suburban territory (*chora*[30]), the border area marked by suburban sanctuaries (*eschatiai*) belong to the whole and *are in that relationship* to define it as such. The city does not end with the wall and its gates, but it depends on the geographic unit that Aristotle[31] describes as a functional set organized inside a perimeter and around a centre, where all parts play a decisive role in the configuration of the unit itself: "plural and differentiated".

The architect A. Perez-Gomes[32] architecturally describes the *chora* as a unique sort of space, by quoting therefore the definition of chora by J. Platone: a container where things take shape, like the maternal abdomen during motherhood, that is shapeless in itself because it does not have a permanent identity. Also J. Derrida[33], while deconstructing the text of the *Timeo*, interprets the chora as the space that produces differences, an interval that allows things to have (a) place where they can happen. *"In Greek, chora means place in very different senses: place in general... It has to do with interval; it is what you open to give place to things, or when you open something for things to take place. [...] It is a kind of hybrid being. [...] Chora is not exactly the void, though it looks as if it were void, and it's not temporal in the sense of a sensible world. [...] There is something*
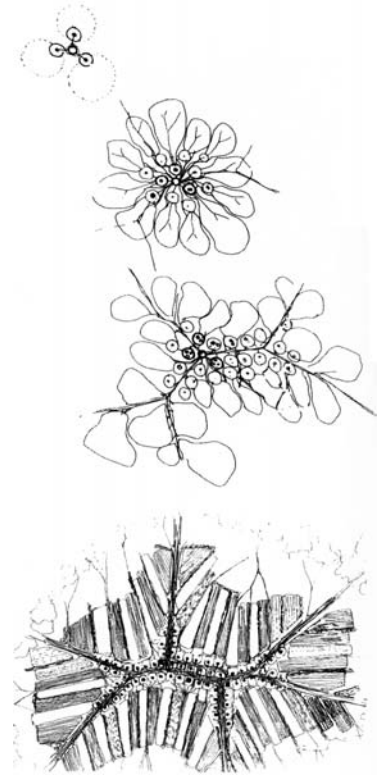
F. Otto, *Three, twelve and twenty-five occupiers, with the appropriate surface areas, and a typical central European village with 63 occupied sites,* 2009.

29. See Claudia Montepaone, *Intro...*, cit., p. 3-10.
30. The *chora* on the plain was considered of superior quality if compared to the hill or the mountain one. From the state lands of the chora, the *polis* could draw revenues by renting or exploiting the sanctuaries.
31. Aristotle, *Politics, Book VII*.
32. Cf. Alberto Pérez-Gómez, *CHORA: The Space of Architectural Representation*, in Alberto Perez-Gomes, Stephen Parcell, *Chora. Intervals in the Philosophy of Architecture vol.1*, McGill-Queen's University Press, Montréal, 1997, pp. 1-34.
33. Cf. Jacques Derrida, *Chora*, in Jacques Derrida, *Il segreto del nome*, [1993], edited by G. Dalmasso, F. Garritano, Jaca Book, Milano, 1997, pp. 41-86.

else, the third element, triton genos. This third kind, or genos, is neither the eternal eidos nor its sensible copy, but the place in which all those types are inscribed the chora."[34] The chora, then, is not a void in its absolute sense, but an empty space full of contents, a virgin where one can find a home out of town[35]; it is fecund to the imposition of new urban "meshes" to arrange the development of the conquered city-territory[36].

"Chora receives everything or gives place to everything, yet Plato insists that in fact it has to be a virgin place, and that it has to be totally foreign, totally exterior to anything that it receives; so, in a sense, it does not receive anything - it does not receive what it receives nor does it give what it gives."[37] It is, then, a particular predisposition to change, the ability to give (a) place in order for it to occur: this is possible thanks to the void, the essence of the *vacuum*. These are the conditions of a marginal space as secondary, additional, full of potential space or territory.

1.2.2 About the *eschatià* and the relation of inclusion

At the margins of the *chora*, along the border strip, there is the *eschatià*, the extreme space that is not fortified, but it is marked by sacred landmarks: it is the *no man's land* between neighboring city-states, an un-divided land meant for pasture, timber harvest and stone quarrying to construct.

The term *eschatià*[38] indicates the "margin" of the city-territory, even if it does not necessarily coincide with a boundary position, but rather with the marginality of the mountain or marshy, uncultivated or wild grounds, towards or inside the mountains, areas that cannot be cultivated, which are hardly inhabitable but useful to extract raw materials.

The presence of sanctuaries assigned to the path of trans-formation of the young people or of the illegitimate children points out an ideological, as well as physical, marginalization of these places. *"This kind of areas played an important role in the antiquity, in particular in Greece; they were a place of trade or fight [...] they were usually constituted by a desert, a marsh and especially by a virgin forest where you can freely pass and hunt."*[39] The hybrid creatures see in the morphology of the marginal space the condition of being suspended between two worlds (the human and the

34. Jacques Derrida, Peter Eisenman, Jeffrey Kipnis, Thomas Leeser, *Chora L Works: Jacques Derrida and Peter Eisenman*, edited by J. Kipnis, T. Leeser, Monacelli Press, New York, 1997, p. 10.
35. *"It was on the out-skirts of the city that the new institutions, which set it off from ancient types, found a home."* Lewis Mumford, *La città nella storia*, [1967], Bompiani, Milano, 2002, p. 144.
36. The chora was a space that played a key-role in the re-organization of the territories conquered by the Greeks. Nevertheless, the marginal space of the chora was not suited to the chaotic organization that characterizes the most archaic cities, because it needed a regular "mesh" system. Such configuration, planned by Hippodamus, could be realized only in a "tabula rasa place" like the chora. Cf. Marc Glaudemans, *The rediscovery of the Hinterland*, in Alberto Perez-Gomes, ..., cit., pp. 82-102.
37. Jacques Derrida, *Chora...*, cit., p. 9.
38. Cf. Claudia Montepaone, *Intro...*, cit., p. 3.
39. Arnold van Gennep, *I riti...*, cit., p. 16.

animal one) or between two conditions (the preceding and the following one) of a "metamorphosis". The hybrid, double and isolated character of these spaces is very similar to the condition of the marginal individual, investigated by the researches[40] (sociologists and anthropologists) that first dealt with the problem of marginality regarding somebody who became culturally hybrid because of the experience of migration, of the presence of a double identity inside the same individual, of its socio-cultural isolation.

According to S. Guettel Cole[41], the *eschatià* are conceived as threshold land "strips" included between or beyond the boundaries: scrubland, borderlines or "space-in-between", like the plain color among the spots of a panther, these spaces can be big or small, their width depending on the direction followed by the army in the place. Only by leaving the monocentric vision to consider the "multipolar" one, of many neighbouring city-territories, we can observe the relational character of these marginal spaces: they constitute a sort of marginal-poles that, just like the urban centre-poles and in their respective specificities, have the same importance in the - physical and perceptive - conformation and construction of the territory.
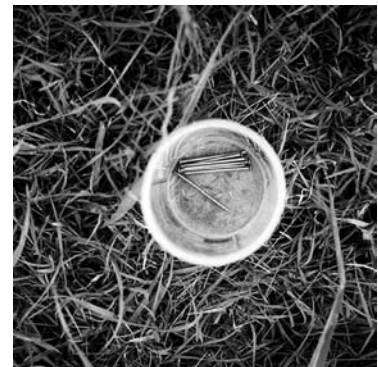
G. Guidi, *Senza titolo, dalla serie Fiume 07*, 2008-2009.

1.2.3 About the contemporary *marginal spaces* and the relation of disjunction

The *marginal spaces*, which play a specific role in the construction of the ancient territory and as such they are perceived[42] and represented, in the network and multipolar conformation of the present territory described by the researchers and the media as a fluid space[43], characterized by centers that multiply in nodes of an extended and complex net, seem to have lost their role and meaning. The condition of secondariness of these territories is mere marginality: a separation-exclusion that causes the dependence on other territories. In this sense, the dominant relation is not the inclusion or the belonging to a unique whole anymore, but instead the disjunction between strong territories and marginal areas. This is a condition that can stay static for many years or change rapidly, a dynamic process[44] that we can easily observe on a macroscopical, global level.

Marginality is a relative concept that depends on the geographic

40. Cf. Robert E. Park, *Human Migration and the Marginal Man*, in *American Journal of Sociology vol.33*, 1928, pp. 881-893; Everett Stonequist, *The marginal man: a study in personality and culture conflict*, [1937], Russel&Russel Pub, 1961; Oscar Lewis, *The children of Sanchez: autobiography of a Mexican family*, [1961], Ed. Vintage, 1979.

41. "*The Greeks recognized the unusual nature of this kind of landscape by calling it chora methoria, borderland or space-in-between.*" Susan Guettel Cole, *Borderlands...*, cit., p. 179.

42. See for example Gabriella Vanotti, Claudia Perassi, *In limine. Ricerche su marginalità e periferia nel mondo antico*, V&P Università, Trento, 2004.

43. Cf. Zygmunt Bauman, *Modernità liquida*, [2000], Roma-Bari, 2002.

44. See Walter Laimgruber, *Between Global and Local: Marginality and Marginal Regions in the Context of Globalization and Deregulation*, Ashgate, Aldershot, 2004.

and spatial circumstances (topology, geology) and that has been investigated through different approaches: *geometric, ecologic, economic, social* approach, related to other possible approaches like the p*olitical, cultural, risk/hazard*, and *perceptive* ones[45]. From a *systemic* point of view, the marginal regions are areas that lie at the margins of systems that are strong from a socio-economic point of view; as a *process*, marginality is similar to a dynamic interconnected system: it is not just an economic phenomenon, but it is related to the whole spectrum of human life like a dynamic system[46]. In this sense, the planning point of view, since it is a vision for a territory that is conceived as a non-disconnected whole, can play an important role.

The *geometric* model studied by W. Cristaller[47] in the theory about the *central places*, is based on the *centre-periphery* approach and on the respective functional relations, which are unequal and in most cases linked to economic problems that exclude the territory considered as barren, weak[48] or disadvantaged. This model, in the planning vision of a territory, is particularly interesting because it allows the production of different maps depending on the considered (economic, settling, etc.) elements of "centrality", therefore restoring the real complexity of the investigated territory.

The geomorphological characteristics, that is accessibility and mobility, are the main elements of the marginal area (in the mountain environment they are often linked to the realization of new infrastructure), that is why "marginality" is a more complex concept than "periphery". This means that, if from a geometric point of view this two concepts overlap, there are some distinctions to be made: both some bad suburbs and some places with noteworthy amenities can be marginal, meaning that the marginality of places due to hard permeability can exist also in areas that are strong from an economic point of view. These are areas that are placed at the edge of privileged territories, beyond which the development tends to produce and accumulate its own waste; peripherial areas that are not considered because hardly accessible, transitional areas with no chance of stop and therefore with no significant local repercussions; border areas of productive sites having "dirty" functions, such as extractive areas or waste depots, border or interclosed "areas of discard", usually (physically or mentally) inaccessible because they are mo-
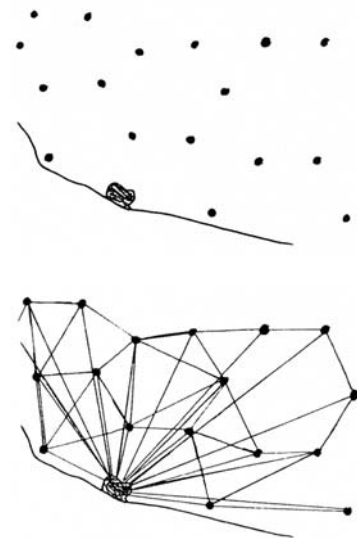
F. Otto, *Settlement centres in random occupation*, and *Associated direct path network*, 2009.

45. Cf. Walter Laimgruber, *Between…*, cit., p.56.
46. Ibid., pp. 37-64.
47. Cf. Walter Christaller, *Le località centrali della Germania meridionale*, [1933], Franco Angeli, Milano, 1980.
48. "L'isolat" and "l'angle mort" (A. Reynaud, 1981) are concepts characterized by weak relations with the outside, leading to a progressive weakening of the suburbs. Walter Laimgruber, *Between…*, cit., p. 44.

nofunctional, areas of respect or *no man's land*, *terrain vague*, not necessarily extraterritorial as to the community conceiving it. We can define all these spaces as marginal spaces of the contemporaneity and, as "spaces", they can be the places of new potentials for the dynamic and interconnected plan-process.

To recognize and to investigate marginality as a "space" in its two convergent aspects "between" physico-morphological realities of different use, and of residual and "refused by" space, presses the necessity of making relevant the techniques of territorial architecture: of a plan of re-signification "between" the existing structures; of a plan that takes the marginal spaces as significant spaces in themselves, to be strengthened without making them centres[49]; of a plan that allows to re-perceive, re-benefit from and re-construct the "weight" of such space through new metaphors.

1.2.4 Marginal spaces as *connecting structure*[50]

The condition of secondariness of the marginal space corresponds to the state of latency of territories that are in abeyance for a development that will occur only subsequently. Nevertheless, the latency is also the value of these spaces: there, the room of manoeuvre of the plan is wider and is related to the ability of using the marginal spaces as *inter-vallis* that are significant in themselves, in the contemporaneous fluidity between net and nodes, through new forms of "strong marginality".

All these marginal spaces are not useless, on the contrary they are fundamental as "ecotonal"[51] places of connection and relation shining in their own light because, as asserted by P. Zanini: *"A margin is overall a place where the movement of the landscape can occur, and therefore its change; a place where the alternations (even the biological ones) are stronger and can exploit the advantages of the different neighbouring environments. A great Canadian director, Norman McLare, stated that in the cinema it is more important what is in the middle, between two photograms, than what is inside a photogram, because this black margin, this suspension, allows the movement to unfold."*[52]

To assume the marginal spaces as *inter-vallis* of/in the territory, means to recognize an important role to the condition of secondariness in the construction of the territory itself, by *comprising* "cen-

49. We refer to the concept of "strong periphery" of Gion A. Caminada, *Nove tesi per il rafforzamento della periferia*, in *Cul zuffel e l' Aura dado*, edited by B. Schlorhaufer, Quart Verlag, Luzern, 2008, pp. 132-137.
50. The *"connecting structure refers to different aspects and levels of the relation, unlike the finalist logic of the rationalist kind [...] what structure connects the crab with the lobster, the orchid with the primula and all four with me? And me with you and the six of us with the amoeba on one side and with the schizophrenic on the other?"* Gregory Bateson, *Mente...*, cit.
51. The ecologic margin - *ecotone* - is the environment of transition between two ecosystems, and more generally between two homogeneous environments, which are stronger and richer in biodiversity because they exploit the advantages of the different neighbouring environments. These peculiarities make the ecotone indispensable because it is through these structures that the connection between very different environments occur, as well as in mathematics the intersection between two sets produces a set where the elements of the two starting sets coexist. See Almo Farina, *Verso una scienza del paesaggio*, Alberto Perdisa Editore, Bologna, 2004.
52. Piero Zanini, *Note sul margine, in Lavorare sui bordi. Paesaggi di margine nella laguna di Venezia*, edited by F. Benati, L. Zampieri, Edicomedizioni, Venezia, 2001, pp. 6-9.

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tre-poles" and "marginalia-poles". A "marginalia-pole" represents the other side of the coin, the complementary space, the structure that connects allowing relations, the empty between things, the sea between the islands of the archipelago[53], a space that is necessary even when one tries to obliterate it, "the outside always present in the inside" of the *pharmakon*[54] described by J. Derrida: "marginalia-poles" as a territorial *pharmakon*.

1.3 [Contents] A space of poor quality

"was a no-man's-land, a place suitable only for disposal of objects so polpute that no one could touch them." Susan Guettel Cole[55]

The marginal space, besides representing a margin "between" or "in the middle of" spaces that are different in use, in their physical and perceptive state (See 1.1 Margins), and taking shape as a space of minor importance "if compared to" strong and dominant territories (See 1.2 Relations), is characterized as a space of lower or poor quality: a space where waste accumulates (activities that are dirty or have an effect and yet are necessary to the "digestive" and/or productive functioning of a territory), or that takes shape as a residue (places and objects exploited before and then abandoned).

This is a paradox, as always happens when looking and dealing with things and facts of/in reality from its margins, because both the condition of margin-limit and that of secondariness of the marginal space are the cause and, together, the effect of its inclination to accept, or to take shape as, reject or residue. Such content-character, defined here as a condition of scarcity, is the third form of the marginal space, which has the role of conceptually defining, together with the two preceding, what is the marginal space, that is the subject of this research. In particular, the analysis of the condition of reject and residue of the marginal space reveals the possibility of the plan to re-conceptualize it through actions of recycling as a *poetics* of contemporaneity. This is because the marginal space represents a planning category that, thanks to its ambiguity, accepts both the readings of the negative characters and the proposing interpretative eye, in order to make them materials for new plans.

53. *"The archipelago consists in conciliating the absolute distinction of the figures with the necessity of their relation."* Massimo Cacciari, *L'arcipelago*, [1997], Adelphi, Milano, 2005, p.31. See also Alessandro Petti, *Arcipelaghi e enclave. Architettura dell'ordinamento spaziale contemporaneo*, edited by M. Nadotti, Bruno Mondadori, Milano, 2007, p. 23.
54. *Pharmakos* (the Greek scapegoat, the cursed) is a fundamental term in the J. Derrida's deconstruction. In the book Plato's *Pharmacy*, Derrida attacks the boundary between the inside and the outside, by stating that the outside is always already present in the inside (the term *pharmakos* has never been used by Plato, even if he talked about *pharmakeia-pharmakon-pharmakeus*). *Pharmakos* is like a medicine - *pharmakon* - that, as most medicines, is both poison and cure at the same time. The *pharmakon* is meant as a plan in Gil M. Doron, *... badlands, blank space, border vacuums, brown fields, conceptual Nevada, Dead Zones ...*, in *Architecture and Indeterminacy. Field: vol. 1*, issue 1, Sheffield, 2007, pp. 10-23.
55. Susan Guettel Cole, *Landscapes...*, cit., p. 179.

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1.3.1 Rejects or about discharging

The term reject refers to the action of removing, separating or taking out and then rejecting; reject is the thing or space that is rejected after the best part has been chosen and it is therefore what is removed (thrown out) because of its bad quality.

The production of rejects has grown enormously in the last decades. As stated by many researches[56], the rejects represent the most evident heritage of contemporaneity, *"fresh ruins"*[57] of the hurt earth or "monuments" that will be explored like ruins in the future[58]. Since they take up more and more space in the territory, the rejects are deposited beyond the more or less consolidated urban margins, where *"are placed the dumps, the industrial areas and all that they do not want to keep in the more central areas. [...] This new model of boundary wall, toxic wall, becomes the true margin of the city"*[59]: new margins produced by constantly discharging, as in the city of *Leonia* described by I. Calvino[60].

The fact of constantly throwing out, shifts more and more the physical limits of our colonization and artificialization of the earth until, for about sixty years, the space beyond the atmosphere. As written by A. Adamo: *"A great traffic of objects congesting the space adjoining the boundaries of our atmosphere."* A census quantifies all these rejects in *"nine thousand spatial wrecks bigger than a decimillimetre and at least a hundred thousand smaller objects"* in addition to millions of smaller fragments that are not detectable from the Earth. To recover this waste would cost too much and therefore it is advantageous to amass it in suitable *"cemetery-orbits"*[61]. Similarly to what happens in the metropolitan areas, these *"spatial rejects"* constitute a new margin of the earth, an external shell of fragments, some of which, thanks to the orbital and gravitational effect, eventually will go back home. The pollution colonizing[62] the space represents an unavoidable step to reach the unconscious human dream of taking possession of the space by occupying it (it is the action necessary to the wish of colonizing new spaces), which is common to the consumer production and to the typically western territorial development that depicts spaces and rejected object.

The topic of the production and diffusion of the *"waste landscapes"*[63] outlined by A. Berger, is related to the places invaded by waste or where waste is deposited: the dumps, the places meant for

E. Burtynsky, *Shipbreaking 5*, 2000.

56. See Zygmunt Bauman, *Vite di scarto*, It. tr. by M. Astrologo, Laterza, Bari 2005; Kevin Lynch, *Deperire. Rifiuti e spreco nella vita di uomini e città*, edited by M. Southworth, It.tr. by V. Andriello, Cuen Editore, Milano 1992.
57. Cf. Félix Duque, *La fresca rovina della Terra. Dell'arte e i suoi rifiuti*, [2002], edited by L. Sessa, Bibliopolis, Napoli, 2007.
58. See Geoff Manaugh, *The bldgblog book*, Chronicle Books, UK 2009.
59. Piero Zanini, *Significati...*, cit., pp. 26-27.
60. Cf. Italo Calvino, *Le città invisibili*, [1972], Oscar Mondadori, Trento, 2006.
61. *"For some decades we willingly leave in orbit obsolete satellites, empty tanks, stages of missiles reduced to carcasses destined to decomposition because of the friction generated in the encounter with the atmosphere, but also many little metal or plastic pieces like screws, bolts and washers". [...] After the Sputnik we emulated Nature and built a new technical layer - technosphere - similar to the atmosphere itself, constituted by the useless rejects and by many, still working, satellites that, like a real stratification of rejects, represent the man's mark in the colonization of the cosmic space: the pollution. "It is like saying "we arrived here"! And by doing that, we are slowly moving the physical limits of our residence, limits that at first had been imposed by Nature, by increasingly bringing our entropic simulacrum towards the outside."* Angelo Adamo, *Pianeti tra le note. Appunti di un astronomo divulgatore*, Springer, Pagine di Schienza iBlu, Milano 2009, p. 121-124.
62. Ibid.

the disposal or the working, the extractive areas, in general all those places discredited and usually perceived as a harmful presence to avoid. Nevertheless, these spaces are not only a part of the pervading system of the contemporary territory, but they also represent a fundamental element for our way of considering and building the landscape, because they *"limit our capability in a creative and effective way for the increasing problem of the waste disposal."*[64]

We can consider as rejects also the contemporary spaces where we detect the insignificance of the interaction[65]; they are perceived as *"imperious and inaccessible"*[66] inhospitable places, inspiring awe and discouraging the stay, spaces that appear to the eye as unusual and surprising, because of their aesthetic character and dimensional vastness. These *"rejecting"*[67] places refuse men because of their diversity and extraneousness, their proportions and non-human substance (and yet they have been created by men), such as the big extractive areas, the infrastructure, in general all the "technical" places that have not been built to live or stay, but to produce or make a territory work. Such spaces are often the result, or the support, of the planning of more pleasant places: therefore, they remain on the field as empty signs to which no meaning is ever given, inaccessible and invisible spaces: *"non-colonized places and places which neither the designers nor the managers of perfunctory users wish, or feel the need to, earmark for colonization [...] Emptiness remains, however, the integral part of every ordered space, the invisible conjunction between its different aspects. It is in these empty spaces that possibilities for change are hidden, beyond the rational designs for development and transformation."*[68]

1.3.2 Residues or about desertion

While the reject is the result of the action of rejecting, the residue (*residuus*) is rather what remains (*residère*) after the use. Then, the residue takes shape as scrap, remnant, inheritor of something that occurred in the past and was then dismantled and abandoned.

As stated by G. Clement, the residue is the result of the *"desertion of a territory that was previously exploited. It has a multiple origin: agricultural, industrial, urban, tourist, etc. [...] The residues concern all spaces. The city, industry and tourism produce as many residues as the agriculture, silviculture and breeding. [...] Every*

63. *Wasted places* are the contaminated sites and the places invaded by unfinished structures (fragments of infrastructure, interchanges, bridges and never used or finished buildings) or damaged by illegitimate uses like river-beds or mountain versants invaded by artificial debris or by scrap. *Wasteful places*, useless or superfluous places: to this category belong the places inadequate to the uses and therefore abandoned to neglect and decay, such as oversized car parks, inadequate sports facilities, many socializing spaces" built in our suburbs and become deserted spaces or spaces of illegal activities. Alan Berger, *Drosscape: Wasting Land in Urban America*, Princeton Architectural Press, 2006, p.14.
64. Cf. Antida Gazzola, Fabio Poggi, Daniela Rimondi, *L'interpretazione sociologica dei luoghi rifiutati*, p. 20-24, in Annalisa Calcagno Maniglio, edited by, *Progetto di paesaggio per i luoghi rifiutati*, Gangemi Editore, Roma 2010.
65. Cf. Marc Augé, *Non...*, cit.
66. Cf. Zygmunt Bauman, *Vite...*, cit.
67. See the chapter *Tempo/Spazio* in Zygmunt Bauman, *Modernità...*, cit., p. 91-129. These spaces concretize the *"antropoemic strategy"* described by Levi Strauss in *Tristi tropici* that means to reject the others because of their diversity and extraneousness. Similar to these spaces, but made for man - for the consumer - instead, is the category of the consumer spaces that originate as ruins - *junkspace* -, as a trashy space. They are the multiplex, the tourist resorts, the trade centres etc., which carry out the *"anthropophagous strategy"* of assimilating the others to themselves by ingesting and digesting them, but transforming them in the same substance of the body that ingested them. The *antropoemic strategy* wants then to push away and to reject the other, while the *anthropophagous strategy* denies its otherness and diversity by effacing them or by making them invisible: the outcome is the same, because invisibility is the condition of who is rejected. Cf. Rem Koolhaas, *Junkspace*, [2001] ed. it. a cura di Gabriele Mastrigli, Macerata 2006.
68. M. Kostera and J. Kociatkiewicz, *The Anthropology of Empty Space, Qualitative Sociology 22/1*, 1999, p.37-50.

rational organization of the territory produces a residue."[69] The manifesto of the *Third landscape* originates from the condition of being a third party (indefinite or indefinable) of the present residual spaces, hanging between a former use and a present that has not re-functionalized them yet; *"indefinite-coloured residues that is between two dull colours […] neither shade nor light."*[70] We can associate to the residue, or *friche*[71], a whole series of deserted, forgotten, effaced places, modern ruins that, just like the dust in the work of M. Duchamp *Le grande Verre* (1926), settle in the body of the contemporary territory.

G. Guidi, *Betweencities*, 1996.

In the urban environment, the residues coincide with the lands waiting for a new use or for the execution of suspended plans; in the suburban environment *"the residues occupy the uneven reliefs, which are incompatible with the machines for the agricultural exploitation, and all the spaces of debris that are directly linked to the organization of the territory: field boundaries, hedges, margins, road borders."*[72] In any case, the residues are what is left on the territory after one use and before another one; but they are also the result of a process of order, of plans that produce marginal remnants of/in the territory, as has been highlighted by G. Matta-Clark in *Reality Properties: Fake Estates* (1973).

E. Burtynsky, *Oxford Tire Pile 2*, 1999.

All the possible taxonomies of the residue (solid, fragmented, ancient, recent residues, etc.) contain the physical, conceptual, planning action that produced them: that is desertion. A *res derelicta* that is available to the research of new narrations and to the revision of the rule that generated it, in order to re-cycle it by giving it a new meaning.

The rule, which generates the residue, at the same time becomes an analytic tool to plan strategies and actions of transformation, because deserted and vacant spaces and lands (nowadays more and more numerous) constitute the foundation for the regeneration and development of the territory[73]. That is why, the studies-archives produced in the Anglo-Saxon field are particularly interesting. The *English National Land Use Database* (*NLUD*, 2007) describes the soils that have been exploited before and then deserted as *"derelict lands"*, that is spaces that do not have an adequate appearance if compared with the current rules of use and occupation. Similarly, the *Environmental Protection Agency*, in the United States, uses the term *"brownfields"* with reference to the lands that are so damaged

69. Gilles Clément, *Manifesto del Terzo paesaggio*, [2004] It. tr. by G. Denis, Milano 2008, p. 7-13.
70. Ibid.
71. Ibid. Friche is the French term strictly related to residue.
72. Ibid, p. 13-14.
73. See in particular the role of the *terrain vague* in Ignasi de Solà-Morales, *Urbanité interstitielle*, in *Inter Art Actuel vol.61*, Quebec 1995. In this connection, in the Alpine environment, it is particularly interesting the idea of *"degraded landscape"* expressed by E. Gellner, while speaking of the planning topic of *"building in a wood while regenerating nature."* Cf. Edoardo Gellner, *Quasi un diario. Appunti autobiografici di un architetto*, Gangemi Editore, Roma, 2009.

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by an industrial history or by other developments, lands that are not usable without an appropriate project of *"reclamation"*: heaps of rejects, abandoned railways, military ruins, former extractive areas and in general dismantled industrial areas - *Temporarily obsolete, abandoned, or derelict sites (TOADS)* - are "*sites in which real or perceived environmental contamination impedes redevelopment.*"[74]

Far from being empty or useless *res derelicta*, the *residuality* of such spaces is related to the fact that they have been widely and profitably exploited in the past, while today (or predictably in the near future) they undergo a process of decay: they are not working infra-structure anymore, but residual para-structures waiting for a plan to rediscover their potential within a necessarily new vision of development ("de-crease"[75] rather than increase).

1.3.3 Narrated, displaced, occupied spaces

Rejects and residues constitute the signs of the contemporary marginality of things and spaces; a marginality of *sign*. Such marginality is at the core of the artistic interest that in the age of the *"crisis of centrality"*[76] takes it as the main matter of its own poetic research. In this sense, the photographic works by G. Guidi represent a patient work of cataloguing of rejected and residual spaces requiring new narrations and perceptions capable to explore them, by cartographying them. That is how Stalker[77], through the reintroduction of the *"urban dérive"*[78], temporarily occupies and draws, by connecting them, one only *walkscape*[79] of what he calls *current territories*: transforming lands, at the margins of the rules and of their becoming "other-than-self".

While becoming "other-than-self", the series plan/realization/use/reject/find/fragment[80] constitute the structure of a narration that is known, but of which it is more and more necessary to reconstitute the meaning. This way, the *ready-made* of M. Duchamp constitute the action of reuse of the reject through the dislocation of the rejected object that allows it to gain a new meaning. The idea of a second life for the rejected things allows to reactivate the *dying body* (body/space *without quality*) treated by M. De Certeau and to re-introduce it in the sphere of meaning of what is "other" than what it was originally, therefore rediscovering a new utility. Simi-

74. Gil M. Doron, *badlands...*, cit., pp. 12. See also Matthew Coolidge, *Margins in our Midst: Gravel*, Center for Land Use Interpretation, 2003.

75. *"This is a proposition that is necessary to give space again to the inventiveness and creativity of the imagination blocked by the developing and progressive economism totalitarianism. [...] The great transformation that is necessary to construct an autonomous society of decrease can be represented as the expression of eight interdependent changes [...] of eight R: revalue, reconceptualize, restructure, redistribute, relocate, reduce, reuse, recycle."* Serge Latouche, *Breve trattato sulla decrescita serena*, [2007], It. tr. by F. Grillenzoni, Bollati Boringhieri, Torino 2009, pp. 18-19, p. 44. For the plan this means to try *"a new poetic"* Riccardo Dalisi, *Decrescita. Architettura della nuova innocenza*, Corraini Edizioni, Mantova, 2009, p. 15.

76. Carla Subrizi, A *partire da un paradigma della differenza. Una riflessione sui margini*, in *Luxflux Proto-type Arte Contemporanea n.5*, www.luxflux.net, 2004.

77. Stalker, *Laboratory of urban art and research on territory*. See www.stalker.it; Stalker, *Attraverso i territori attuali*, edited by Jean-Michel Place, Parigi, 2000.

78. Cf. Simon Salder, *The situationist city*, MIT Press Cambridge, London, 1999; Francesco Careri, *Costant. New Babylon, una città nomade*, Testo&Immagine, Torino, 2001.

79. Cf. Francesco Careri, *Walkscapes. Camminare come pratica estetica*, [2002] ed. It., Guido Einaudi Editore, Torino, 2006.

80. Cf. Sara Marini, *Archeologie di un futuro assente. Scene e scenari per la futura laguna veneziana*, in Calcagno Maniglio, *Progetti...*, cit., pp. 89-99.

larly, the *re-functionalizations* of G. Matta-Clark, through a tectonic and architectonic collapse, produce a new significant residue, a fragment "between" the initial unity and the total dissolution of the architectural ruin.

Urban rejects and residues represent the living matter for the future of the city, through operations of removal of /in the built-up (like in the proposal of J. Derrida for the urban post-war empty spaces in Berlin) or, as proposed by K. Lynch[81] (in the plan of de-development for the American metropolis) and by P. Cook[82], through a containing architecture planned to be always usable, according to the idea that only what is minor (in size but also in flexibility and cheapness) is able to offer as a material to be recycled for new situations. The idea of de-development appears as extremely topical in the contemporary debate dominated by the global crisis (that will inevitably manifest itself also in the cities and territories) towards which many people claim the need of a plan of de-crease.

Then, the true subject of the plan, and therefore of architecture, is not anymore the aestheticism of rejects and residues and of the spaces that take shape as such, but rather to re-introduce them in the territory by making them "inhabitable" again. From the operations of G. Matta-Clark to the intrusions of Stalker, from the actions of Smithson to the photographs of toxic, hurt or contaminated sites of E. Burtynsky to the emblematic marginal spaces described by G. Guidi, what is evident by now is the loss of effectiveness of the cognitive and operational capability of the traditional planning tools. That is why, it is necessary to experiment new ways and forms to re-live the *margin[al]* that today is uninhabitable and, in this sense, the architectural plan has the task of re-shaping the sign and meaning of the current and future situation, by rediscovering planning strategies and tactics to open new perspectives.
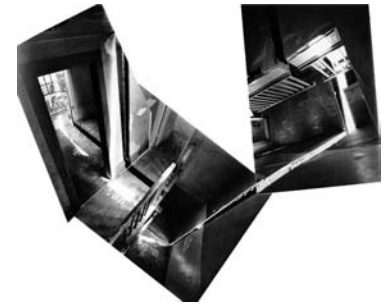
G. Matta-Clark, *Splitting*, 1974.
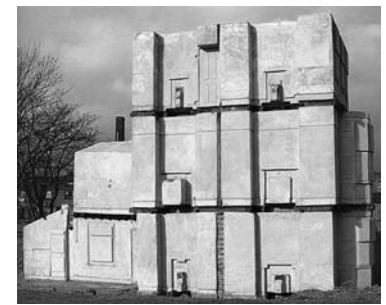
Rachel Whiteread, *House*, 1993.

81. Cf. Kevin Lynch, *Deperire …*, cit.
82. Cf. Cedric Price, *Re: CP*, edited by H. Ulrich Obrist, Birkhauser, Verlag, 2003.

2. [Codes] Phenomenology of the margin

This chapter explains the phenomenology of the marginal space in the low and medium mountain and its codes through the formulation of hypothesis on how it take shape through **continuity** (as a product of the geographical conditions) and **variations** (as a product of the accumulation and abandonment that each age produces) and the investigation on what it produces, that is invisibility, disadvantage and decay, which represent the design **challenges** (in order to turn them from a negative aspect into an opportunity);

The origin of the marginal space depends very much from the geography and the forms of the earth, and it is not related only to the artificial forms like the city (and therefore the periphery): marginal space is both internal and external. What is more, it keeps together the condition of a space - its marginal form, its minor importance and its poor quality if compared to other spaces - and the perception of such space; it represents, as a space that has been excluded and marginalized from the sight and from the construction of reality, the other half of reality itself.

2.1 [Origin] How the marginal space occurs

In the preceding chapter, the marginal space has been defined through three forms that it contains:

1. as a limit space, "between" objects and spaces to reveal it as a margin from which one can watch reality and where to stay in a different way in the world;
2. as a secondary space "in comparison with", of which the condition of physical and perceptive marginality can regain importance and a specific role in the construction of the territory;
3. as a space of poor quality, rejected or residual, available to the plan of territorial recycling and spatial resignification.

What happens when we consider the marginal spaces - that is margin, marginality of rejects and residual - placed in a extra-urban environment, on a large scale, in wider portions of territory? In particular, what happens in the suburban territory with a complex distribution of mountain ranges in the low and medium mountains? What effects can have this remark on our reading and planning tools? Does any specificity exist?

First of all, it is important to investigate how the marginal space occurs in such contexts and to try to foretell their future. Then, we formulate two hypothesis regarding the formation of the marginal space of/in the present territory that will be investigated, starting from the generalization of the urban studies in order to reach the specificity of the suburban environment of the low and medium mountains, by using this index:

G. Clement, *Little relief: rare or absent residues; Pronounced relief: vast and numerous residues*, 2004.

1. the first hypothesis is that the marginal space is the consequence of the **geomorphological conditions**;
2. the second hypothesis is that the marginal space is the product of the use (**accumulation**) and/or the disuse (**abandonment**) produced by every age.

2.1.1 [Continuity] The geomorphological conditions

The production of marginal space is the consequence of the geographical and geomorphological conditions, that is of the conformations of the earth. This first hypothesis starts from the acknowle-

dgment of the competition existing between some forms and places characterized by a greater degree of complexity and the spatial organization of the present territory that tends to become increasingly smooth and homogeneous[1], and that fits much more easily to smooth and homogeneous places and geographies.

According to G. Clement, *"the more its relief is marked, the more remains (and primary sets) the marginal space produces. It produces less when its relief is not very marked."*[2] Therefore, we can say that the more its relief is marked, the more marginal spaces are produced by the present territory; it produces less when its relief is not very marked. In other words, the irregular limits and the complex distribution of mountain ranges produce much more marginal space than smooth and homogeneous geomorphologies (See 4. Geomorphology).

In order to think about the irregular geomorphologies it is helpful to make reference to the fractal geometry, that is to the mathematical language used to describe the geometrically irregular forms; as far as the plan is concerned, this language is often used to describe the chaotic dynamics of reality, of what avoids order, measure, eye and representation of the territory[3]. If we imagine to live a fractal geometry, we can easily understand the difficulty of staying where it becomes more complex and sharp, where it suddenly bends and imposes its resistance, or even where there is no surface and it takes shape as an empty space.

As has been written by Reiser+Umemoto: *"Beyond landscapes, technologies define their operational limits by the territories they are projected into. Their envelopes of performance are thus a function of their own inherent limits made manifest by the environment they encounter. [...] There is an equal imminence in territories and architecture, a potential that is only met when different kinds of negotiations are entered into, when systems, projected onto other systems, produce a third."*[4] On the earth, the geographical conditions and the forms have determined the possibilities and the ways of living for ever. Still, men have colonized almost all spaces through work of adaptation and construction of the territory.

For at least a century, things have changed. The most complex geographies and geomorphologies, which have been colonized with difficulty during the centuries, suddenly became territories inconsistent with the fluid development characterizing the contemporary
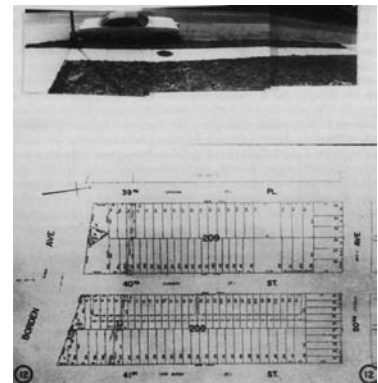
G. Matta-Clark, *Reality Properties. Fake Estates*, 1973.

1. Cf. Zygmunt Bauman, *Modernità liquida*, [2000], Roma-Bari, 2002.
2. Gilles Clément, *Manifesto del Terzo paesaggio*, [2004] It. tr. by G. Denis, Milano 2008, p.15.
3. See for example Maria Luisa Palumbo, *Il progetto del caos*, in *Nuovi ventri, corpi elettronici e disordini architettonici*, Testo&Immagine, 2001, pp. 31-63.
4. Reiser+Umemoto, *Atlas of novel tectonics*, Princeton Architectural Press, New York, 2006, p. 208-209.

world and inclined to eliminate every obstacle, even the physical obstacle of the earth, to make room for itself with its homogenous and homogenizing laws[5].

2.1.2 Position. Nothing beyond the fluid

The geographical conditions cause the supremacy of the positional datum, that is where and how, of the places and, in this sense, the marginal space is defined by the geomorphological characteristics that do not foster the development of the fluid territory, but on the contrary they tend to obstruct it or to require its adaptation and deep modification of the laws governing it.

With the birth of the metropolis the great spatial revolution of the second half of the 20th century came true: after pulling down the walls of the nineteenth-century city, the contemporaneity outlines the undefined, fluid, immaterial space, with no places and history, the space of the globalized market, where space and money *"require external and homogeneous measures of value on all aspects of human life, reduce the infinite diversity of reality to one comparable dimension and mask the subjective nature of human relations with the objectivity of laws (money for the market, space for geometry)."*[6] In other words, the present territory took the shape imposed by the capitalist market economy.

From the striated territory of the Greek polis (See 1.2 Relations) we reached the present, indefinite, market, smooth space, which transformed and flattened every geography and shape of the earth. The shape-territory that from the polis to modernity has always been characterized also in relation to an "outside" (periphery, country, nature) as a non-conventional, arbitrarily usable and therefore indispensable space. Now, this "necessary out-space" is included in the expansion of the metropolitan territory, where networks and flows have a unifying and homogenizing function, or it is simply excluded and not considered.

In this process[7], the centres of production and consumption and the local subordinated societies are linked to a global network, thanks to the flows of information that at the same time reduce the importance of the connection between the cities and their territories: the cities are globally connected and locally disconnected. By paraphrasing M. Ilardi, we could say that outside the present territories
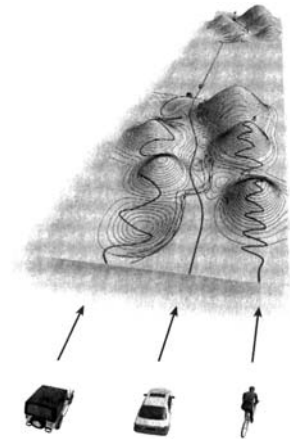
Projecting Force on Territories. The Switchback, from Reiser+Umemoto, *Atlas of Novel Tectonics*, 2006.

5. For a treatment of the case of the Alpine mountains see the thorough Werner Batzing, *Le Alpi. Una regione unica al centro dell'Europa*, [1991], ed. It. a cura di F. Bartaletti, Bollati Boringhieri, Torino, 2005.
6. Franco Farinelli, *Le periferie senza spazio né soldi*, in l'*Unità*, 18 Novembre 2005, p. 23. *"The metropolis is property of the market [...], it is abstract and indifferent to every determination of place. [...] New computer infrastructure form transnational spaces, interconnect global polarities, cancel distances. A legal, and yet spontaneous, territory: legal because it is in line with the laws and the city plans, spontaneous because the laws and the city plans are in line with the market."* Cf. Massimo Ilardi, *Il tramonto dei non luoghi. Fronti e frontiere dello spazio metropolitano*, Meltemi, Roma, 2007, pp. 35-37.
7. The territory is rather a process than a place. Cf. Massimo Ilardi, *Il tramonto...*, cit.

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there is almost nothing anymore, that is worth seeing or planning, *"there is nothing anymore, or at least nothing significant, neither hidden natural and uncontaminated paradises, nor new lands and societies, nor egalitarian enclaves at the service of that man that nobody has ever met."*[8]

2.1.3 Representation. The Alpine mountains

The mountains, and the Alps in particular, have always been considered a marginal space. From the mountains as ruins to the mountains as an "exception" to be studied with the scientific method, from the idealized mountains, as a romantic phenomenon in J. Ruskin or as a crystallized utopia in Taut, to the mountains to exploit: seemingly limitless source of material resources (like the quarries encroaching the landscapes painted by E. Burra[9]) or of immaterial ones (let us think about the tourist development that upset geographies and hierarchies of many Alpine landscapes, portrayed in the pictures of A. Gursky or of W. Niedermayr).

For many decades the mountains have been represented[10] as the marginal space par excellence, where its condition of marginality was given by the hard distribution of mountain range that caused an industrialization that could not be compared to the one on the plain.

We can define it as the marginality of the places, that is due to the conditions of the environment, often hostile and hard to live in. The configuration/representation is characterized by what one cannot do in a given place, and therefore by what is missing in comparison with geographically and orographically more favourable territories.

W. Niedermaye, *Stubaier Gletscher III*, 1997.

2.1.4 Lack. The low and medium mountains

The mountains are a territorial environment that is strongly connoted from the physico-geographical point of view and, at the same time, it connotes the processes of development that it is possible to realize there. The *"mountanity"*[11] of the territory is not restricted to the altimetric conditions, but it is linked to the ways of living and producing, which structure new artificial geographies: the valley floor as a place available to productive and residential activities,
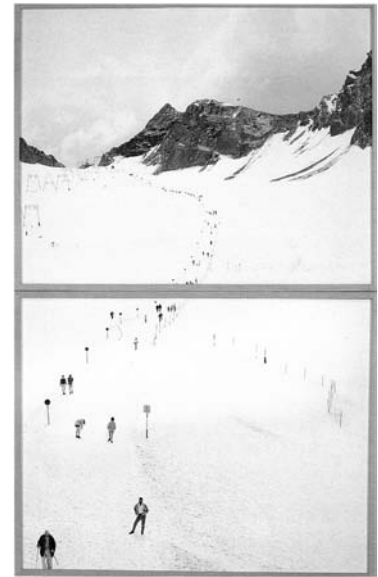
8. Ibid., p. 37.
9. See E. Anderson, L. Brooks, A. Robinson, edited by, *Unseen Landscapes. Artists and Wilderness*, Lory Press, Salford, 2001.
10. See G. Belli, P. Giacomoni, A. Ottani Cavina, edited by, *Montagna. Arte, scienza, mito, da Durer a Warhol*, Skira, Ginevra-Milano, 2003.
11. See for example the parameters used in Italy to classify (classes of "mountanity") the *Mountain territories* (*Law 991/1952*) for the relevant *Regulations in favour of the mountain territories*.

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built in a similar way to the urbanized plains; the gentler and more easily reachable versants as a space for the more widespread expansion at low density; high mountains as the space of the natural outcrops and of the intensive tourist exploitation reproducing, at high altitude, the town planning and the commercial model of the urban areas.

In the mountains are located also precious mineral and natural resources, indispensable to the territorial development of the mountains themselves. This infrastructure (energy, extractive, etc.) often finds its place in less favoured areas from the geomorphological point of view, which are less attractive both from the residential, the industrial and the tourist point of view; these often coincide with the areas of low and medium mountains, which are interclosed between the wide valley floors and the more high and pleasant altitudes. Between, beyond these territories, the low and medium mountains.

Edward Burra, *Landscape with quarries and tunnel*,1973.

The territories of low and medium mountains (in complex orographic conditions, but not elevated enough to be exploited from the point of view of tourism) take shape as "lacking" territories because of what is not possible to do there, or because of how they cannot be exploited. A "lack" that produces marginality, not only because of its position if compared to the centre, but because it is the place of an absence (of bonds, connections, amenities, consideration, etc.). It becomes disparity in the functioning of the territory; for what there is not, or is impossible to build: neither industrial areas nor tourism for the urban residents of the widespread metropolis; just like the steeper versants, which can neither be cultivated - anymore -, nor easily lived without reducing them to plane geometries with substantial works of levelling, nor crossed without the realization of complex infrastructure, nor used from the point of view of tourism because they are lacking in environmental outcrops or in high altitudes.

Placed between the *archipelagos* in the flow and the tourist *enclaves*[12] - connected to the network but locally disconnected in comparison with the adjacent territories - the territories in the low and medium mountains are often marginalized because nobody acknowledges them a real potential of development.

12. *"The archipelago is a system of connected islands, the enclaves are just islands."* Alessandro Petti, *Arcipelaghi e enclave. Architettura dell'ordinamento spaziale contemporaneo*, edited by M. Nadotti, Bruno Mondadori, Milano, 2007, p. 22.

2.1.5 Reserve. Enclave of the mind

The last aspect of the marginal space produced by the geo-graphical/morphological conditions originates from the idea that in some cases even the mere *"environmental preservation"* (Reserves, Protections, etc.) can shape "islands" that are conceptually divided from the world, inside which men are in fact excluded, while outside nature seemingly does not exist or it is not very important.

This is related to a way of thinking by closed (functional, qualitative) "islands" and, in the planning area, to a great attention mainly addressed to the environments that are more affected by the contemporary, urban use of the mountains, that is to the problem of the urbanized valley floors and of the sites in high altitude that are intensively exploited by tourism. Many parts of the low and medium mountains are subjected to this paradox: on the one hand they are seen as reserves to be preserved, mostly as remains - ruins? - of archaic anthropized landscapes or environmental reserves to preserve (as enclaves that are actually excluded from the territory) and on the other hand as reserves to be exploited by placing there what one wants to expel from the more pleasant territories (to be exploited from the point of view of tourism) or from the "smooth" ones (to be urbanized), by forgetting that in the past a fundamental territorial role was played exactly by these "difficult places"[13].

Cembra Valley, quarries near the Lases Lake, 2009.

2.2 [Variations] The process of accumulation/abandonment

The production of marginal space is the product of the use (accumulation) or disuse (abandonment) that every age produces. This second hypothesis was investigated in the urban environment by A. Berger. *"Dross emerges out of two primary processes: first, as a consequence of current rapid horizontal urbanization [...] and second as the leftovers of previous economic and production regimes, which are both catalyzed by the drastic decrease in transportation costs [for goods and people] over the past century."*[14]

Moving to the research about the marginal space, we can state that the production of marginal spaces can be described primarily through two processes: the process of accumulation and the process of abandonment. The process of accumulation is related to the urban expansion through which the city occupies increasingly wider portions of the territory. This is the development that has been studied

13. Cf. Alberto Cecchetto, *Progetti di luoghi. Paesaggi e architettura in Trentino*, Cierre Edizioni, Verona, 1998.
14. Alan Berger, Drosscape: *Wasting Land in Urban America*, Princeton Architectural Press, 2006, p.14.

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and identified as the diffusion, the sprawl. The process of abandonment, instead, is related to the formation of black holes within the urbanized territory, which can be observed in the post-industrial sites and more generally in the dismantled sites. Both processes have their origins in analogous causes, regarding the changes in economy, production and consumption, the political conditions, the technological progress and the changes in the lifestyles. Nevertheless, they manifest themselves on the territory in opposing, and yet interconnected, ways: the first one occupies more and more lands, the second one deserts them. This is what R. Koolhaas calls *"Thinning"*, the paradox-opportunity according to which on the one hand the amount of urbanized ground increases, on the other hand the intensity of use of the marginal territories decreases: *"cities expand, but the density with which they are inhabited is diminishing. [...] It is not only cities that are undergoing a process of thinning: rural area are emptying out both as a result of urbanization and the recalibration of small towns and villages to accommodate partime, urbanite, occupants. Thinning therefore is a process taking place both in cities and countryside, and as a result both of economic growth and economic stagnation."*[15]

A. Gursky, *Albertville*, 1992.

2.2.1 Fortified, extracted, dismantled high lands

The Alps are *"one of the most modern places in the world"*[16] because besides the collective imagination of the Alpine mountains as an uncontaminated place, many objects and modern infrastructure accumulate there. Such elements, if on the one hand allow the Alps to remain the most populated mountains in the world, on the other hand they contributed to the abandonment of many spaces and uses belonging to the traditional anthropized Alpine landscape.

The Alpine matter is linked to the construction of the living of men, that is to the *"transformation of the natural space suitable for the reception and management of the human circumstances, from the defensive to the living and productive ones."*[17]

The mountains, marginal boundary land par excellence, have been a battlefield in the past; military architectures and works are spread in the Alpine landscape, from the nineteenth-century forts to the more recent military fortifications and trenches, buildings and infrastructure of border places and modern military boundaries, whi-

15. Rem Koolhaas, S*trelka Institute for Media, Architecture and Design*, Russian, 2010.
16. Luciano Bolzoni, *Abitare molto in alto. Le Alpi e l'architettura*, Priuli & Verlucca, Torino 2009, p. 15.
17. Ibid., p.19.

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ch in some cases have been rehabilitated after a long period of complete neglect.

But the mountains are also, above all, earth and rock, to be cultivated and extracted. The most indicative phenomenon of abandonment, linked to the modern mountains, is the abandonment of the rural lands, the terracings, the pastures, and with them of all the minor architectures that constituted the expression of the rural world of the mountains. To the intensive exploitation of the earth, which was abandoned and contaminated by the relentless advance of the wood, followed an opposite exploitation, the extractive activity of inerts, gravels and rocks, which because of its size and its temporal intensification produces deep modifications of the traditional artificial landscape.

Accumulations and abandonments of the contemporary mountains are then the unproductive versants ruined in order to get stone, soils considered as mere physical support to the infrastructure, secondary valleys abandoned to deterioration, wrecks of the old political and military boundaries, new installations supporting the agricultural single cultures or the production of energy. They represent the necessary support to the development of the strongest areas of the territory[18].

Cembra valley, ruins of the abandoned settlement of Barco di Sopra, 2010.

2.2.2 The mountains of tourism

A whole series of signs on the mountain, linked to the tourist exploitation for the *"town dweller"*, outlines a new network made by *"architectures of support"*. They are the mountains as a place of vacation and care: settlements such as thermal hotels, hospitals, sanatoria, heliotherapeutic settlements, accumulate in the Alpine environment and, as stated by M. Cereghini, *"sanatorium architecture literally invaded some mountain zones [...] it fostered a strong building development with peculiar characteristics, because it made possible for some centres, which would not have other chances of success, to rise to worldwide fame."*[19]

When these spaces enter a crisis, the structures remain there; big empty buildings and declining places. Among the most interesting there is the holiday camp *Villaggio ENI* in Corte di Cadore (1955-62) planned by E. Gellner[20] within a wide building programme of a small tourist centre for the ENI workers' families; a well-organized

18. See *I paesaggi del rifiuto: architettura e territori marginali della bassa e media montagna, Unità di Ricerca – Università degli Studi di Trento*, pp. 29-80, in Annalisa Calcagno Maniglio, edited by, *Progetto di paesaggio per i luoghi rifiutati*, Gangemi Editore, Roma 2010.
19. Mario Cereghini, *Costruire in montagna*, Edizioni Del Milione, Milano, 1950. Cfr. Luciano Bolzoni, *Abitare…*, cit., p. 71.
20. Cf. Edoardo Gellner, *Quasi un diario. Appunti autobiografici di un architetto*, Gangemi Editore, Roma, 2009.
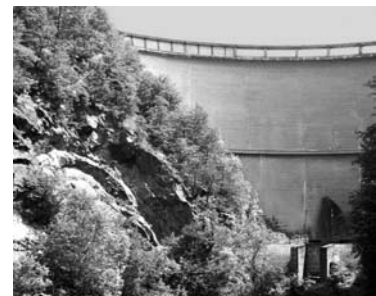
satellite structure of scattered houses and public facilities. After a long period of decline and abandonment, only recently the whole complex has been rehabilitated in an attempt to reactivate it, by turning it into a wealthy and niche hotel complex.

Many architectural bodies still lie abandoned on the mountains, while new installations are realized somewhere else: they will be the future ruins of the tourist exploitation, which is constantly looking for new spaces to commercialize.

2.2.3 A mountain of water

Among the productive circumstances, the introduction of the hydroelectric industry on the Alps brings new technologies and infrastructure - artificial architectural-landscape outcrops - facing a territory that is very different from the plain one; and yet, this latter asks to the mountains the energy necessary to sustain its progressive and relentless urban sprawl. As stated by L. Bolzoni *"in the Alpine environment will be inserted a new hydroelectric landscape that will not be composed only of castles, houses, stables, barns, pastures anymore: they are dots in a context, small and univocal pieces of territory that will be then linked by a new, seemingly infinite, infrastructure network."*[21]

Cembra valley, Stramentizzo dam, 2009.

The maps of the hydroelectric system express the territorial pervading that aims to the production of energy, where dams[22] and power plants[23] constitute only the visible part of the complex infrastructural system. What is more, new streets, excavations, consolidations and urban settlements for the authorized persons - hydroelectric villages -, ancient settlements devoid of people and filled with the water of new artificial lakes, are all signs of a deep transformation of the territory that to our contemporary eye looks "natural" only because we have always seen it like that. Yet, between the folds of the mountains we can still recognize all the signs caused by the accumulation and the abandonment caused by the hydroelectric exploitation, which not only modifies the *skylines* of the landscape, but also the traditional use of the water in the mountains that has always been a necessary support to the local productive activities, such as sawmills and mills: marginal spaces of the rivers that have been abandoned together with their architectures.

21. Luciano Bolzoni, cit., p. 35.
22. The dam represents the symbol of the coming of the town dweller on the mountains; therefore in 1917 Tony Garnier represents an artificial dam in his *cité industrielle* and this is the symbol of the new urban territory.
23. The power plants represent a new architectural typology, from those painted by Antonio Sant'Elia to those built by Giò Ponti.

2.2.4 (Dis)Connections of mobility

The mountains are a hard place because of its complex geomorphology. The need of connecting in a faster and easier way the city with the tourist places that constantly expand (just like the urban plain territories) made necessary the construction of mobility infrastructure and of railways that, because of the complex form of the mountain, have often became more important of the urban settlements themselves in the transformation of the territory. Through the fast mobility of highways, bypasses, interchanges, railways, the urban definitively takes possession of the mountains, by perforating or levelling them in order to penetrate it faster and faster. Each valley floor is dominated by the mobility *"technostructure"*: in addition to the streets, everything that they need: car parks, filling stations, spare zones, etc.

In the recent past, the most ancient railways have been dismantled in favour of the flexible and individual connections of the highways, which allow the town dweller to rapidly reach the tourist *enclaves* of high altitudes or the urban areas in the valley floor and on the plain, by excluding the side valleys. This turns the mountain residents into commuters: *"in fact, the main job of the mountain dweller is now the car driver."*[24] If on the one hand the mobility infrastructure allows to connect and to reach places that before were hardly accessible, on the other hand their overlapping to the anthropized territory introduces new elements of separation and break.

New mobility infrastructure in the Cembra valley, 2009.

Then, the ambiguity of a territory that is perceived as marginal spreads again; we should face its marginality with the same rules of the plain (urban, of the town dweller) that separate in order to connect, therefore constantly creating new marginal spaces.

2.3. [Challenges] Problems and topics

We are going to investigate, after we defined the marginal space (See 1. Views) and how it occurs (See 2.1 Origins) by making reference to the specific case of the low and medium mountains, what the space itself produces: in order to reveal the problems and topics, that is the challenges, of the plan of/in the marginal spaces.

In particular, the fact of taking shape as a margin and a space of minor importance where rejects and residues settle, causes a perceptive deletion in the collective imagination of such spaces, the-

24. Luciano Bolzoni, cit., p. 58.

refore producing a condition of invisibility; at the same time, they become disadvantaged spaces, which can produce conditions of decay and marginalization. These, together, are the problems and topics that are interesting and necessary to be investigated, through the interpretative and operational tools of architecture, the marginal spaces.

2.3.1 Invisibility/disadvantage/decay

The fundamental feature of the marginal space is its invisibility: it is right next to us, and yet we hardly see and understand it, it remains invisible, even if we pass nearby, as if it is delimited by an immaterial wall, the one of our perception and classification of reality. In other words, the condition of invisibility of the marginal spaces is linked to the perception that, while attaching value to some areas - the urban territory that it produces or the pleasant and idealized landscape to admire - inevitably effaces the others.

This is the marginality that W. Leingruber defines *"a state of mind"*[25], a partial vision of the territory made by blurred spots *"inaccessible because of their invisibility [...] non-colonized places and places that nobody desires or feels the need to assign to colonization."*[26]

The presence of features that are considered as negative or inadequate but necessary, produces an instinctive deletion, because of which these marginal spaces are neglected, marginalized from the territory that produces them and to which they belong, forgotten by the collective memory that does not attach to them any value or identity.

Revealed spaces, Santo Lake, 2010.

2.3.2 (In)visible spaces of the low and medium mountains

In the mountains the marginal spaces-territories are the ones that do not correspond to the idealized landscape made of green mountains, woody or cultivated valleys, small villages and "characteristic" tourist settlements, spaces that are excluded from the common sense of seeing and recognizing (as one's own spaces).

Still, these mimetic spots of/in the territory constitute an important part of the present mountains and are the dominant part of the low and medium mountains. It is there, in fact, for the reasons that we discussed earlier (See 2.1 Origins), that concentrate the places that

25. Cf. Walter Laimgruber, *Between Global and Local: Marginality and Marginal Regions in the Context of Globalization and Deregulation*, Ashgate, Aldershot, 2004.
26. M. Kostera and J. Kociatkiewicz, *The Anthropology of Empty Space*, Qualitative Sociology 22/1, 1999, p.37-50.

have been neglected by the development and that represent the traces of a dismantled anthropic landscape; they appear as residues that are not working anymore because they are not consistent with the needs of the modern development, which produces decay, just like the "dirty" activities that strongly change the landscape (quarry exploitation, infrastructure, but also proliferation of second homes linked to the phenomenon of low quality tourism).

The marginal spaces in/of the present territory, with their specific criticalities in the suburban environment of low and medium mountains, should be re-introduced according to a more complete idea of local identity, by watching and designing them as an opportunity, in order to trace them back within a collective memory that regains possession of these places of worth, to be ruled as "common good" inside a more sustainable territory: in particular, the re-cycling of rejected and residual spaces and materials of a productive activity and the re-signification of marginalized sites outside the limit of the productive area itself.

2.3.3 (Mono) cultures of the eye

The analysis of the problem of the disadvantaged areas and of the marginality of some mountain areas is based on quantitative and statistical data and on sectional approaches that correspond to some factors producing the disadvantaged area (size and altimetry of the municipalities, population, performed activities; penalization of some suburban territories in comparison with the main exchange networks, technological changes that influence the structure of work (decline of the rural sector).

In the administrative-managerial field the mountains are represented as a *disadvantaged territory*[27] (ISTAT, 2007), that is as an area where there are unfavourable economical and social conditions, which can generate a situation of delay and backwardness in development if compared to the external context (and to the dominant areas, see 1.2 Relations), towards which one has to address special measures of intervention (for instance, the measures for the disadvantaged rural areas, *Objective 2 Areas* of the European Community).

But these special measures are not always sufficient to interpret the transforming potentials and opportunities of the places, in order to turn the condition of marginality in resource. In fact, this would
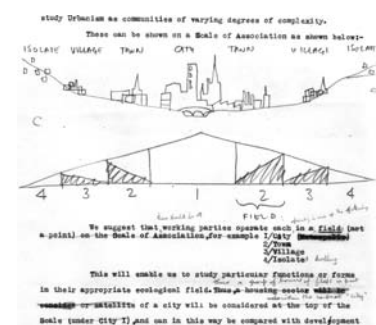
A. and P. Smithson, *Valley Section Diagram*, as included in Doorn Manifesto for CIAM meeting in Doorn, 1954.

27. This image takes shape in the period following the Second World War, when nearly all the mountains in Europe appeared marked by poverty, devastation and desertion. During the Seventies, the *European Commission* described the mountains in terms of territory, of which the specific physical and morphological conditions are associated to critical and permanent disadvantages that favour the abandonment of the rural and forest activities and the de-population of the built-up areas (*Directive 75/268/CEE, art. 3, par. 3*), special measure supporting the agricultural, forest and soil protection activities). Now, the mountains represent a basin of naturalness and a strategic resource that sets the environmental question and the aim of the sustainable development (*Alps Convention*).

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mean to turn the eyes: to see and understand the marginal spaces as a problem and a design subject. We should move from a substantially sectional approach (the idea of a particular territory to defend) to a complex and interconnected approach, which is able to recognize in the marginality of some mountain spaces *"a field of intervention"*[28], that is a design space. In other words, it is a matter of get past a sort of "monoculture of the eye" that tends to water down the phenomena of reality (the marginal spaces included) by separating them and then excluding some of them.

This could mean: to observe the factors that take part in the creation of different, simultaneously present marginal spaces and to foretell the future inside a territorial unit; to get over the exclusively statistical approach to the problem of marginality, by investigating the marginal space with a projectual approach of pre-diction of the future; to work on what is already there and that works when excludes ([mono]cultural productive spaces) or on the reject and on what has been abandoned ([in]cultures of former places and/or materials).

R. Smithson, *Binghan Mine*, 1973.

2.3.4 On the threshold of the marginal space: to see/contain

"Enter that space. This is my resolute invitation. I wrote to you, I speak to you, from a marginal place, a place where I am different, where I see things differently. I am talking of what I am seeing. […] This is my resolute invitation. A message from that marginal space, that is a place of creativity and power, an inclusive space, where we find ourselves and act with solidarity, to efface the category colonized/colonizer. Marginality as a place of resistance. Enter that space. […] The spaces can be real and imaginary. They can tell stories and explain the stories. The spaces can be interrupted and transformed through artistic and literary practices. One can take possession of the spaces."[29]

This research is an attempt to enter the marginal space, to give it back its weight and the complexity that is typical of this particular *kind of space*[30], to re-discover it: as an ambiguous, and therefore prolific, concept; as a category of the plan, because it is space par excellence - the margin/marginal - of the possibility of looking and becoming the other-than-self. In the contemporaneity, dominated by the show[31] of the image and by the centrality of seeing, the mar-

28. *"The mountain areas are not as much a special territory to defend (like for instance the wetlands, considered sensitive) as a field of intervention and, even in the Territorial Cohesion Green Paper the mountains are considered […] among the regions that challenge the aim of the territorial cohesion, the European politics considers these areas, just like the rural ones, critical for the coherent and balanced development of the EU."* A. Crescimanno, F. Ferlaino, F.S. Rota, *La montagna del Piemonte. Varietà e tipologie dei sistemi territoriali locali*, IRES Piemonte, Torino, 2010, pp.23-24.
29. Bell Hooks, *Elogio del margine. Razza, sesso e mercato culturale*, edited by M. Nadotti, Feltrinelli, Milano, 1998, pp. 71-72.
30. Cf. Georges Perec, *Specie di spazi*, [1974], It. tr. by R. Delbono, Bollati Boringhieri, Torino, 2008.

ginal spaces are characterized, on the contrary, by their invisibility, due to the absence of our perception, and it is right this absence that allows the marginal to be a place of resistance and infinite chances.

Invisibility hides, or rather contains, a chance. As stated by M. Merleau-Ponty, invisible is *"that fabric that covers the visible, sustains it, feeds it and that, as far as it is concerned, is not a thing but chance, latency and flesh of things."*[32]

To see the marginal space is the first operation of the plan that uses the marginal as a project category. In order to entirely see the problem of the present marginal spaces it is necessary to contain them, that is to investigate them as elements that are present at the same time inside a given territory, and to understand them as design materials, beyond the traditional statistical-sectarian approaches and beyond the typological or morphological classification of the marginal spaces (because the quarries, productive areas, rejects dumps, abandoned terraces, etc., are not separated elements, on the contrary they are present at the same time inside the territorial units).

Revealed spaces, Cembra valley, 2010.

Starting from the recognizing of the *chance to understand*, which is typical of the architectural plan, in the following chapters we will investigate the plan of the marginal spaces as an architecture of/in the territory.

31. Cf. Guy-Ernest Debord, *La società dello spettacolo*, [1967] It. tr. by Pasquale Stanziale, Viterbo 2002. See in particular the chapter *La configurazione del territorio*.
32. Merleau-Ponty, *Il visibile e l'invisibile*, Bompiani, Milano, 1969, p.149.

3. [Method] Architecture and project. A methodological approach

This short chapter introduces a general methodology for the topic, followed by the discussion that corresponds to the proposed methodology for the design of/in the marginal areas.

The research assumes the subject of the marginal space[1] as a design problem, in order to find new operational tools able to turn the condition of marginality of some spaces into an opportunity for the territories.

To take on the problem of design the marginal spaces and in the marginal spaces as an architectural problem and as a problem of territorial construction - by conceiving the territory as *"a set of urban facts, of elements built in the city and in the landscape"*[2] and as a *"working machine"*[3] - means to face the problem both in its functional and figurative terms.

The architecture *"is the sign of history, culture, conflicts, permanence and evolutions"*[4] and, in this sense, design the marginal spaces, as signs in/of the territory, is an architectural problem. This turns into the research of ways of planning that do not interpret the problem of marginality as an abstract idea, or as a concept to be taken apart in sector plans, but as an operational category of the plan, where the marginality of *sign*[5] of/in some territories needs new approaches, narrations and plans.

1. The marginal space (See 1 VIEWS) is defined as: a space at the margins that takes shape as a limit and gains its features; a space of minor importance if compared to the dominant areas of the territory; a space where accumulate rejects and residues. The marginal spaces, and in particular the ones in the mountain suburban environment, are determined by the geomorphological conditions of a territory or they are the product of the accumulation and the subsequent abandonment that each age produces. They represent a problem of invisibility and of the consequent condition of disadvantage of some territories.
2. Aldo Rossi, Eraldo Consolascio, Max Bosshard, *La costruzione del territorio. Uno studio sul Canton Ticino*, [1979], Clup, Milano, 1985, p.3.
3. We conceive the territory as *"a working machine or a machine that can work […] a machine in the sense given by Le Corbusier."* Gianugo Polesello, *La progettazione della città come architettura e come piano*, in Pierluigi Grandinetti, Franca Pittaluga, edited by, *La progettazione analitica della città*, Venezia, 1979, p.1.
4. Aldo Rossi, cit, p.3.
5. The architecture is less and less a plan of single objects of/in the tabula rasa, it cannot face researches of purity; on the contrary it has to focus on the re-writing of/on the many existing signs. Renato Bocchi, *Progettare lo spazio e il movimento, Scritti scelti di arte, architettura e paesaggio*, Gangemi 2009, p.20.
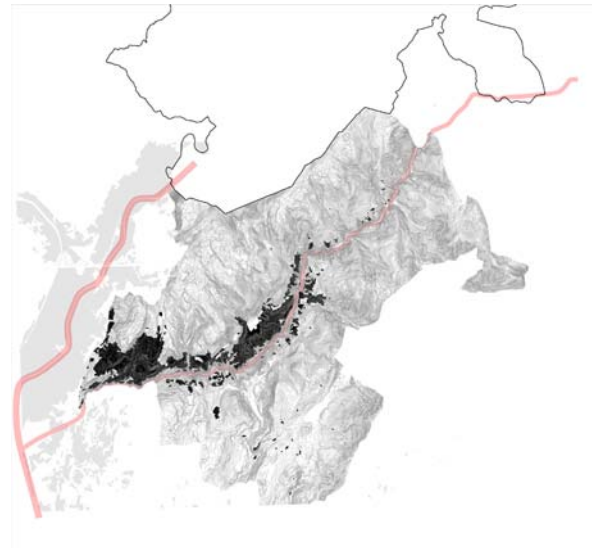
Known elements of the Cembra valley.
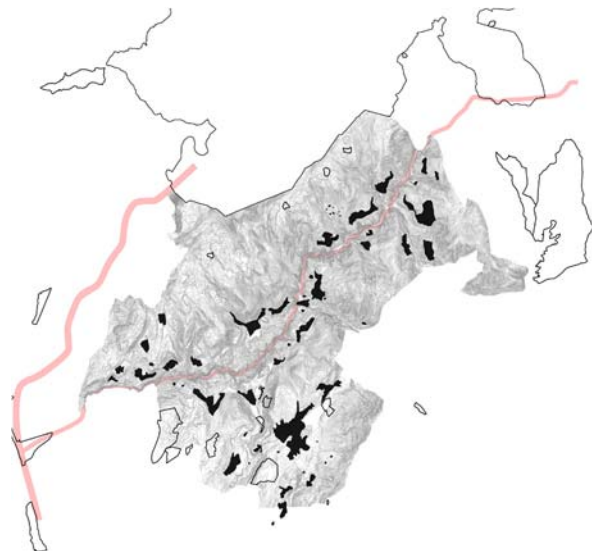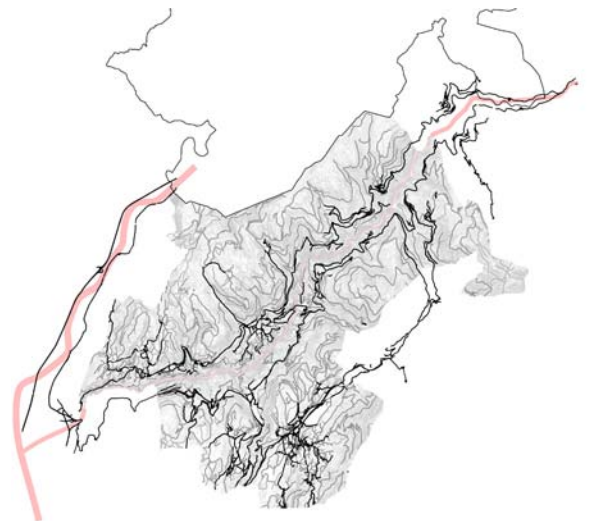

Active quarries, ex quarries, mines.

Agricultural areas with vineyards terraced.
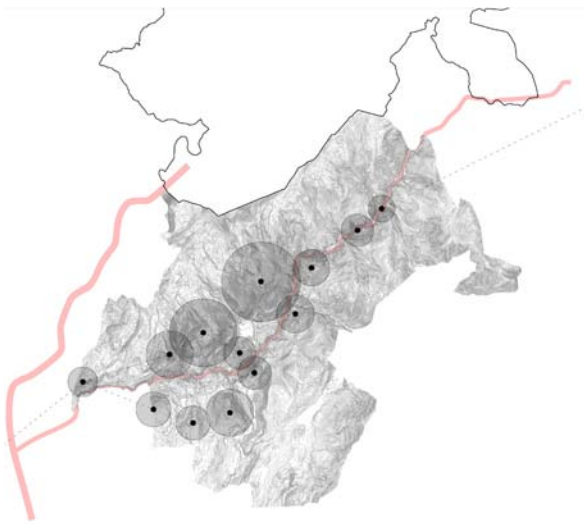
Natural summital points.

Areas of environmental protection.

Inhabited settlements and architectural emergent facts.

Mobility infrastructures.

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More precise information is needed.

The marginal space is not a geographical-metrical category. The marginal position of a space, if compared to the territory and to the dominant areas, is not always crucial. Even if in most cases the marginal space coincides with the geometric margin of the dominant areas, there are some territories that from an economical point of view represent a "strong" space, but that produce and/or receive marginal spatial morphologies, that is marginal signs.

The marginal space is not a category linked to the architectural and landscape history. It does not coincide with the landscape phenomena[6], nor to the architectural ones (or, at least, it is not acknowledged as such by the community).

The marginal space is not an administrative category. In order to define and to plan these spaces the administrative boundaries have little importance: the marginal space should correspond to a geo-morphologically defined unit[7] rather than to an administratively classified one.

The marginal space is a functional category. Its peculiar function within the territory, whether it is active (reject) or inactive (residue), is crucial to the concept of marginal space.

The marginal space is not either a formal-functional category.
In fact, the problem of the marginal space in the suburban environment (in particular in the low and middle mountains), as it has been defined in the first part of this research, is faced today by following procedures that have little to do with the architectural plan as a discipline that contains forms and functions.

Some considerations:
1. the marginal spaces welcoming the "dirty" functions of the territory (quarries, infrastructure, etc.) are identified by the territorial planning tools as monofunctional uses of the ground, to which other sectarian tools are demanded;
2. the marginal spaces lacking in "active" functions (for instance, the abandoned rural areas and buildings) or because of their planned activities (the phenomenon of the second homes in areas of

6. By phenomena we mean objects or places to which we attach a strong esthetic or identity value.
7. *"The rule dictated by the sun is still, and will always be, valid: and between the laws of nature and the human undertakings, unity will reign. The research of the conformable unit of magnitude stimulated the invention of architectural and urban elements."* Le Corbusier, *Maniera di pensare l'urbanistica*, [1963] It. tr. by G. Scattone, Edizioni Laterza, Bari, 2004, p.81.

value) are not acknowledged in the definition of the uses of the soil, and are re-included, for example, in wood areas or areas of landscape value without actually distinguishing their specificity;

3. the problem of the condition of (social, economical, etc.) marginality of some territories (often identified in the mountains with the rural areas affected by the phenomena of desertion and divestment) is faced from a statistical and quantitative point of view (See 2.3 Challenges).

Nevertheless, the condition of territorial marginality is not anymore, in most cases, a problem of places that are hardly accessible or completely disconnected from the infrastructure, but it is rather a marginality of sign: such signs are the marginal spaces where accumulate rejects (dirty or affecting activities, and yet necessary to the "digestive" and/or productive functioning of a territory) or that take shape as residues (places and objects exploited before and then abandoned). This marginal spaces-signs identify and determinate a condition of territorial disadvantage.

To separate the problem of the marginal spaces from the forms that they take in the territory, and to separate them from the laws that rule them, inevitably leads to ignore them as a simultaneous presence of different types by origin and character, as facts in relation with the other elements of the territory (the signs of the anthropized landscape), of which they represents an increasingly substantial part, as spaces that are available to transformation[8]. On the contrary, to acknowledge the problem of the marginal spaces is an opportunity for the development of the territory itself, in order to imagine its future.

To assume the idea of the marginal space as an architecture is a tool to keep things together and to contain the different aspects of a unique phenomenon, the plan, the architecture. The architecture, conceived as a landscape, or rather as an architecture through the landscape[9], becomes at the same time a "rule" allowing things to work, and an "image" allowing things to be acknowledged as forms of the contemporaneity.

8. The contemporary territory full of marginal spaces has lots of *"needs of transformation, but it also has lots of different amounts of elements, not only the physical ones, but also the social and economical ones, that are differently available to transformation themselves."* Gianugo Polesello, cit., p.1.

9. The architecture through the landscape assumes the character of the *things of nature* where, as stated by Tompson, shape and function are one and the same, the structure being always present. Cf. Tompson D'Arcy Wentworth, *Crescita e forma. La geometria della natura*, [1969] ed. it. J. Tyler Bonner, Bollati Boringhieri, Torino, 2006.

In order to develop a plan, we investigate some operational categories and we created the following index:

1. **geomorphologies**: we face the subject of the marginal spaces that are simultaneously present in a given territory and, starting from its size and physical structure, we identify the scale of investigation and define the territorial geomorphological unit;
2. **topologies**: we read the structure of the fragments defined by the marginal spaces that are simultaneously present inside a physical geomorphological unit, in order to assume it as the architectural structure of/in the territory;
3. **strategies**: they are the relations that set the relational planning directions in a geomorphological unit;
4. **tactics**: they are the architectural operations for the representation of the topological fragments.

This index is a sort of "parametric method" of the plan, in which the parameters do not correspond to a linear procedure from the general to the particular, but rather they are an attempt to make the condition of marginality of some spaces a planning *outil*, depending on their availability to transformation. The variation of the parameters modifies the final formal configuration; therefore, the working method that we suggested can be applied to different territories, because it admits the possibility to adapt.

4. [Geomorphology] Unity and scale

"Any trace on the territory - be it physical, economic or social - has a geographic character. The most basic geographies, predating human action, consist in the physical elements of the territory."
Vincent Gaullard[1]

The argument that we want to develop here starts from two statements:

1. the physical elements of a territory constitute the pre-condition of every human trace and activity; the geomorphological conformation represents the inflexible parameter of every planning operation of construction of the territory itself;

2. certain geomorphological conformations are acknowledgeable as units; such units define the appropriate scale within which the plan produces effective transformations.

The **geomorphological parameter**, that is the configuration of the physical elements in a territory, is assumed as a *structure*[2] able to determinate the appropriate **scale**, in order to make the architectural approach operative. This because, just like every other sign produced by man on Earth, the marginal spaces at the same time characterize and are characterized by the geomorphology.

The suggested methodology faces the problem of the marginal spaces in their co-presence inside a given territory, rather than being an abstract reasoning about the network of dominant territorial po-

1. Vicente Gaullart, *GeoLogics. Geography, Information, Architecture*, Actar, Barcellona, 2008, p.12.
2. *Structure of nature*. Cf. Aldo Rossi, Eraldo Consolascio, Max Bosshard, *La costruzione del territorio. Uno studio sul Canton Ticino*, [1979], Clup, Milano, 1985.

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larities or about the typologies of marginal spaces in connection with the use or non-use that produces them (infrastructure, quarries, agricultural areas, etc.). That is why the **unit**, perceivable by the human eye in specific geomorphologies, represents the appropriate scale - operational/planning scale - to face such presence. We refer to the geomorphologies that can be found in the Alpine landscape, in particular to the secondary valley system of the low and medium mountains, but it is easily also generalizable to different "morpho-logical" cases.

Only starting from the physicality of a territory it is possible to think about the complexity (that is the co-presence of different marginal spaces) and to identify a structure - *polimarginalia*, that connects while separating - to assume as the *architectural structure of the marginal spaces*. This structure can provide some strategic directions for the revaluation of the territory.

D. Buzzati, *San Nicola Mountains*, 1933.

The **geomorphological parameter** will be expressed according to two main concepts:

1. the concept of **scale** in the plan of territorial architecture;

2. the concept of **geomorphological valley unit** as the appropriate scale in the mountain environment.
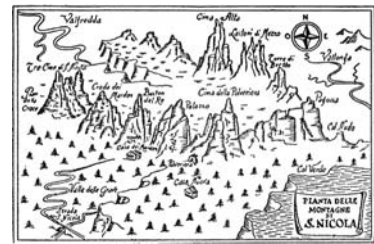
4.1 [SCALE] From perception to the territorial scale

"What unites this kind of plans is the scale, and their scale is related to the amount of relations that the architecture is able to establish within a territory; it is the capability of the plan to produce transformations". Claudia Battaino[3]

Reasoning in terms of scale does not mean reasoning only in terms of magnitude or size. The magnitude is the is the greatest or minor volume of the size of one thing, an objective size, with a quantifiable and real measure in terms of height, depth and volume. On the contrary, the scale of an object - the architecture being one of the objects of reality - has a more complex meaning[4] that we will try to define in the following paragraphs.

4.1.1 The scale as a relation

Let us start by defining the term. The scale is the straight line divided in equal parts representing meters or kilometers; or it is useful to identify proportionally, on a map or a drawing, the real measures of what is represented; the scale is the size of a drawing according to a scale; the size or proportion according to which a plan or an idea develop; it is the relation between the topographic representation and the real distances.

Therefore, the scale is a relation between some magnitude and certain units; each object in reality has some precise and constant measures, but its scale depends on the choice of a system of optimal proportions, traditionally recognized in the *"principle of similarity"* regulating the relations between growth and shape in nature[5].

In architecture the scale is the concept that summarizes the consequences of the dimensional variation and is related to a system that proportion the parts of a building by putting them in the right relation one to the other[6]. The architecture has to respect the proportioned formulation[7] that we find in nature, if architecture wants to be equal to nature in beauty and harmony. From the *Vitruvian Man* of Leonardo da Vinci to the *modulor*[8], the golden ratio of the body is the canon - consistent magnitude – that assures harmony and beauty to architecture. The scale varies depending on whether a building has to welcome and to make men feel well - "to be to scale" - or instead to strike fear and respect - "to be out of scale" - as

1. Vicente Gaullart, *GeoLogics...*, cit., p.12.
2. *Structure of nature*. Cf. Aldo Rossi, ..., cit.
3. Claudia Battaino's Lecture at Doctoral School in Enviromental Engineering, Università di Trento, 27 giugno 2009.
4. This is valid also to define the scale of the plan of *"construction of the territory"*. Cf. Aldo Rossi, cit.
5. The scale does not depend on the object itself, but on its relation with the physical world around it and on its field of *"action and reaction"*; in other words, in nature it depends substantially on *"gravity"*. *"Nature acts always by obeying the scales, and everything has its right size"*. Tompson D'Arcy Wentworth, *Crescita e forma. La geometria della natura*, [1969] ed. it. J. Tyler Bonner, Bollati Boringhieri, Torino, 2006, p.24.
6. *"We pay more attention to the proportion of the different elements and to the proportion of these elements with other reference parameters, generally identified in the human measure or in the overall contextual features that act as frame of the intervention, than to the absolute magnitude of an organism and its parts."* Giovanni Corbelli, *Grande & Veloce. Strumenti compositivi nei contesti contemporanei*, Officna Edizioni, Roma, 2000, p. 20.
7. Cf. Vitruvio, *De Architectura*.
8. *"A range of harmonious measures to satisfy the human dimension, universally applicable to architecture and mechanical things."* Le Corbusier, *Le Modulor*, [1950], Le Fondation Le Corbusier, Birkhauser, Parigi, 2000.

in the sacred architecture of every age, and it establishes relations with the context.

If in the physical world, it is gravity that *"controls not only the activities, but also the form of all the organisms"*[9] (by modifying the morphology of the structure when the mass varies), in the figurative articulation of an open space through single architectures or groups of buildings, a similar function of scalar control can correspond to the laws of the static or dynamic perception that rule the interaction between man and environment. In other words, the scale depends on perception, because the latter gives a scale to the space through the acknowledgement of the relations among the objects, which with their presence define a place[10].

4.1.2 Without, big, multi-scales

The meaning of the scale in architecture has changed and expanded. This makes conceivable also the objects within which there is no scale, there are many, or where the scale is ambiguous[11]. The scale can be related to the *"bigness"*[12], to an architecture that is dimensionally very big, is produced by the laws of the market (because of the amount of consumer objects that it has to contain and the spectacular image that it has to give), is self-regarding and independent of the context. Consequently, the architectural plan of the territory that is like the *"bigness"*, dominated by the economy and its flows, sets a a-dimension of the "net" laying between the global and the local[13] (from the very big to the specific) above the traditional relations among the parts. In the "net" the planning scales are continually stretched between external centrifugal processes and internal specific actions; this poses the problem of the effectiveness of the planning tools and means in territories able to produce sustainable transformations.

The *"multi-scalar"*[14] planning approach is able to eliminate some of the typical sectoriality of the traditional approaches:

1. in the speculative-theoretical field, the "typological" approach tends to isolate single subjects-types of marginal spaces from the contexts where they are situated;

2. in the planning-operational field, the statistic approach is based on the data of the administrative territories, such as demography,

9. Tompson D'Arcy Wentworth, cit, p. 42-43.

10. *"We mean a whole made of concrete things with their material substance, form, structure and colour."* Christian Norberg-Schulz, *Genius Loci, Paesaggio Architettura Ambiente*, [1976], Electa, Venezia, 1981, p. 6.

11. See the terms *"scale"* and *"fractal"* in VVAA, *The Metapolis Dictionary of Advanced Architecture. City, technology and society in the information age*, Actar, Barcellona, 2003. A new geometry is introduced by Mandelbrot Benoit, *Fractals: Form, Chance and Dimension*, in order to study the properties of the fractals; their name derives from fractus (interrupted or irregular) and refers to: 1. fractal, having a very irregular, interrupted, fragmented form, and keeping these features no matter on what scale it is examined; it contains some characteristic elements with very varied scales that cover a very wide range; 2. fractal dimension: a number that is useful to quantify the degree of irregularity and fragmentation of a geometrical set or of a natural object; 3. fractal set: a set with a fractal size bigger or equal to its ordinary size; 4. fractal object: a natural object that is rationally useful to mathematically represent as a fractal set.

12. Cf. Rem Koolhaas, *Bigness*, in *Junkspace*, [2001] ed. it. a cura di Gabriele Mastrigli, Macerata 2006.

13. See in particular Saskia Sassen, *Cities in a world economy*, [1994], Pine Forge Press, Thousand Oaks, [2006].

14. For an approach that keeps together different analytic-operational scales, from the territorial to the specific and detailed field, see Manuel Gausa, *Approccio multiscala*, in *Il Rilievo Sensibile, Patrimonio Culturale in Campania*, Milano, 2007, pp. 87-90.

employment, economy, etc. by indicating the sectors to be subjected to a "net" planning.

To define an operational scale means to recover the complexity of the subject. Which is this scale?

4.1.3 Physical scales of the landscape

Until the last century, the city represented the reference scale for the construction of the territory. For the present urban environments this can still be significant. For the suburban territory, on the contrary, which is not a city but undergoes the modifications of the "urbanity" and uses its materials[15], it is necessary to find new scales, from the perception of the forms of the contexts and from the ways in which we relate with them.

According to A. Rossi *"the relation that man establishes with its environment is determined both by the natural configuration of the territory, and by the concept of territory that a certain culture has."*[16] Consequently, the appropriation of the territory by men, through its physical and mental construction, is influenced by the *"natural predispositions"*, the geomorphological conformations of a territory that remains substantially permanent.

Then, if we can identify a *"consistent magnitude"* from the *"permanence"* of the forms, to use a physical and real scale:

1. allows us to recognize unity, that is "architecture-territory" within the territory;

2. allows us to use a planning scale able to make intelligible the pre-eminence of the geomorphological fact of the territory itself, rather than its abstract (typological, statistic, administrative, etc.) representations.

This is an ancient, but always relevant, lesson: the *Portrait of Venice* by B. Bordone (1528), who while representing the city does not portray only the old town centre, but the whole geomorphological unit that contains it (the entire lagoon arch with its islands, the coasts, the lagoon "gronda" and the adjacent dry land). This is also the meaning of the idea of scale formulated by G. Samonà about the perception of the forms of/in the territory: *"beyond its simple metric function, as a relation between the size of things and their meaning [...] in this sense, the scale is always related to the sense*
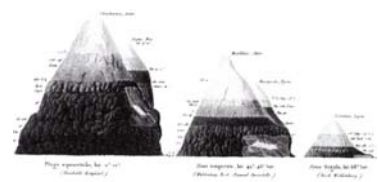
A. von Humboldt, *Voyage de Humboldt et Bonpland*, 1815.

15. See Paola Viganò, *La città elementare*, Skira, Milano, 1999.
16. Aldo Rossi, cit., p. 83.

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*with which the natural or artificial things are observed.*"[17]

Each territory, with its diverse configurations of natural and artificial elements, has a scale that belongs to its physicality, to be sensed through the observation and movement of/in the landscape. The mountains that delimit a valley (a narrow or wide, long or short, big or small valley), identify a scale of nature that is the scale of the valley itself. In the same way, the course of a river or of a stream, a lagoon or the coast, determine other scales.

Such scale, since it belongs to the physicality of the investigated territory, is deeply real, that is it does not confine itself simply to the abstract reasoning about the centrality and peripherial network, as it is traditionally faced the problem of the territorial marginality, and therefore of the marginal spaces. It is also relational, because it is given by the relations among the forms of the Earth that we can recognize as a whole, a unit provided with a scale.

Then, the geomorphological unit is conceptualized as a planning scale of the marginal spaces of/in the territory (See 4.2 Unit), because it is not an administrative scale: it is a real scale, a scale of nature, neither too abstract nor too specific.

First of all, this means to move the reasoning from the condition of marginality of the statistic fact to the planning fact, that is to assume it as a projectual design, and therefore an architectural, problem.

In the second place, this means to make central the physical configurations of nature and to plan the territory as an architecture consistent with the geomorphological scale and its figurability[18]: a unit within which we can re-signify single marginal fragments or archipelagos of marginal fragments (See 5. Topology).
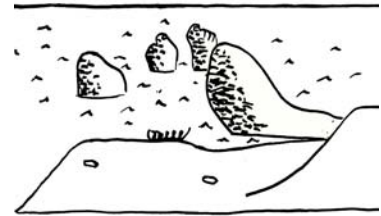
Le Corbusier, *Poéme de l'angle droit*, 1955.

17. Giuseppe Samonà, *Provincia Autonoma di Trento, Piano Urbanistico del Trentino*, Marsilio, Padova, 1968. Abstracts of the Plan in Giuseppina Marcialis, Pierluigi Grandinetti, edited by, *Centri urbani e territori. Il sistema insediativo, il paesaggio aggrario, le città piccole: questioni di analisi e di progettazione*, Quaderni del Dipartimento, Dipartimento di Teoria e Tacnica della Progettazione Urbana IUAV, Venezia, 1979, pp. 48-55.
18. *"In order to express the homogeneity of the landscape in its formal features, by restricting its transformability to interventions that, in their form and size, are consistent with this system of figurative values."* Giuseppe Samonà, op. cit.

4.2 [Unit] Forma vallis

"The Earth: a bone structure (rocks) produced by melting material dripped on the surface that was subjected to decreases, contractions, cracks, tearing, etc." Le Corbusier[19]

In the previous paragraph we identified the geomorphology as the parameter that allows us to detect the consistent scale in order to:

1. face the problem of the marginal spaces in a territory;

2. indicate the subject of the marginal spaces as a planning problem of the construction of the territory.

We want to think about the "conformation of the nature" of the heterogeneous marginal spaces in a specific context, that is the suburban environment, in the complex geographical context of the Alpine mountains, in the low and medium mountains.

Strange attractor by Lorenz.

4.2.1 The mountains as an architecture

By observing the bidimensional representation of the Earth's surface in the relief maps, we recognize a series of lines, more or less dense. These lines are the transposition on the sheet of the contour lines, that is of horizontal sections of the ground realized at regular altimetric distances. Just like in the chart of a *strange attractor*[20] the sequence of these lines, their proximity or rarefaction, describes the folding or the sinuosity of the ground, intensifying when the inclination increases. By comparing two orographic representations, one of the mountains and one of the plain, emerges the complexity of the first representation. The drawing of the contour lines of the mountain territory is more dense, it is full and dominated by the alternation between the black color created by the closeness of the curves and the white spots that correspond to seeming islands or paths where the curves are thinner.

That is, the orographic drawing of the mountains tends to leave its abstract bidimensionality and reminds, instead, of the marked tridimensionality of the represented forms - the forms of the ground - and of their essentially morphological structure.

The morphology of the ground shapes the mountains.

The mountains are an architecture on the geographical scale[21]. They are an actual tridimensional territory-architecture, where the vertical section is the element that generates the form. The pre-emi-
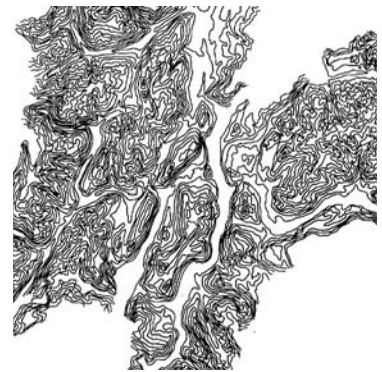
Trentino orography.

19. Le Corbusier, from the airplane with *Durafour over the Atlas Mountains* (Algiers-Ghardaia), 18 March 1933. Le Corbusier, *Aircraft*, The Studio LTD, London, 1935.
20. A dissipative chaotic system is represented by the Lorenz attractor: the disturbance waves of a fluid generate motion, and therefore orbits. This physical system is a strange attractor, formed by many filaments, the complex structure typical of the fractals.
21. According to Le Corbusier the Dolomites are *"the most beautiful natural architecture in the world"*.

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nence of the section with marked altimetric contrasts, the sequence of spaces different in size and proportion, the alternation between light and shade, between the far-away peaks in the background that relate an external space and the versants in the foreground that constitute the limit of an inner space, cause the strength of the forms of the ground and the dramatic force of their presence.

Just like in an architecture by L. Mies Van Der Rohe or F. Kiesler[22], the morphological elements of the Earth constitute the walls, or rather the screens and the wings, of this territory-architecture. The space is fluid and uninterrupted, and yet constantly modulated by some elements that hide some of its parts and by subsequent unveilings, like in a labyrinth made of main and secondary inner paths, or in Chinese boxes made of small and big, narrow and high, long and deep spaces, main and secondary inner paths.

L. Bistolfi, *Alps*, 1923-1933.

These elements are the reliefs that form valleys and crests, and that delimit plains and plateaux. They are described as entities of/in the territory - "landforms", according to the English scientific terminology - the geomorphology that studies the objects and the forms of the Earth's relief.

According to R. Savigear[23] the "landform" is a portion of the Earth with different morphological features that can be ascribed to the predominance of a particular process or structure during their development, where the configuration is clearly identifiable.

When we observe these geomorphological entities of the Alpine context through the architectural eye, they assume a more strictly perceptive role, as recognizable physical elements in the territory.

4.2.2 The perception of the morphogenetic elements of/in the landscape

The arrangement in the space of these forms of the Earth defines the places that we perceive and recognize as landscape. As has been highlighted by A. Cecchetto[24], by watching the mountain territory every day, we formulate sequences of images that allow us to recognize it as a landscape. The Alpine landscape is a specific landscape that *"like a cloak with many folds"* is constituted by the convexities - the full spaces - of the crests delimitated by the concavities - the empty spaces. In other words, the dynamic perception give us back the tridimensionality of the space, its recognizability as a series of

22. Frederick Kiesler, *Endless House*, 1959-60.

23. The term unit/unity is used in the sense given by Qutremère De Quincy: *"unity is the main condition of every piece of work, because it has its origin in the unity of our soul; [...] the unity among the parts of a piece of work is not different from the unity of action in a multitude of facts and circumstances. Unity, therefore, as a whole that cannot be divided. The unity is the link that produces a whole [...] its action consists in establishing a combination among all the objects, a combination that seems necessary and to which we cannot either remove or add anything."* This concept will be used again by L. B. Alberti, who conceives architecture as a logical structure where each part is necessary. A. C. Quatremère de Quincy, *Dizionario storico di architettura: contenente le nozioni storiche, descrittive, archeologiche, biografiche, teoriche, didattiche e pratiche di quest'arte*, It tr. by A. Mainardi, Fratelli Negretti, Mantova, 1844.

24. Cf. Alberto Cecchetto, *Progetti di luoghi. Paesaggi e architetture del Trentino*, Cierre, Verona, 1998.

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full and empty spaces.

This is also the lesson of Le Corbusier, according to which *"the landscape exists only through the eyes"*. The Alpine landscape is a "body", of which we recognize the forms through the frontal perception from afar or from above that register its view, like in a postcard, or the continuity of the cloak like in a orthophoto. Such "body-landscape" is above all a large crossable interior that we cover every day; its more common image is the one from the inside and from the below.

Le Corbusier, *Aircraft*,1933.

The perception of the forms of the ground as a territory-architecture and "body-landscape" depends on the identification of its parts. In other words, the physical elements of the Alpine territory are arranged to delimit the spaces that are the parts of this body, the main environments of this architecture.

We recognize three spaces-parts:

1. the **main plains** or valleys as corridor systems where the continuity of the longitudinal development is dominant if compared to a section, even if to a very wide one;

2. the **plateaux** as systems of flat crests at elevated altitudes, in comparison to the plains below;

F. von Reininger, *Neuere Aufnahme der Gefursteten Grafschaft Tyrol*, 1818-1821.

3. the **secondary valleys** as delimited systems that are recognizable as units (such valleys are here defined as "secondary" because of their smaller size, if compared to the main corridor-valleys, which are charaterized by wide plains in the valley floors, and by the higher degree of closure, of circumscribed space, in comparison with the plateaux).

4.2.3 The valley unit

The Alpine valleys satisfy the principle of *unity*[25], in the sense that all their physical components define their existence: the perception of a defined figure, the arrangement of the elements constituting it, the readable expression of its parts and of its whole, all contribute to its recognition as a unit.

By moving the idea of unit on the territorial scale, the form of a secondary valley shows, through a synthetic and unitary image, its parts and the way they relate to each other.

In fact, a valley is constituted by elements that are identifiable

25. A. C. Quatremère de Quincy, cit.

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through observation: the stream that flows in the basal part - which like a thread links a series of different valleys - and the versants delimiting it, the orographic terraces and the smallest prominences that fold the versants, the crests and the outcrops mediating the relation between Earth and sky, among the valleys, and constituting the background of the visual references to other, close or far away, valleys. This reading gives us an intentionally spatial image, corresponding to the geographical and geomorphological scale, rather than influenced by the signs of the human settlement.

Then, the geomorphology of the valley influences the other factors of the landscape like water, climate (the sun and different winds within the same valley), materials and colors.

The valley is an architecture in negative - furrow and cut - inside which concentrate the human activities.

This is the pre-eminent condition to work with/in the mountain places. In the mountains, the architectural plan and in general all the artificial elements that have been constructed or produced by man are always *"parasitical"*[26] plans or elements, in comparison with the formal strength of the context. In other words, the geomoprhological fact is, and will always be, the dominant, the supporting skeleton of every artificial insertion.

Gion A. Caminada, Sketch of the Appenzell landscape.

The artificial structure, sign of the human inhabiting, places itself above this natural structure. The settlements, the cultivated terraces, the paths, the places of the production and of the infrastructure are parasitical to the forms of the mountains. If in the past, basically until the first half of the twentieth century, all these artificial forms produced by man contributed to the configuration of a homogenous space inside each valley, mainly linked to the rural use of the territory, nowadays the same forms have changed. The cultivated spaces have reduced a lot, while the new infrastructure and the settlements have grown, with extra-local urban and building models, and new productive (very invasive) uses of the territory appeared: all this tends to the fragmentation of the artificial parasitical elements.

The idea of unity is used by the architect G. Caminada[27] with reference to the micro-geographical unit of the Swiss Val Lumezia. The micro-geographical unit is clearly related to geography, and in particular to the geographical studies about the relation between centres and suburbs of the territory. The thesis developed by the ar-

26. We can conceive the building in the mountains as a *"parasitical architecture"*, if compared to the mountain-architecture of nature. This is a conceptual translation of some practices of the contemporary architectural research that are based on the insertion of new bodies and forms in some already-existing urban structures (cf. *Parasite Paradise. A manifesto for temporary architecture and flexible urbanism*, Rotterdam 2003; the project *Las palmas parasite* by Korteknie & Stuhlmacher, 2000; the projects/manifest by Coop Himmelb(l)au).
27. Cf. Gion A. Caminda, *Cul zuffel e l'aura dado*, edited by B. Schlorhaufer, Quart Verlag, Luzern, 2006.
28. Ibid.

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chitect and economist E. Ricther[28] at the University of Zurich is that the condition of periphery of some Alpine secondary valleys is caused by an isolation that nowadays is not spatial anymore (which is caused by the lack of infrastructure of connection and accessibility), but it is rather mental, that is linked to the non-recognition of a territorial role for these suburbs, producing a disappearance of the peculiarities of such places, because the *"global spaces are smooth in a special way"*. This is a not homogeneous balance between central and suburban spaces, caused by the contemporary social systems, that is the global synthetic communication, which *"will make the concept of territory disappear (nations, regions, valleys)"*.

In this perspective, the attention on the marginal spaces starts from the physical, specific and recognizable dimension of/in the Alpine landscape, rather than from an abstract reasoning about the centrality and marginality network of the present multi-polar territory.

4.2.4 Territorial rooms

The *landscape units*[29] defined by Le Corbusier are a *"figurative and spiritual"* element as important as the *"conditions of nature"*, to oppose in the plan to the artificial elements built by man.

By transferring this idea to the investigated mountain context, the valley recognized as a unit can be compared to a landscape super-unit. According to Le Corbusier, the territory is the main tool made by units that *"precisely satisfy"* its correct functioning inside the metaphor of the territory-architecture, formulated at the beginning of this argumentation.

Ben Crowd, *Solar Topographies*, 2007.

In the Italian case[30], contrary to what happens in the Dutch and French "boundless" horizons, these units correspond to perspective sequences that identify with as many *"territorial rooms, closed spaces that find their margins in more or less close mountainous terraces or in the winding course of rivers and streams."*[31]

This is even more real in the context where the valley is one of the rooms that constitute the wider territory-architecture.

The valleys represent the rooms of this territorial architecture, that is a morphogenetic architecture. These rooms are recognizable because they are delimited by tridimensional geographical elements
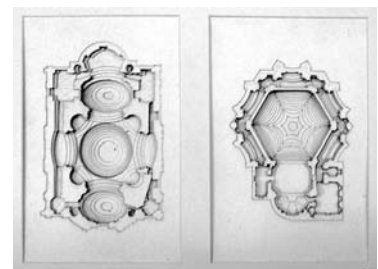
29. See Le Corbusier, *Maniera...*, cit., pp. 80-88.
30. See Franco Purini, *Un paese senza paesaggio*, in *Casabella n. 575-576, Il disegno del paesaggio Italiano*, 1991,
31. Ibid.

on a large scale. The framing of the room-scene through the geographical mountain wings, stresses their character of inner architectural space, just like the *Roman Coliseum* or an eighteenth-century theatre.

This is also the form of the considered territory, the region of Trentino, that became consolidated in the course of history. A territory that is constituted by several rooms that are different one from the other. If we observe them in section, their different geomorphologies are evident. In Trentino we recognize flat valleys, the morphogenesis of which is due to the movements of the glaciers, and valleys that are more deeply incised because of the fluvial erosion on geologic supports that are particularly disposed to the engraving. The erosion and the deposit mark the forms and determinate the morphogenesis of the different shapes of the valleys. The presence of the streams causes narrow valley, whereas the meanders of the rivers shape more or less wide valley floors.

Filarete, *Inda Valley*, the place of the new city of Sforzinda.

In Trentino, each valley has its own identity that is linked to the morphology of the landscape, to the character of the human settlement defined by that morphology, and to the productive use of the place itself[32].

Therefore, the valley is again a formal - compositional - recognizable unit.

4.2.5 The geomorphological unit as a *forma vallis*

In comparison with the idea of a territory that is composed of recognizable units, each one playing their own role, the concept of geomorphological unit sets limits to the more appropriate context for the analytical-planning reasoning. The unit of the valley is therefore the consistent scale, the horizon of the plan.

The identification of the secondary valley as a unit represents the minimum element within which we should investigate the presence of the marginal spaces. In the image of the mountains (in particular of the Alps) as a territory-architecture built "by means" of architectures-units, the valley is, in comparison with the territory, what the "architectural unit" of Le Corbusier is if compared to the city.

According to V. Gregotti, *"where the signs made by nature and man establish formal circumscribable sets, we can recognize the presence of a field"*[33], that is of an environment that is transforma-

32. In the three valleys generated by the Avisio stream there is still a landscape identity, linked to the local production: the wood in Fiemme Valley, the pastures in Fassa Valley, viticulture Cembra Valley, the apples in Di Non Valley, the olives in the Sarca Valley, etc.
33. Vittorio Gregotti, cit.

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ble and workable by the plan and that has to be subjected to formal structuration.

The geomorphological unit of the valley is then used as a *"field"* within which we can plan, as a territorial environment that is architecturally defined, within which the marginal spaces become the *"real material of the plan"*.

The plan of the marginal spaces, included within the geomorphological unit of the valley, becomes the plan of the "forma vallis"[34] (Cf. Filarete): this means to bring back their figurative and relational character with the elements that are already present in the territory.

This is, in fact, the originality of the research on the marginal spaces in the Alpine environment.

If the studies in the urban and metropolitan context make analogous and generalizable all the planning issues of the marginal spaces, the valley constitute a unified thematic, and at the same time unique, entity of the plan. The valley is a place having specific *"genius locis"*, making the problem of the marginal spaces a planning subject of construction of the "anthropized landscape"[35] (See 6. Strategies).
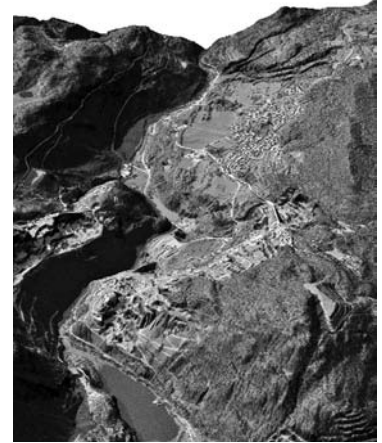
Cembra valley model.

34. The recent introduction in Trentino of the *Comunità di Valle* (valley communities), to which will be transferred the urban jurisdiction (therefore, they will have to realize inter-municipal valley plans – the future urban plans of the community), has the aim to identify new strategies of development that take into consideration the perceived landscape, the aspirations and the strengthening of the local identities as crucial elements for the competitiveness (also the economic global one); according to the guidelines of the European Landscape Convention (2000) the landscape is not only a natural fact to be preserved, but also a context to be planned, created and managed.
35. In particular, see Edoardo Gellner, cit.

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5. [Topology] Territorial archipelago[1]

"Lo spazio dell'Arcipelago è per sua natura insofferente alla subordinazione e alla successione gerarchica; nessuna isola ne costituisce l'asse fermo, [...] le singolarità dell'Arcipelago s'appartengono l'un l'altra perché nessuna dispone in sé del proprio Centro, perché il Centro non è in verità che quell'impeto, che obbliga ciascuna a trascendersi navigando verso l'altra". Massimo Cacciari[1]

The marginal spaces that are simultaneously present within a geomorphological unit (See 4. Geomorphology) are often scattered in a chaotic way; they are elements and traces of a palimpsest composed of big and small fragments[2] of marginality: such fragments are like the islands constituting an archipelago.

In this chapter, we will suggest an interpretation that starts from the phenomenology of the marginal spaces within a geomorphological unit and that uses the topology as a descriptive tool of such spaces; such tool is able to reveal their various availability to the *figuration*[3].

Unlike the Euclidean geometric space, the topology[4] refers to a space that is neither homogenous nor continuous; it does not deal with permanent distances (angles, areas): it is based on relations of proximity, separation, succession, continuity and discontinuity[5], and on elementary organizations in terms of "places" (proximity), directions or paths (continuity), areas or domains (closing)[6].

1. The *archipelago of fragments* is the structure that we can recognize while observing the marginal spaces that are simultaneously present within a geomorphological unit. We refer to the concept expressed by Massimo Cacciari, *L'arcipelago*, [1997], Adelphi Edizioni, Milano, 2005.
2. From the Latin *fra-méntum*: a fragment that has the same root of the word fragile.
3. *"The architect has the task to introduce some figurative objectives into the spatial realization of the services in the context from the very beginning of the planning process."* Vittorio Gregotti, *Il territorio dell'architettura*, [1966], Feltrinelli, Milano, 2008, p. 79.
4. The topology (*analysis situs*) deals with the geometric properties that are invariant if compared to the continuous transformations of a space, even when it is subjected to such a deep deformation that it loses its metrical properties described by Euclidean geometry: it describes the qualitative relations among things that are related to the concepts of continuous - discontinuous, connection - separation, opening - closing, boundary-limit, region-domain, inside-outside, holed-not holed, etc.
5. See the analysis of the places by C. Norberg-Schulz and the theories of K. Lynch that are based on the principles of the *"Gestalt psychology"* and on Heiddegger's philosophy.
6. Christian Norberg-Schulz, *Genius Loci, Paesaggio Architettura Ambiente*, [1976], Electa, Venezia, 1981, p. 28.

The topological interpretation refers to the difference and specificity of the marginal spaces, to their role and morphological conformation, which is useful to check the possibility of assuming them as a design structure.

The **topological parameter** is expressed in connection with two main concepts:
1. the **fragmented structure** as a figure of the marginal spaces present in a territory;
2. the **topology of the fragments** as an analytical meta-projectual tool revealing the different availability to transformation.
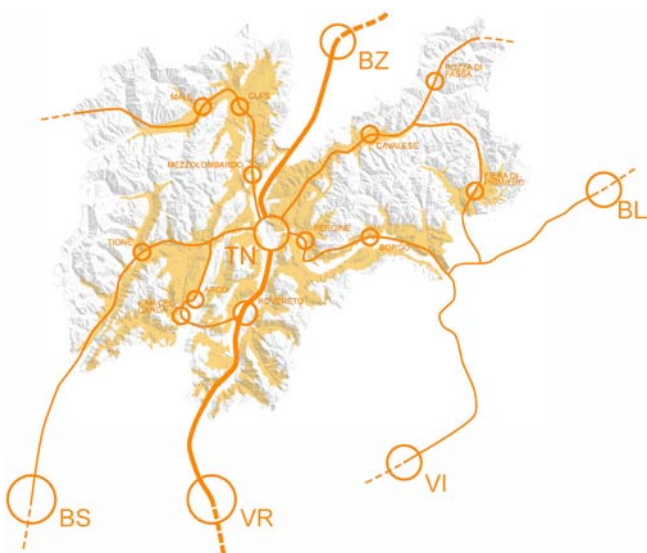
Policentric Trentino.
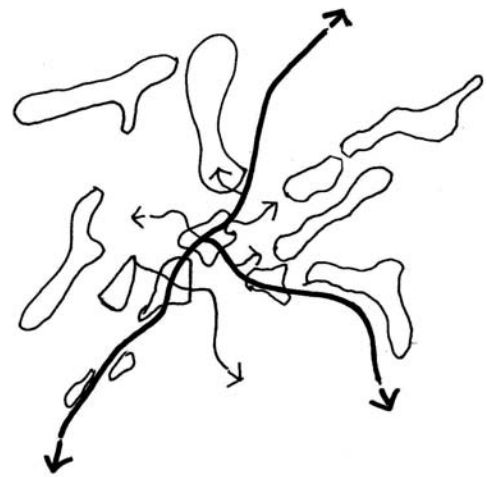
Valleys and identities (from A. Cecchetto, 1998)

5.1 [Structures] Polimarginalia

The "archipelago of fragments" is the structure that we can recognize by observing the marginal spaces that are simultaneously present within a geomorphological unit. The marginal spaces are the islands-fragments of this archipelago.

The fragment is the piece of a broken thing; its unity got lost with the other pieces; it is the preserved piece of something. Therefore, the marginal space as a fragment is:

1. a delimited discontinuity, a new figure that did not exist before, because it was a part, not necessarily distinct, of a unitary and continuous whole;

2. a piece, the relations of which were cancelled; these are missing or dangerous relations, because they can reveal what it was before, and this can cause unease. A relation is then the one of the interruption, and we need to specialize in order to gain access to it, to discover its role (mono-economy, specialized, dangerous, abandoned, etc.);

3. has the character of physical and metaphorical exclusion.

Starting from this definition, the question that we want to investigate is about the recognition of an image of the territory made by a "heap" of separated pieces where, however, it is possible to find new design materials[7]. According to V. Gregotti, the fragments of the archipelago represent a *"different way of remaining"*[8] where the weakness of the relations, the partiality of the form, the modesty of the contribution, make even more urgent and significant the design intervention; this corresponds to the aspiration of the marginal space (See 1. VIEWS) to become "other-than-self", that is a material that is still available to transformation.

5.1.1 Disorder. The theoretical roots of fragmentation

Fragmentation is typical of many real and represented aspects of contemporaneity, in particular of the way of constructing the present territory, which lost the continuity of its figure (and of the plan) and is now a collection of fragments of an infinite *Campo Martiri* of G. B. Piranesi.

According to A. Corboz[9], fragmentation is related to a tendency
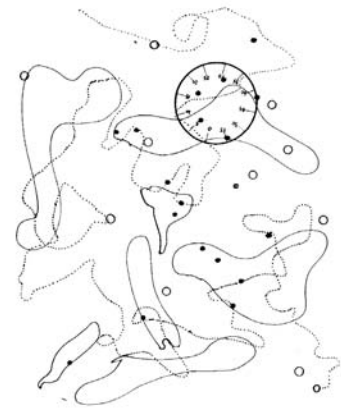
John Cage, *Cartridge Music. Foglio 7*, 1960.

Frederick John Kiesler, *David*, 1965-1966.

7. *"If we cannot use the ruins of antiquity anymore, but only the contemporary debris, the former will remain to mark the distance with which we are continuously forced to face."* Vittorio Gregotti, *L'architettura nell'epoca dell'incessante*, Laterza, Bari, 2006, p. 131.
8. Ibid.
9. Cf. Andre Corboz, *Ordine sparso. Saggi sull'arte, il metodo, la città e il territorio*, edited by P. Vigano, Franco Angeli, Milano, 1998.

to the non-representational that originates in the first applications tested in the eighteenth-century gardens and parks[10]. In this sense, the figure of the fragment interpret the possibility of testing a new non-representational continuity, just like, in the artistic field, J. Pollock's *action painting*, A. Burri's *matter painting*, L. Fontana and M. Rothko's *spatialism*. The singleness of the fragments, the disarticulation of words, the language syntax that refuses *"the order, is related to the use of the organizations of the fractal geometry and of disharmonious aesthetic categories"*[11] like an all over of J. Pollock or a piece of J. Cage.

Fragmentation requires two considerations:
1. it is the result of a non-plan or of a way of constructing the territory that is hardly controllable by means of the traditional working tools of the designer;
2. the aesthetics of the fragment laid the foundation for a new interpretation of such fragmentation, the possibilities of which have not been fully investigated yet.
While in art the fragment is produced by a precise expressive research, the marginal fragment-space of/in the territory is the result of actions of design/abandonment, in addition to spontaneous and/or unintentional formalizations. In any case, the outcome is a series of spots of color, a constellation of separated parts, an archipelago of expressive possibilities to be revealed.

Hans Namuth, *The Joseph Cornell Laboratory*, 1969.

5.1.2 Order. The theoretical roots of the fragment

In the *Joseph Cornell Cantina Workshop* photographed by H. Namuth[13], found fragments and objects are catalogued, arranged, and meticulously preserved in stacked boxes. An *"archeological bazaar"*[14] from which one can "extract", by using the *"eye of the archeologist"*[15], fragments of space, objects, wreckage of a past lacking in context, residues as new empties waiting to be (re)inserted in a new narration, in a new plot of significant relations.

This is why, the *"eye of the archeologist"* is necessary, in order to recognize in the fragments of the archipelago some different ways of existing in new identities.

A fragment *"expresses a hope, another hope, and as such it is different from with wreckage, which expresses a multitude or an ag-*

10. *"In Vaux-le-Vicomte, for instance, the first landscape realization on a large scale in France."* Bernardo Secchi, *Prima lezione di urbanistica*, Laterza, Roma-Bari, 2000, p.013.
11. In the musical language, discord is a non-tonal composition, for example the twelve-note music of Schoemberg.
12. Fragmentation *"has a lot in common with the technique of Pollock's all over [...] because - in Paul Klee - art does not show the visible, it makes visible."* Andre Corboz, *Ordine ...*, cit., p.225.
13. Hans Namuth, *Joseph Cornell Cantina Workshop a 3.708 Utopia Parkway*, New York, 1969, photograph.
14. Cf. Gianni Celati, *Il Bazar archeologico*, in *Finzioni Occidentali*, Einaudi, Torino, 2001.
15. Cf. Italo Calvino, *Lo sguardo dell'archeologo*, in *Una pietra sopra*, Einaudi, Torino, 1995.

gregate of broken things"[16], *"a possible fragment of one thousand buildings"*[17], able to be evidence, and at the same time source, of new plans: it is not a silent find that wants only to testify itself.

The archipelago of fragments, by multiplying the *"edge effect"*[18] when the single fragments multiply, requires a *"science of the margins"*[19] in order to give new identities and to transform the single fragments from simple matter (present in a territory) to design material, material for architecture.

5.1.3 The fragmented structure of the marginal spaces

To assume the archipelago of fragments as the design structure of a geomorphological unit means to plan its single fragments, or groups of fragments, through the rearrangement and the strengthening of the borders, in order to make them capable of relations (not necessarily physical, but also visual relations), and in some cases, to recycle their contents (reject or residue): this way, we can give the archipelago back as an empty space available to new practices or plans.

This methodological hypothesis concerns the possibility of using these marginal fragments-spaces (also in part) as parts of a new structure of the territory, of a new plan. From the decay of the marginal spaces, just like from the ruins, with a patient archaeological method it is possible to detect a sort of latent "monumentality" in the history of the places that have been transformed, wasted, sometimes disfigured by man; a monumentality that can legitimate new plans.

It will be a question of re-cycling and re-shaping some pieces of territory (marginal spaces), the general meaning of which is partially lost. By becoming materials, the fragments gain their own *"mollusc"*[20] identity, since the piece that came off from a body because of a fracture generates new individuals, as happens in the "gemmation" from the natural sponges. Such use of the fragmented structure responds to a narrative mechanism for the marginal spaces, which is able to find new figures for the construction of the territory: the archipelago, the constellation, the leopard skin, the patchwork.
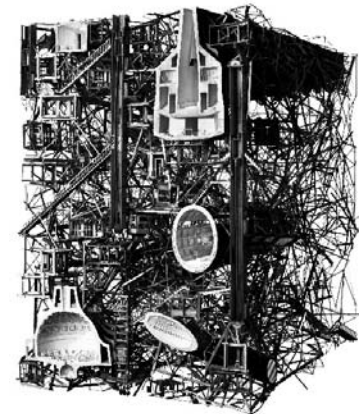
Ben&Sebastian, *City of the (Re)Orientated*, 2007.

16. In architecture, the fragment has a precise meaning, *"it is a small piece that came off from any body because of a fracture. This way, it expresses a hope, another hope, and as such it is different from with wreckage, which expresses a multitude or an aggregate of broken things."* Aldo Rossi, *Frammenti*, in Alberto Ferlenga, edited by, *Architetture 1959-1987*, Alberto Ferlenga, Electa, Milano 1987, p. 7.

17. *"Questo inserto o relitto del tempo nella sua assoluta purezza formale, mi è sempre parso come un simbolo dell'architettura divorata dalla vita che la circonda. Ho ritrovato la colonna del Filerete, che guardo sempre con attenzione, negli avanzi romani di Budapest, nelle trasformazioni degli anfiteatri, ma soprattutto come un frammento possibile di mille costruzioni."* Aldo Rossi, *Autobiografia scientifica*, Pratiche Editrice, Milano, 1999, pag. 17.

18. We refer to Ecology. By environmental fragmentation we mean the dynamic process of anthropic origin, through which a certain environmental typology is subjected to a subdivision into fragments that are more or less separated and progressively smaller and more isolated. The edge effect is the more significant consequence of fragmentation, which causes an increase in the transitional zones (ecotones: zones of tension between two ecosystems) to the detriment of the inner surface of the patch. See Almo Farina, *Verso una scienza del paesaggio*, Alberto Perdisa Editore, Bologna, 2004.

19. *"It is the science of what remained out of the town, or buried in the town, behind the big fronts, or on the dark sides of the perspectives."* Cf. Gianni Celati, cit., 221-222.

20. Cf. Massimo Cacciari.

5.2 [Fragments] Parameters and figures

In order to plan the archipelago of fragments (See 5.1 Structures), that is the marginal spaces that are simultaneously present within a geomorphological unit, and to be able to use them as materials to be planned, it is necessary to investigate the properties of the single fragments, in other words their topological "status".

Such investigation will be carried out by using **operational topological parameters** and projectual **figures**, according to this index:

1. Open/Closed, Over/Under, High/Low;

2. Empty/Enclosure/Wall, Relational Network, Core, Relief.
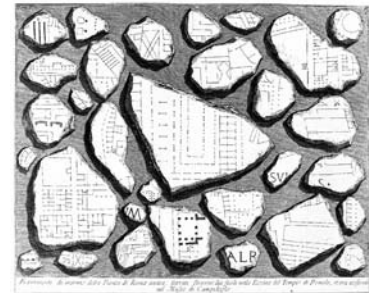
5.2.1 Operational topological parameters

The topology describes the qualitative relations among things, that is the features related to the concepts of continuous-discontinuous, connection-separation, opening-closing, border-threshold, region-domain, inside-outside, holed-not holed, etc. The topological space is not related only to the image of a space (perception[21]) but also to the relations that we can establish with this space, through the movement.

The topological concepts that we are going to propose are helpful in order to identify and plan the marginal spaces (See 7 Tactics).

5.2.2 Open/Closed

The open/closed pair represents the essential condition to analyze a fragment.

In topological geometry[22], a region is closed if its border is clear; a region is open if it is lacking in border (or if it is broken) and is composed only of internal points.

In the marginal spaces, this means to have:

1. a fragment that is not delimited, where the "threshold element" is not physically defined; the consequence is that, even if it keeps an autonomous identity as opposed to the outside, only the internal points of such space are considered;

2. a fragment with a continuous border consequently produces a (physical or metaphorical) separation between the inside and the outside.

The margin plays a crucial role and the consequence for the plan is that:

G. B. Piranesi, *Fragments of Roman Forma Urbis*.

On the next page. Typologies of the marginal spaces-fragments.

21. The spatial perception is the structural phenomenon that involves the recognition of the relations among the objects, as stated by M. Meleau-Ponty (*Phenomenology of perception*): *"the space is not the (real or logical) environment where things place themselves, but the means through which becomes possible a relation of things [...] of their connections."* This is the sense of the architecture that builds spaces by making space. The space is *"to make space"*, as stated by M. Heidegger, through the construction of objects.
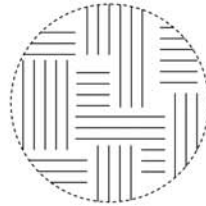
22. In mathematics, according to the Jordan's theorem, a closed curve divides the plane into two regions (therefore representing their common borderline or threshold): the one of the inner points and the one of the external points.
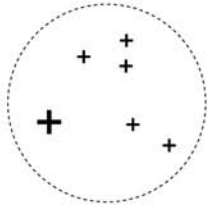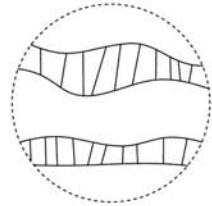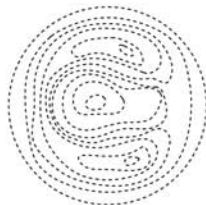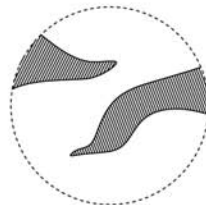
Open space
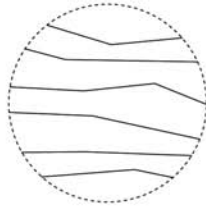
Lines

Field

Strips

Curves

Edges

Node
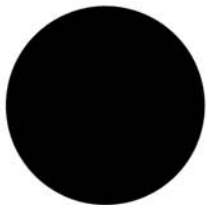
Closed space - margins
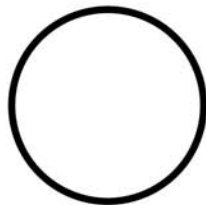
Fence

Indeterminate
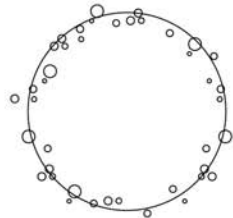
Occupied
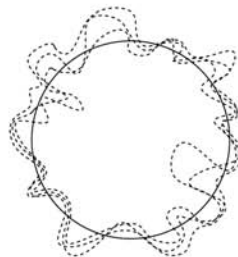
Fringe
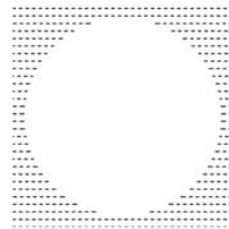
Glade
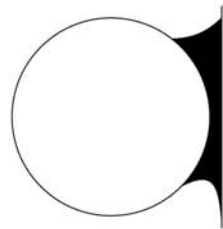
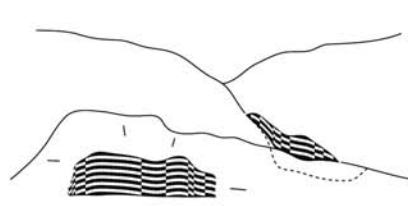**Interstice**
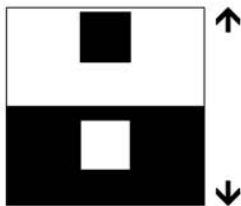
Over/Under
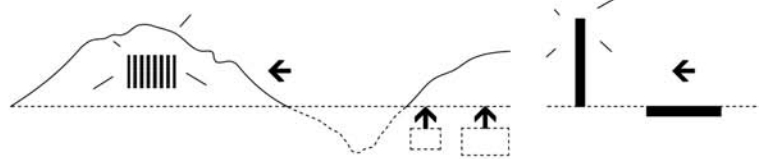
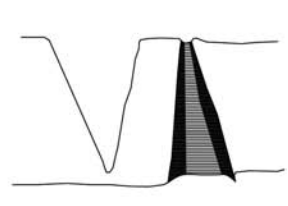**Inside/Outside**

Higt/Low
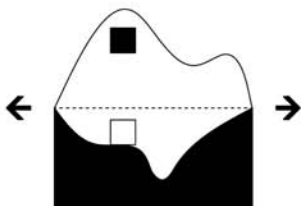
Visible/Invisible

Holed/Not holed

Light/Shadow

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1. in the open marginal space we can work on its internal points and on its surface for its re-signification;

2. in a closed marginal space we can work on its borders in order to structure them and to make it permeable, also by leaving the contents empty and therefore available to other possible transformations.

5.2.3 Over/Under
The over/under pair (and the related close/far pair) is connected to the position of a fragment in a given geomorphological system or in comparison with some territorial elements of reference. In flat environments it is related to over/under the earth line. This topological parameter is particularly important in the mountains, such as in the marginal spaces that lie above a valley floor or, in the case of narrow valleys that are deeply hollow and without valley floor, in the marginal spaces that lie under a ring-road and/or a main hillside settlement. The design questions posed by this topological pair are related to:
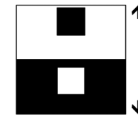
1. the capability of the marginal space, or of what it contains, to produce networks of visual relations at a distance that are recognizable narrations;

2. the capability of the borders of the marginal space to establish physical relations with the "border" elements (the earth line, the hillside, etc.).

5.2.4 High/Low
The high/low pair (and the related visible/hidden pair) is connected to what is inside or at the borders of the marginal space, to its contents, which can be big or small depending on our perception and scale; they can also be visible or underground, exceptional or not human (a high versant or an object hidden inside something). In this case, the design themes involve the perceptive value (the fact of being visible or hidden, from near or afar) to be used as a design (im)material.
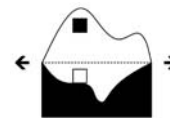
5.2.5 Empty, Enclosure, Wall
The open/close topological parameter recalls the figure of the enclosure, of the wall delimiting it, and of the empty space that it contains and preserves. The figure of the enclosure, by creating a

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space with significant margins, preserves the inner space as a place available to possible events (*chora*), to be guarded in its feature of available marginal void, where one can create the conditions to accommodate something else.

The physical separation between inside and outside can be concretized through clear margins (the architectural figures of the conterminous wall or the enclosure) or through non-representational ones (the natural/artificial figures of the glade or the terracing). Such margins will be connecting and/or excluding elements (if compared to the free empty spaces rich in potential), new public spaces of/in the landscape, "common goods" for the community (with a similar function to the one that was carried out in the past by the "common goods" in the mountain area). The fundamental act of these empty marginal spaces will be to clear out (rather than to build), to concentrate on the margins, in order to preserve the void (See 7. Tactics).
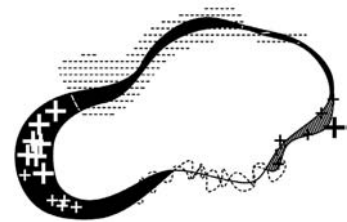
### 5.2.6 Relational Network, Core, Relief

The over/under and high/low topological parameters recall the figures of the relational network, the core and the mountain. These three figures are related to the concept of "landmark"[23], which builds long distance relations through its ability in orientation: it is the role played by some elements built by men and scattered in the landscape, whether they are intentional buildings (towers, for instance) or unintentional ones (a similar role is played by the quarry slopes in the mountains, or by the hydroelectric infrastructure, etc.).
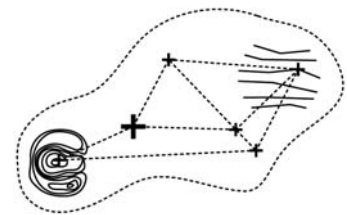
A physical network moves between the folds of the territory, in order to reach the cores, the architectures-intruders scattered in the marginal spaces, which are therefore contaminated by new life; cores that construct visual relations and catch panoramas while moving from one core to another.

A relief can be realized in "positive" through the morphologic accumulation as artificial mountains; a (bas)relief can be constructed through acts of "digging", of "earth movement", of "morphological modeling" (*grounding*), and therefore it takes shape as an empty enclosure delimited by "walls in negative" (See 7. Tactics).

23. We refer to the concept of *Landmark* expressed by K. Lynch (1960). *"When a mass rises from the surrounding environment, is implied the existence of a vertical axis catalyzing the spatial organization."*

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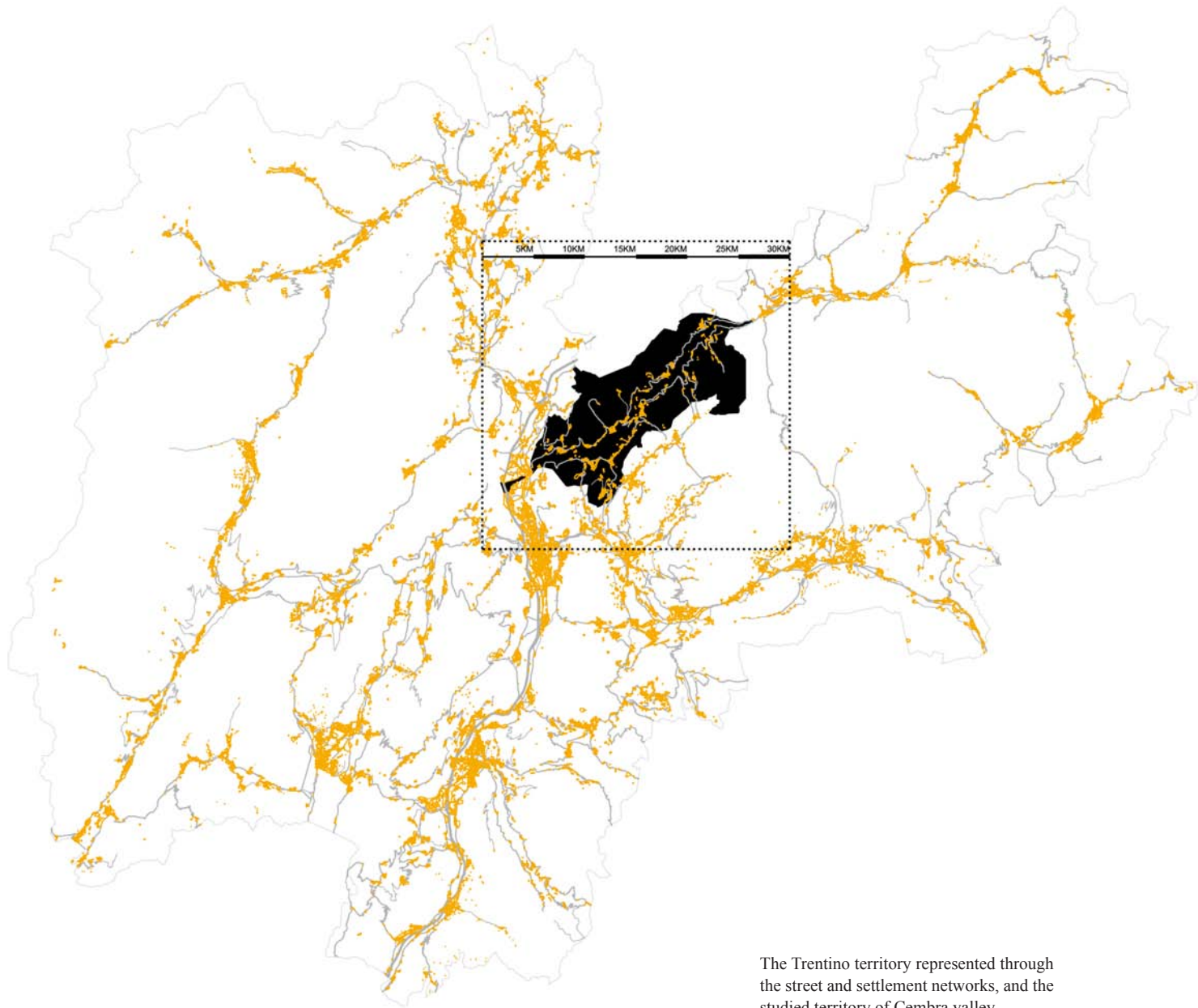
The Trentino territory represented through the street and settlement networks, and the studied territory of Cembra valley.

5.3 [Analysis] Portrait of a valley

The Cembra valley[24] represents a peculiar case of "marginality", because it reverses the more common territorial logic in the Alpine mountains, especially in the Adige valley, according to which the final part of the course of a river - like is the Cembra valley compared to the whole course of the Avisio stream - should be the most dynamic and developed part, if compared to the upstream[25]. In the case of the Cembra valley this does not happen. Starting from the main Adige valley where are concentrated the functional, infrastructure and settlement centralities of Trentino[26], and going up the course of the Avisio, we can notice the gap between the Cembra valley and the Fiemme and Fassa valleys, which lie above and are more developed and dynamic. This situation represents a paradox, because the Cembra valley is neither geographically outlying nor suburban in the Trentino region.

A first answer to this condition of marginality is the contemporary urban use of many mountain areas, which are characterized on the one hand by the functional concentration and the consequent building expansion in the wider and more accessible valley floors, and on the other hand by the intensive exploitation of the more elevated mountain areas because of the mass tourism, especially the winter one, which is favored by the presence of pleasant landscapes at high altitudes with important natural facts[27]. Such marginality is linked to the altitude of the low and medium[28] mountains, where there are neither wide valley floors to urbanize, nor altitudes or significant natural facts to exploit from a touristic point of view.

Moreover, in the case of the Cembra valley, we also find particularly unfavorable geomorphological features: this valley is constrained in narrow gorges without a valley floor to use, with steep slopes turned into terraces and hardly accessible spaces.

In 1971, the geographer G. Morandini defined the Cembra valley as *"the poorest valley of the Avisio and one of the depressed areas in Trentino"* and identified the main causes of its marginality in the lack of industries, the scarcity of trade, the absence of tourism and, therefore, the depopulation[29]. Responsible for the historical marginality of the valley - in the past it was a frontier area between the Bishopric of Trent and the County of Tirol - are its environmental conditions and its consequent isolation due to road system, which is structurally deficient and without links to the main arterial routes

24. The territory of the Cembra valley is traditionally devoted to agriculture, to wine-growing in particular, through the hard use of the slopes, which were modelled by thousands of kilometres of dry-stone walls. The woods constituted, until the first half if the twentieth century, an important source of revenue, while since the Eighties the extraction of the porphyry has relaunched economy.
The historic settlements are rural and Romance-Latin-style concentrated, unitary, with buildings leaning one against the other, arranged in an agglomerate. Other minor settlements are scattered like Germanic "farmsteads", and derive from the medieval German colonization. Only in the twentieth century the roads were made suitable for vehicles, through some intervention on both sides. Many bridges, jut out on the Avisio stream, connected the two sides of the valley, but today they have almost all disappeared.

25. The lower valley segment is usually the most favoured as regards the location of the main activity sectors, because it is there that are more easily placed the road structures for the accessibility, the productive, commercial, living and service structures.

26. The historic centre of Trento, the provincial capital, is only 8 km far from the Cembra valley.

27. The well-known Dolomites, for example.

28. The low and middle mountains are normally between 600 and 1200 metres high.

29. G. Morandini does not even mention the agricultural sector, which was not a significant economic activity, but only a form of self-support of the inhabitants.

of the adjacent regions, as a result of the realized infrastructure and the rejected plans. The SS (National Highway) 48 of the Dolomites, connecting the Trentino-Alto Adige with the Veneto (Ora-Belluno), through the Fiemme and Fassa valleys and the Pordoi Pass, cut off precisely the Cembra valley; what is more, the construction of the railway Auer - Fiemme valley doomed the valley to marginalization from the stream of traffic and from the flows of tourist and commercial interest, while rejecting the plan of connecting Trento to the upper Fiemme and Fassa valleys through the Cembra valley. Furthermore, the industrialization of other areas in Trentino, first of all of Trento and of the towns along the Valsugana valley, which attracted the working forces of the upper valley, caused its progressive abandonment and depopulation. In 1977, A. Gorfer reports the problem of the abandonment of the minor settlements scattered in the valley and of wide portions of the cultivated terraces, and affirms that *"the depopulation of the mountains is quite widespread, especially among the poorest communities of the middle and high Cembra valley."*

In the lower part of the valley, this condition seems to change starting from the Eighties, thanks to the beginning of the autonomous development of the agricultural sector and especially to the success of the extraction of porphyry that, limited to the left bank of the Avisio, became a monoculture and the main economic driving force of the territory. In 1990, the geographer G. Andreotti talks about positive *"recovery"* and *"rehabilitation of marginality"* thanks to the economic activities - the extraction of porphyry and the specialization in quality wine-growing - that, through their success, allowed the population stabilization and the birth, even if a faint one, of a light tourism linked to few cases of holiday farms.

Such judgments are the starting point for the comparison with the

Trentino low and medium mountain. Comparison between the main valley floor and the secondary Cembra valley.


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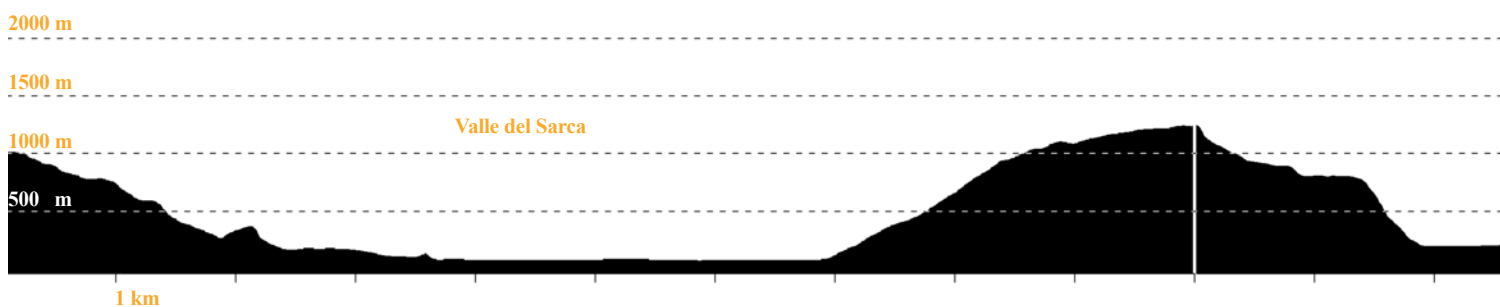
current situation, in order to observe how things have changed in the valley and to hypothesize its future. In fact, even though the environmental condition and the scarcity of connections can be considered as old problems linked to depopulation and geographical marginality, in some cases their resolution - new infrastructure, expansion of the quarries, building concentration in some areas and definitive abandonment of some others, poor quality tourist exploitation linked to the second homes - created new marginality.

A new kind of marginality is perceivable in connection with the development/consumption/abandonment of the territory: transformations and rejects, uses and disuses, cause significant changes and produce many marginal spaces. This is a sign marginality that is due to the invasive activities in some areas and to the definitive abandonment of others; it also outlines new global relations, while producing disconnections with the surrounding territory, and it is based on a heavily rigid economic structure (the monoculture of the porphyry): its crisis could put the valley at risk in the near future.

This new marginality outlines the current aspect of the Cembra valley, which is not the result of the geographical conditions anymore (or not so much), but rather of the amount of marginal spaces, both the present and the potential ones.
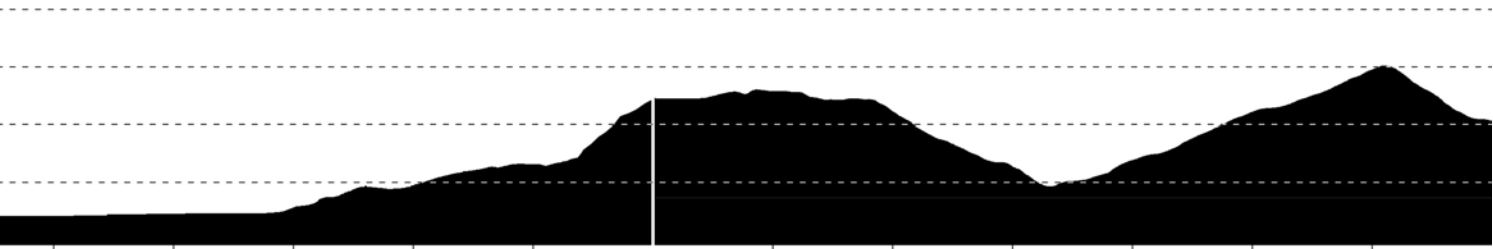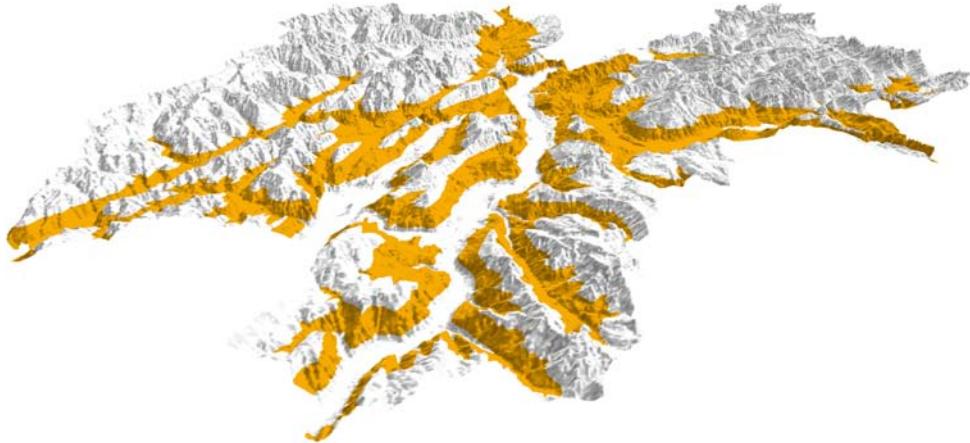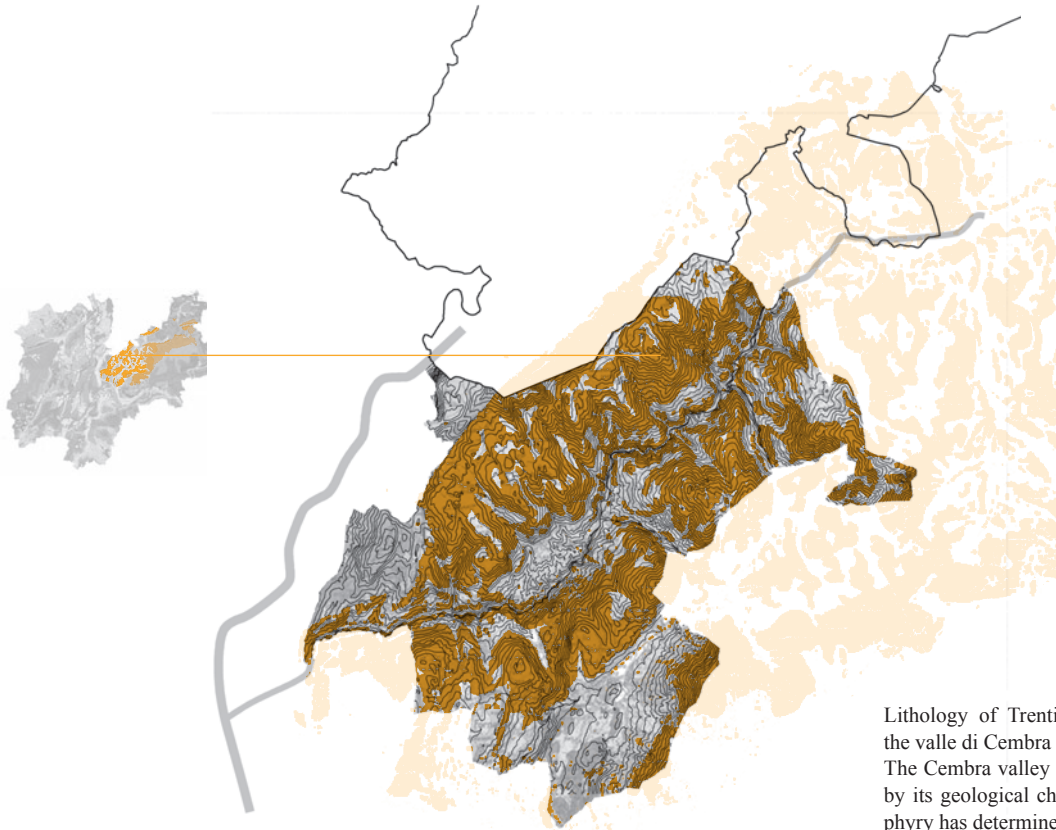
Lithology of Trentino. The porphyry of the valle di Cembra and Altopiano di Pinè. The Cembra valley is a unit characterized by its geological characteristics. The porphyry has determined the shape of the valley. The Avisio torrent has deeply carve the porphyry in the valley without allowing the formation of a valley-floor.

The geomorphological unit of the Cembra valley

The Cembra valley is a recognizable unit, bounded by precise geomorphological elements: the perimeter wings and the access system.

This valley is one big space of lengthened shape - about 25 kilometres long - bounded by two nearly parallel wings that serve as a space frame. This long space follows a serpentine course, from the north-east to the south-west: upstream, the space between the hillsides is large on average 1 kilometre, while downstream we find a wider swelling (where lie Cembra, Albiano and Lases) where the space is about 2 kilometres large, and appears as a sort of amphitheatre within the valley unit.

The wing bounding the valley on the right bank is constituted by a regular series of middle-height mountains forming one plateau - the Dossone di Cembra - that separates it from the Adige valley. This plateau[30], which is narrow, of lengthened-shape, undulating and modelled by the glacial action, gets narrower near its opening in the Adige valley and influences the development of the streams on this versant, which are very short and have a strong inclination.

The boundary of the valley on the left bank, unlike the right one, has more complex forms and reaches higher altitudes[31]. Also in this side there are many streams that have short course and very sloping river-beds, embanked in deeply hollow gorges.

This valley space is characterized by a very precise access system: at its extremities there are two narrow and high entrances with a very marked altimetric drop; on the left side we find three very lengthened entrances in form of secondary valleys and an offshoot blind end; on the crests there is a system of smaller permeability - routes and mule tracks - connecting the valley to the neighbouring territories from above.

The two main entrances to the valley, that is the extremities where the Avisio stream goes out of the Cembra valley and enter the Adige valley (in the south) and in the Fiemme valley (in the north), are two points that distinctly distinguish the landscape of the inner valley to what lies outside. By crossing these two gates, we perceive we are quickly entering an-other, different, space. This is caused by the narrow vertical section and by the abrupt change in altitude. In the north, the cove of the Dòs de le Fraìne, with the vertical drop[32] of the Stramentizzo dam, marks the sudden passage from the Cembra valley - narrow and set - to the wide and open valley floor of the Fiemme and Fassa valleys. In the south, the Serra di San Giorgio (Lavis narrows) contains the altimetric difference in level[33] between the Cembra valley and the wide plain of the Adige river.

30. M. Corno (1817 m), Dosso del Colle (1616 m), M. dell'Orso (1576 m), Lasta di Belvedere (1556 m), M. Novalìne (1449 m), M. Castìon (1528 m), M. Pincàldo (1351 m), M. di Cembra (1250 m), M. Speggia (1087 m) M. Corona (1035 m).

31. M. Fregasòga (2452 m), M. Croce (2490 m), Dosso di Segonzano (1542 m), M. Ceramònt (1514 m), M. Gorsa (1041 m), M. Barco (914 m).

32. The drop between the Stramentizzo basin and the Avisio river bed in the Cembra valley is 60 metres. Nevertheless, the perceived drop is higher, because we pass from a V-section, 120 metres deep, from the main hillside street, to a U-section with a wide valley floor, within which the main street is at the same altitude than before.

33. The drop from the main hillside street of the deep V-section of the Cembra valley is about 160 metres in comparison with the Adige plain.

1500 m
1250 m
1000 m
750 m
500 m

Cembra valley, sections.

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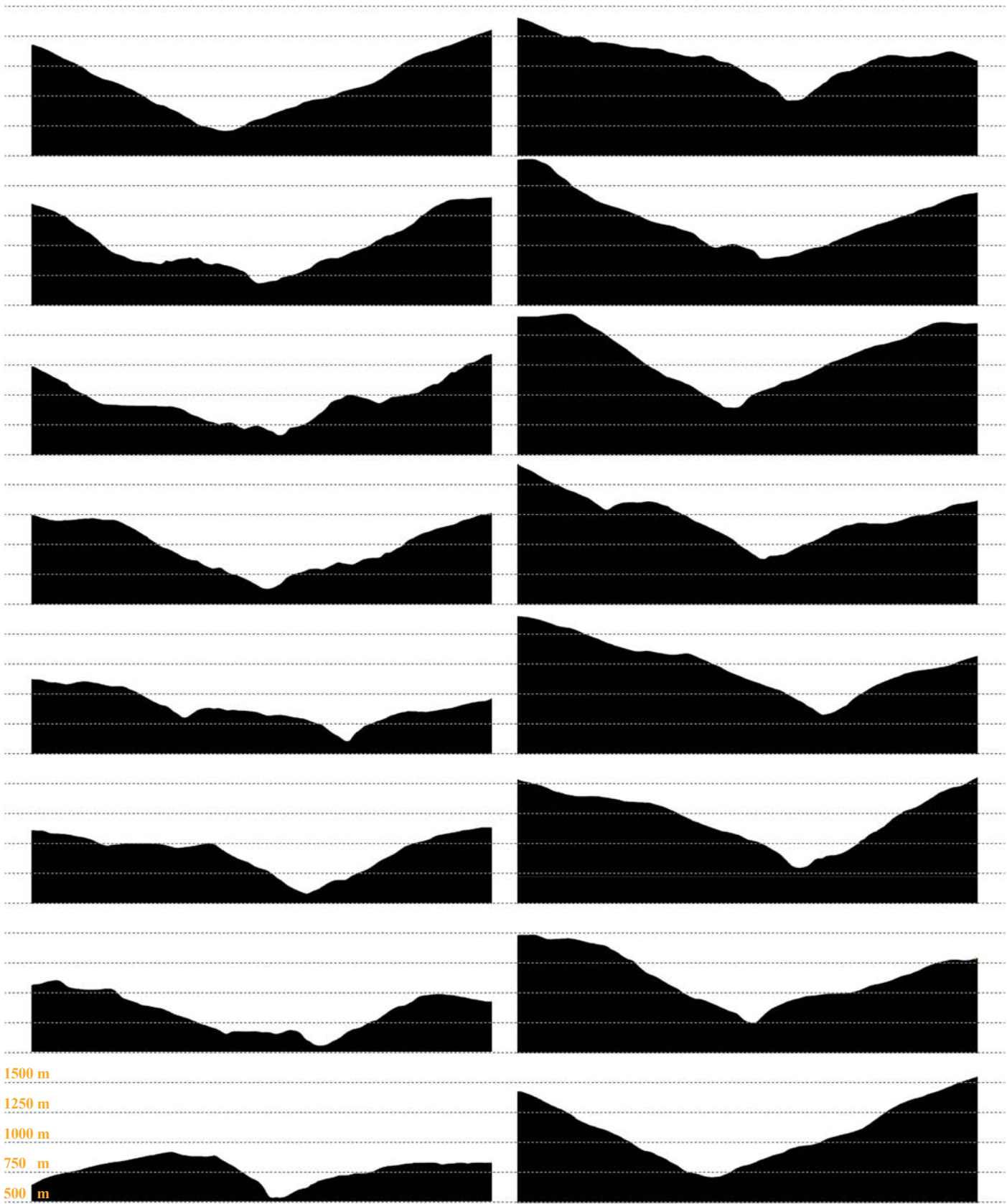
1216

Territori del Principe Vescovo di Trento:
A. Comitatus Zovi et Faedi - feudo Conti di Appiano (territori di Giovo, Faedo, Lavis, sinistra Adige di S. Michele)
B. Giurisdizione di Cembra - feudo Signori di Salorno (territori di Cembra, Lisignano, parte di Faver, Valda, Grauno)
C. Libero Comune di Grumes (Carta delle Libertà del 1185)
D. Contea di Castello - feudo Conti di Appiano (territori di Capriana, Valfloriana, Stramentizzo, Anterivo)
E. Libera Comunità di Fiemme (Patti Gebardini 1111)
F. Giurisdizione di Segonzano - feudo Rodolfo Scancia dal 1216 (costruzione Castello di Segonzano)

Territori del Capitolo della Cattedrale di Trento:
G. Giurisdizione di Sover e Sevignano
H. Comunità di Pinè (territori di Baselga di Pinè e Bedollo, Albiano, Lona Lases, Fornace)

Territori dei Conti del Tirolo (Giurisdizione di Salorno, Egna, destra Adige, destra Avisio)

1300

Territori del Principe Vescovo di Trento:
C. Giurisdizione di Grumes - feudo Cavaliere G. Starkenberg dal 1385 (nonostante la Carta delle Libertà del 1185)

Territori del Capitolo della Cattedrale di Trento:
G. Giurisdizione di Sover e Sevignano
H. Comunità di Pinè - durante il 1300 ha distrutto i due castelli esistenti sul suo territorio (territori di Baselga di Pinè e Bedollo, Albiano, Lona Lases, Fornace)

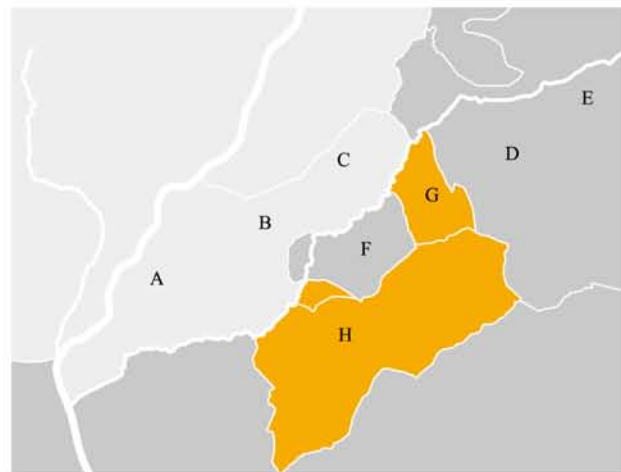Territori dei Conti del Tirolo (Giurisdizione di Salorno, Egna, destra Adige, destra Avisio)
Giurisdizione di Konigsberg:
A. Territorio di Giovo (nel 1276 il vescovo impegnò il Castello di Monreale al Conte del Tirolo)
B. Vicariato di Cembra (ceduto nel 1264 dai Signori di Salorno al Conte Mainardo - territori di Cembra, Lisignano, parte di Faver, Valda, Grauno)
D. Contea di Castello (ceduta dai Conti di Appiano al Conte Mainardo (territori di Capriana, Valfloriana, Stramentizzo, Anterivo)
E. Libera Comunità di Fiemme (presa dal Conte di Mainardo, la popolazione in questa occasione distrusse la fortezza di Castello di Fiemme)
F. Giurisdizione di Segonzano (passata al Conte del Tirolo nel 1304 e amministrata dai ministeriali Rottenburg fiono al 1410)
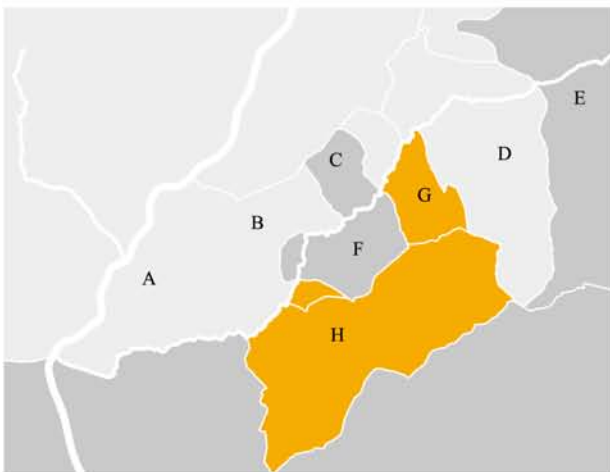
1535

Territori del Principe Vescovo di Trento:
C. Giurisdizione di Grumes - feudo Capitano C. Grotta (nonostante la Carta delle Libertà del 1185)
E. Libera Comunità di Fiemme (tornata al Vescovo mentre il Conte del Tirolo conserva la Contea di Castello)
F. Giurisdizione di Segonzano (investitura di Giovanni Battista a Prato della "Signoria di Segonzano" dal vescovo Clesio)

Territori del Capitolo della Cattedrale di Trento:
G. Giurisdizione di Sover e Sevignano
H. Comunità di Pinè (dal 1520 sono staccati i territori di Albiano e Fornace)

Territori dei Conti del Tirolo (Giurisdizione di Salorno, Egna, destra Adige, destra Avisio)
Giurisdizione di Konigsberg:
A. Territorio di Giovo (nel 1276 il vescovo impegnò il Castello di Monreale al Conte del Tirolo)
B. Vicariato di Cembra (ceduto nel 1264 dai Signori di Salorno al Conte Mainardo - territori di Cembra, Lisignano, parte di Faver, Valda, Grauno)
D. Contea di Castello (ceduta dai Conti di Appiano al Conte Mainardo (territori di Capriana, Valfloriana, Stramentizzo, Anterivo)

1796

Territori del Principe Vescovo di Trento:
D. Nel 1779 i territori della Contea di Castello entrano nella Comunità di Fiemme
E. Libera Comunità di Fiemme
F. Giurisdizione di Segonzano - feudo famiglia Prato dal 1535

Territori del Capitolo della Cattedrale di Trento (ultimi decenni di esistenza del Capitolo):
G. Giurisdizione di Sover e Sevignano
H. Comunità di Pinè (dal 1520 sono staccati i territori di Albiano e Fornace)

Territori dei Conti del Tirolo (Giurisdizione di Salorno, Egna, destra Adige, destra Avisio)
Giurisdizione di Konigsberg:
A. Territorio di Giovo (nel 1276 il vescovo impegnò il Castello di Monreale al Conte del Tirolo)
B. Vicariato di Cembra (ceduto nel 1264 dai Signori di Salorno al Conte Mainardo - territori di Cembra, Lisignano, parte di Faver, Valda, Grauno)
C. Giurisdizione di Grumes (ceduto dal Vescovo di Trento nel 1779 in cambio di Anterivo, e annesso a Konigsberg)

A complex space-entrance connects, along the left side, the Cembra valley to the Valsugana valley. It coincides with the ancient abandoned valley of the Avisio[34] stream. The valley furrow is occupied by two lake basins: the Valle Lake (630 m) and the Lasés Lake (629 m). Its highest part, where there is the entrance to the Cembra valley, underwent the deep modifications caused by the extractive activity that are still taking place in the porphyry quarries of Fornace, Albiano, S. Mauro and Lases.

Three other corridors-entrances similar to the preceding, connect the Cembra valley to the Altopiano di Pinè. We are talking about the furrow hollowed by the Regnana stream that links Segonzano to Piazze, and the one hollowed by the Brusago stream that connects Sover to Brusago. From both the corridors one can enter the valley from the top, from an altitude that is about 250-300 metres higher than the Avisio's river bed; such condition stresses the perception of the verticality of the Cembra valley furrow, of which, as if it was a fault in the earth's crust, we cannot perceive the end, namely the river bed[35]. The third of these corridors-entrances, the one in the north, is the secondary valley of the Longo river blind ended, closed from the Lagoraì range of the Brenta Group.

The crests of the mountains surrounding the valley, with their small lakes and their peat-bogs, in the past were veritable passing threshold, that is rapid ways to walk along in order to reach the neighbouring territories. Today, the main infrastructure crossing the valley is along the mountainside and excludes ancient practices and parts of the valley.

34. This secondary valley corresponds to the ancient abandoned furrow of the Avisio that, before being caught by a tributary of the Adige, belonged to the catchment area of the Brenta; at the centre runs the SP (provincial road) 71.

35. The Avisio river bed constitute the only flat surface of the valley floor, which basically does not exist: it varies from 20 metres between Cembra and Lavis to 4 metres, closed between the steep slopes of mountains that reach an average height of 1800 metres.
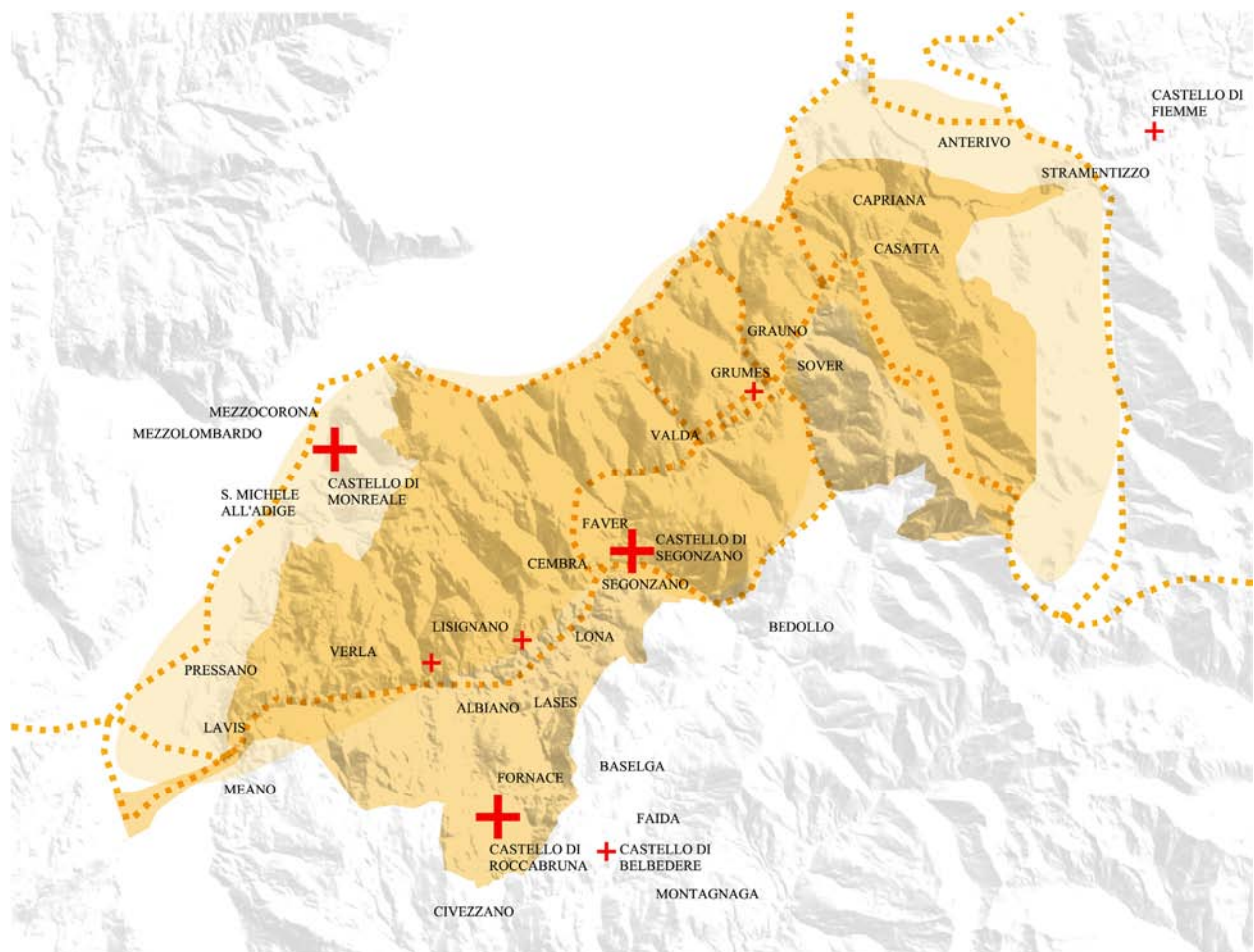

The Avisio torrent is configured as a geographical limit that divided in two parts the valley, it was once a political border that, unlike from other valleys, for example the Fiemme and Fassa, it hasn't contributed to the construction of a single territorial identity.

PRE-ROMAN

● Castellieri (sponda destra Avisio):
A. Mancabrot di Ceola; B. Castion di Lisignago; C. Caslir di Cembra;
D. Castion di Faver; E. Castelet di Grumes

Castellieri (sponda sinistra Avisio):
F. Castelir di Sover; G. Venticcia di Segonzano; H. Oselera di Sevignano
I. Casteleri di Lona; L. Castel di Lases

● Insediamenti di origine celtica V-IV secolo a.C.
M. Valternigo di Giovo; N. Lisignago; O. Portegnago; P. Grauno

● Insediamenti di origine retica II-I secolo a.C. (Symbri)
Q. Cembra

Le prime vie di comunicazioni esistenti in Valle probabilmente erano quelle ci
collegamento trai i vari castellieri.
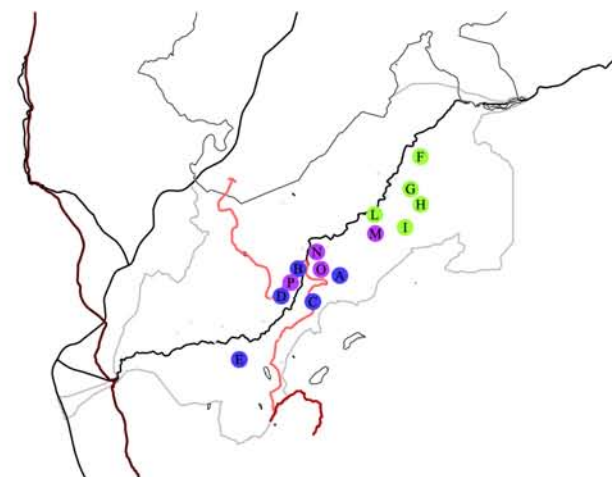
ROMAN

● Insediamenti di origine romana (I secolo a.C. - VI secolo d.C.) :
A. Segonzano; B. Vich (Faver); C. Sevignano; D. Fadana; E. Albiano

● Insediamenti di presunta origine romana (I secolo a.C. - VI secolo d.C.) :
F. Piscine; G. Sover; H. Montesover; I. Valcava; L. Gresta

● Insediamenti di origine longobarda (VI- VIII secolo d.C.) :
M. Gaggio; N. Prà; O. Saletto; P. Cort (Faver)

Vie di comunicazione:
— Via Claudia Augusta Altinate
— Collegamento secondario ci la Via Claudia Augusta Padana
— Semita Karoli
— Collegamento

— Mulattiere

— Sentieri

Nel medioevo i carri venivano adoperati solo nei tratti dove le comunità
garantivano la manutenzione delle strade; il resto degli spostamenti avveniva
ancora prevalentemente a piedi.
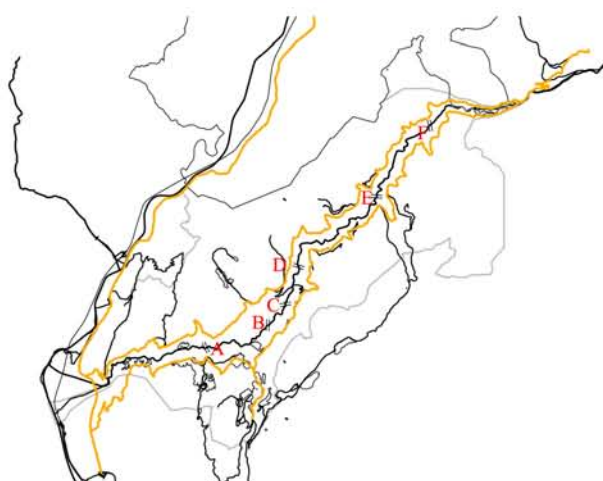
— Autostrada

— Strade provinciali

Ponti antichi non più esistenti
A. Ponte Alt - tra Albiano e Cembra
B. Ponte all'Ischia di Pozzolago - tra Lona-Lase e Cembra
C. Ponte delle Seghe - tra Sevignano e Cembra
D. Ponte di Cantilaga - tra Segonzano e Faver (libero aperto a tutti)
E. Ponte di La Rio - tra Sover e Grumes
F. Ponte di Valfloriana - tra Casatta e Capriana

The torrent that divided in two parts the Cembra valley, has given a settlement along the hillside, in the middle, with a few difficult transversal connections. The oldest settlement is the castelliere, to control the territory: this settlement type, located in the summit areas, actually it are disappeared. The historic settlement still recognizable, it can be classified in two typologies: the compact settlement of Roman origin, and the spread settlement "a masi" of Germanic origin.

100

5.3.1 New marginal signs

The marginality of the Cembra valley is related to the image of a territory in spots, a constellation of stars: some of them are alight, some are faded, some others are already extinguished. We are dealing with a high amount of marginal spaces, of abandoned or dismantled places and soils, together with many spaces that because of the structurally sensitive - monocultural - and invasive - of poor quality and affecting - character of the territory, can become marginal in the future.

Until some decades ago, the valley was a marginal space characterized by the progressive depopulation[36] that stopped only at the beginning of the Nineties; nowadays, the poor quality building development concentrated around the main settlements caused the crisis and subsequently the disappearance of many minor settlements[37]. Especially in the high valley, the lack of local opportunities ended up by increasing the phenomenon of commuting; therefore, these aggregates are not real places of production and activity, but shelters inhabited by elderly people, out of the production cycle, or dormitories.

The historic form of the *"settlement archipelago"*[38], which was typical in Trentino, turned into a constellation composed of few growing living bodies and many bodies that are lifeless or close to implosion.

As happens in other similar cases, the choices of how to use the territory cause the cancellation and the disuse of the some spaces, therefore producing numerous marginal spaces. In the valley, which was "marginalized" because of its minor economic development due to the environmental and access difficulties, concentrated activities and objects that were not accepted in other places of the region: the infrastructure for the hydroelectric exploitation, for the production of energy[39] and for a faster connection; the latter, on the one hand favoured the growth of the settlements directly linked to such infrastructure, but on the other hand it marginalized the minor network that was pervading in the rural landscape, therefore contributing to the abandonment of the minor settlements; finally, the extraction of the porphyry near Albiano, Fornace and Lases, passed from the scattered pattern of the early Sixties, when every community had its own small quarry, to the concentration in few vast areas of exploitation[40]. Even if on the one hand the extractive and indu-

36. In the period of time between the first census in 1951 and the last in 1991 the population in the Cembra valley has constantly decreased, with a decrease of 11,6%. Only in the last few years we have witnessed a modest population growth, with a growth rate of 3,7% between 1991 and 1998.

37. From 1951 to 1998 the decrease in population in some municipalities of the high Cembra valley was significant: Grauno -46%, Valda -44%, Sover -32% , while we witnessed significant growth only in Albiano +23% and Cembra +14%.

38. Cf. R. Bocchi and A. Cecchetto researches.

39. Stramentizzo dam, hydroelectric power station in Pozzolago.

40. According to the census in 1991 the working population in the Cembra valley is distributed approximatively in the different sectors like this: 6,7% agriculture (full-time employed), 50% industry, 13,1% trade, 28% services. The most evident datum is in the secondary sector and is higher than the provincial one (about 33%), because of the extractive industry and the porphyry working. In Albiano and Lona-Lases, the incidence of the employee in industry reaches 69,7% and 60,9% respectively. Also the datum regarding agriculture (6,7%) is higher than the provincial average (5,7%), but it should be integrated by considering the numerous non-professional or part-time agricultural workers. On the contrary, the data of the occupied in trade and in services are considerably lower than in the province of Trento, where they reach 22% and 39,5% respectively.

strial activities speeded up the socio-economic development, on the other hand they extensively damaged the physical landscape and its perception-representation, by effacing it and making it invisible as a landscape, that is as a potential space of the "other-than-self". The monofunctionality, which is potentially prone to crisis, and the current invisibility due to the lack of an alternative narration revealing the perceptive potentials, make the zone where the porphyry is extracted an element of risk for the future of the whole valley. The sector itself, in the last years, has started to show some signs of the crisis, as a consequence of the global crisis, which we have to consider carefully in order to guarantee an alternative.

S. Perdoni (1887-1935), Piramidi di Segonzano. (PAT Archive)

The Cembra valley does not represent a specific tourist attraction: it is rather perceived as a place divided between exploitation, abandonment and in part as a preserved landscape and a value to aim at (some preserved areas and the agricultural areas of value). Nowadays, a new attention is paid to tourist promotion through the APT (agency for tourist promotion) Cembra and Altopiano di Pinè, even if the valley still represents just a periphery of the Piné tourist centre.

Wine-growing, if on the one hand allowed to preserve the beautiful landscape and represents a conservation model of the terraces in the whole Province, on the other hand it did not colonize (for example through common uses of dismantled fragmented soils) the already abandoned areas; even the provincial town planning instruments (PUP 2006) define the terraces as the areas of agricultural value to

be preserved. All this outlines the new constellation of marginal spaces of/in the territory of the valley; a fragmented structure that will expand again because of the above-mentioned potential elements of crisis: on the one hand the high part of the valley risks disappearing because of its abandonment (settlements with less than 500 inhabitants) that would cause the valley to halve; on the other hand the extraction of the porphyry as it is conceived today is doomed to be worked out.

The recent introduction of the *Comunità della valle*[41] (valley community) aims to fix the situation of sectional and territorial lack of balance in the whole system. It acknowledges the peculiarity of the Cembra valley in the province of Trento, while the previous *Comprensorio C5* was a district that joined administratively the Cembra valley to Trento. The formulation of the *Territorial Pact*[42] works on the integration among the different economic activities as a strategy to relaunch the territory; however, it is based on the status quo, as if what is present was the only possible option for the future.

On the contrary, today we have to face the new sign marginality, which is linked to the present, past and future uses. How will the valley be in 2030? How will it be if the extraction of the porphyry, as it happens today, will not exist anymore? Two images: the first one portrays a dull valley that reduced its productive surface; the second one outlines a valley-archipelago that recycled its marginal spaces in order to gain its future.

Cembra valley, summit valley points. S. Leonardo church; ruins of the Segonzano castle; S. Giorgio church with behind the porphyry debris.

41. The Comprensori (districts) in Trentino (1973-2007) were replaced in 2007 with the Comunità di Valle (valley communities). The districts (Samonà) were created in order to assure a greater efficiency in the administration of the provincial territory, which is subdivided into 217 municipalities, small or very small, but proved not very efficient tools. The new valley communities will have more powers, among which the jurisdiction in local infrastructure, public services, town planning, energy, local transport, water and waste.
42. The territorial pact of the Cembra valley assumes a strategic value for the development of the valley and the strengthening of the local identity. The strategy of enhancement concerns seven, integrated and complementary, development axes, regarding: rural tourism; district of porphyry; wine-growing, agriculture and forests; crafts; valley administrative system; a social pact; educational policies.
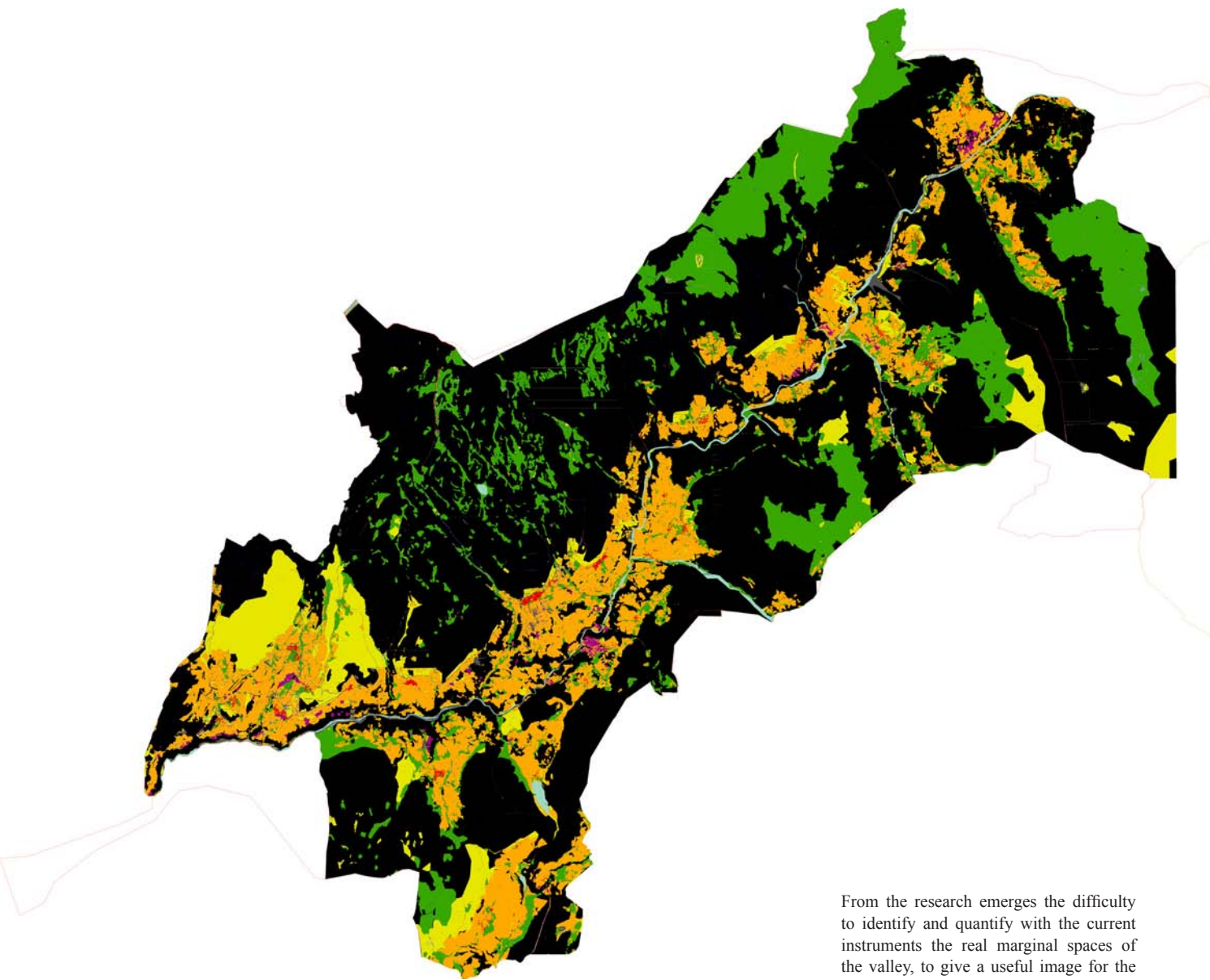
1856

Towards a new map of marginal spaces
Source:
CTP 2008
Catasto austo-ungarico 1856
Provincial Plan PUP 2006
Municipal Plan PRG 2006-10
Quarry Plan PC 2006
PGUAP 2006
Orthophoto 1953-1963-1994-2000-2006-2008
Lidar PAT
Corine Land Use 2006
Tools: Gis, Cad

From the research emerges the difficulty to identify and quantify with the current instruments the real marginal spaces of the valley, to give a useful image for the project. It is therefore used the method of weaving all available data, both current and historical information, as the historical orthophotos and the signs of the built landscape present in the provincial ground model *Lidar*, to create a new map from which to explore marginal spaces:
- Between settlements along the hillside and foothill terraces (terraces and sprawl abandoned settlements)
- Between the quarry active sites, hillside settlements and summit forest areas (landfill of waste materials, ex quarries)
- Between forest and abandoned fields (used for the weekend second houses).
It is thus possible to identify and quantify some marginal spaces otherwise not considered.
Value Agricultural areas and secondary agricultural areas identified by the PUP and PRG are about 10 percent of the territory of the valley and most of them under vines.

2010

🟧 coltivazioni agricole		🟥 insediamenti storici	
🟪 coltivazioni vitivinicole		🟥 insediamenti recenti	
🟩 pascoli		⬛ suoli improduttivi	
⬛ boschi		🟦 torrente, laghi	
🟨 prati		⬜ aree estrattive	
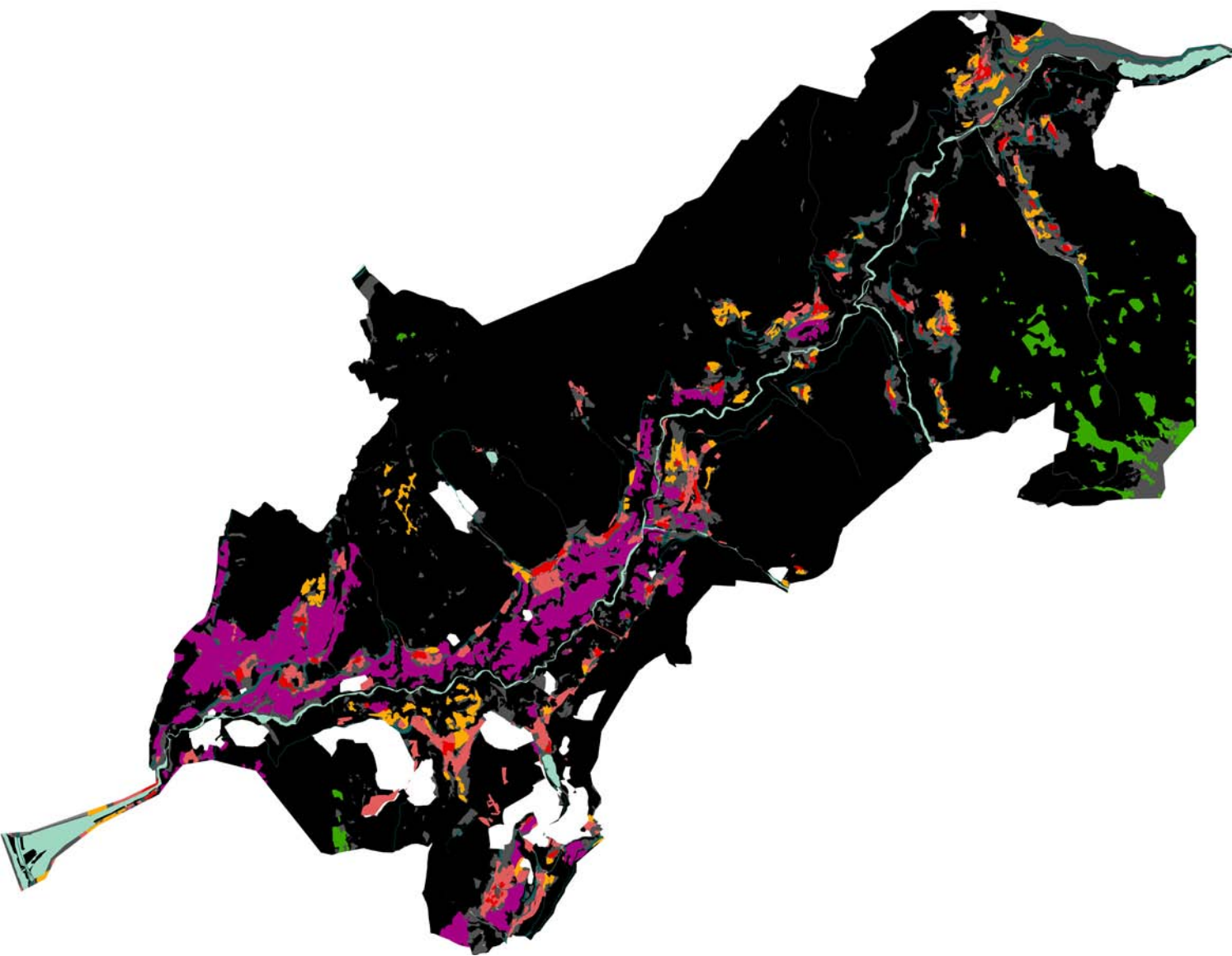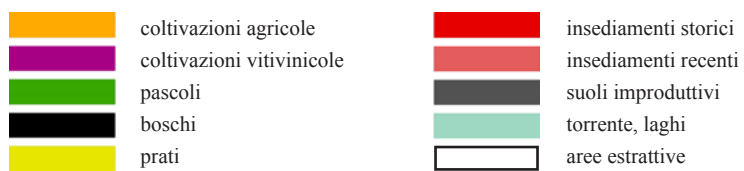
Cembra valley, particular of the dam of Stramentizzo and the settlement of Ischiazza still inhabited, orthophotos 1963.

Cembra valley, abandoned agricultural terraces of Grumes, 2010.

106
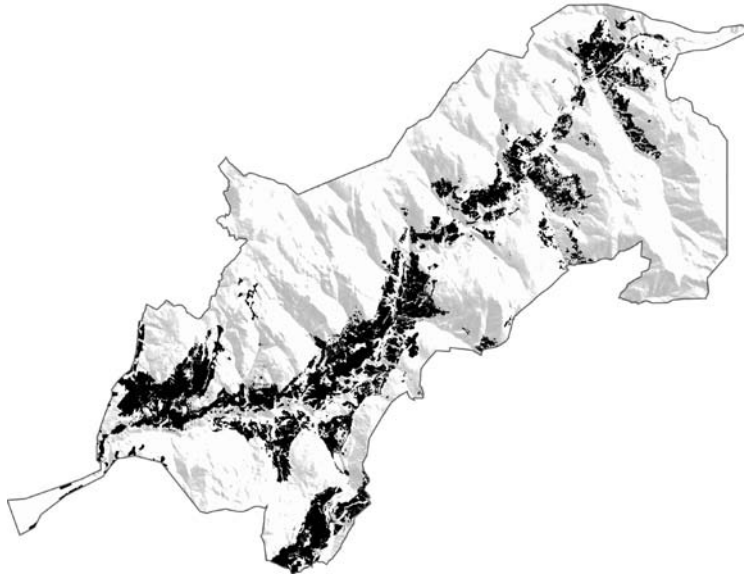
Agricultural areas (1856)

25%
of the valley's territory
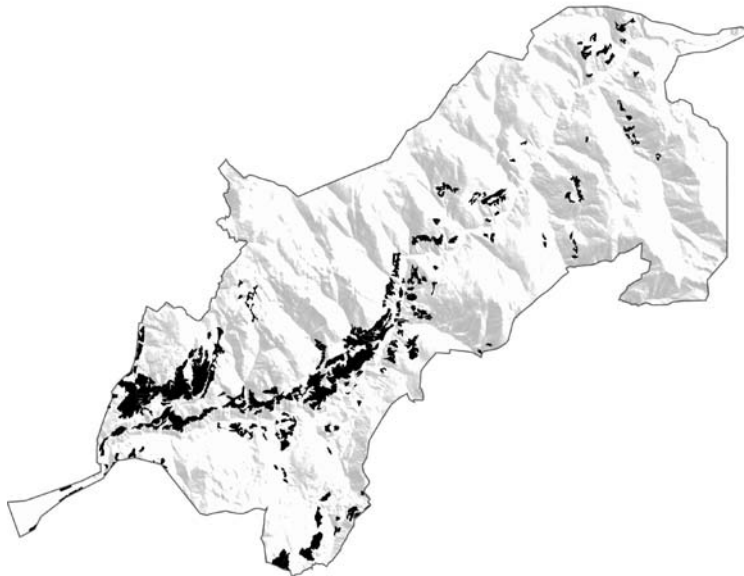
Agricultural areas (2010)

9%
of the valley's territory
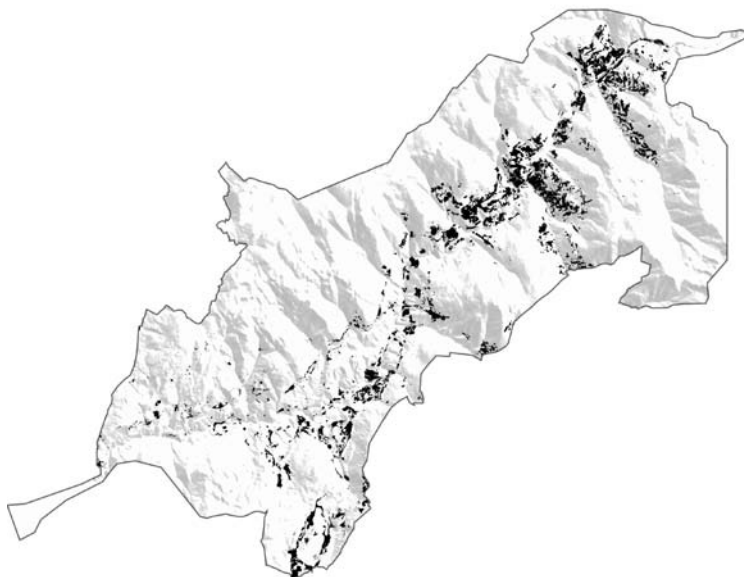
Results. Marginal spaces
Abandoned agricultural terraces and architectures

16%
of the valley's territory

It is possible to identify the small sprawl rural architecture that are now abandoned but they ruins are still present and could be potential elements for the landscape development project, such as the abandoned agricultural terraces.

Albiano, extraction areas, 1963.

Lases Lake, quarries and scraps hillsides
of porphyry, 2010.
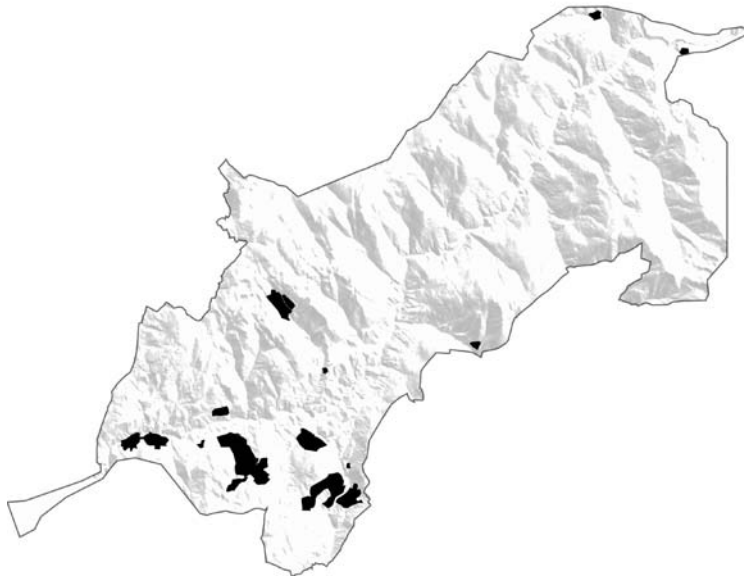
Quarries planning (2006)

9%
of the valley's territory

Un-planning marginal quarry's spaces (2010)

4%
of the valley's territory
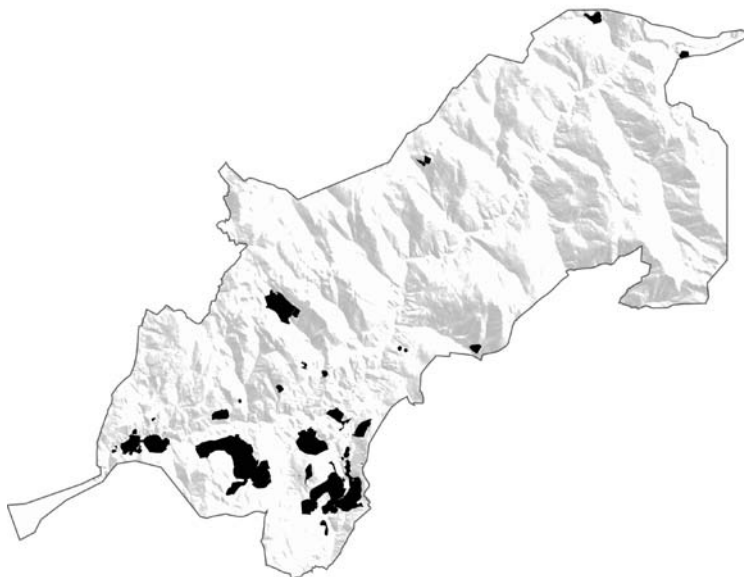
Results. Marginal spaces
Potential marginal quarry's spaces

15%
of the valley's territory

An interesting results concerns the extraction activity in the valley. There are some small abandoned quarries, probably illegal, even near to the historic settlements, which are not considered (and hardly visible) but that in same case, are important potential spaces for the project. In many cases there is an incongruity between the planned areas (Quarry plan 2006) and the reality, the margins are much larger and contain spaces and abandoned materials that also have potential for the project.

Results. Marginal spaces
Grasslands and pasture land equipped

20%
of the valley's territory
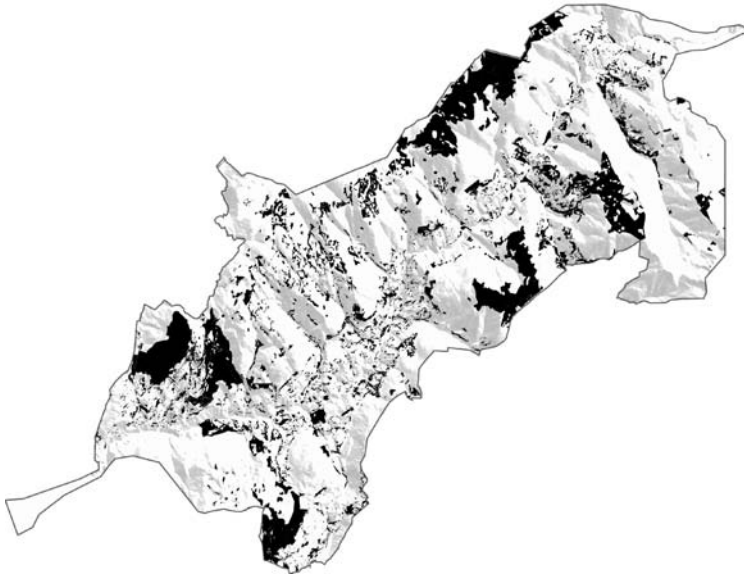
New railway between Trento/Cavalese (2020)
Potential increment of marginalitations

45%
of the valley's territory
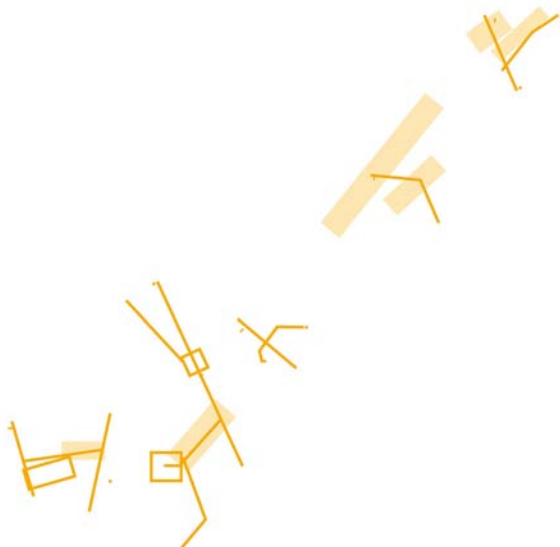
The option of building a new railway between Trento and Cavalese through the Cembra valley certainly can be an element of development but this project, without an attention to the reconstruction of the transversal links through the Avisio torrent (at the moment all completely missing except the only one between Faver and Segonzano), may be an additional element of division and can create other future marginalization.

"Transects" as a connection strategie.

110

About **40%** of the historic building of the Cembra valley is abandoned.
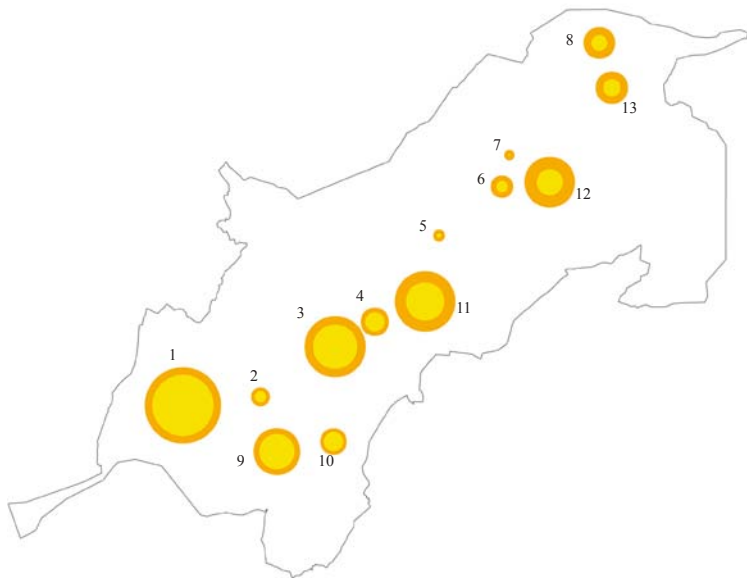
Inhabited buildings %

Uninhabited buildings %

1. Giovo
2. Lisignago
3. Cembra
4. Faver
5. Valda
6. Grumes
7. Grauno
8. Capriana

9. Albiano
10. Lona-Lases
11. Segonzano
12. Sover
13. Valfloriana
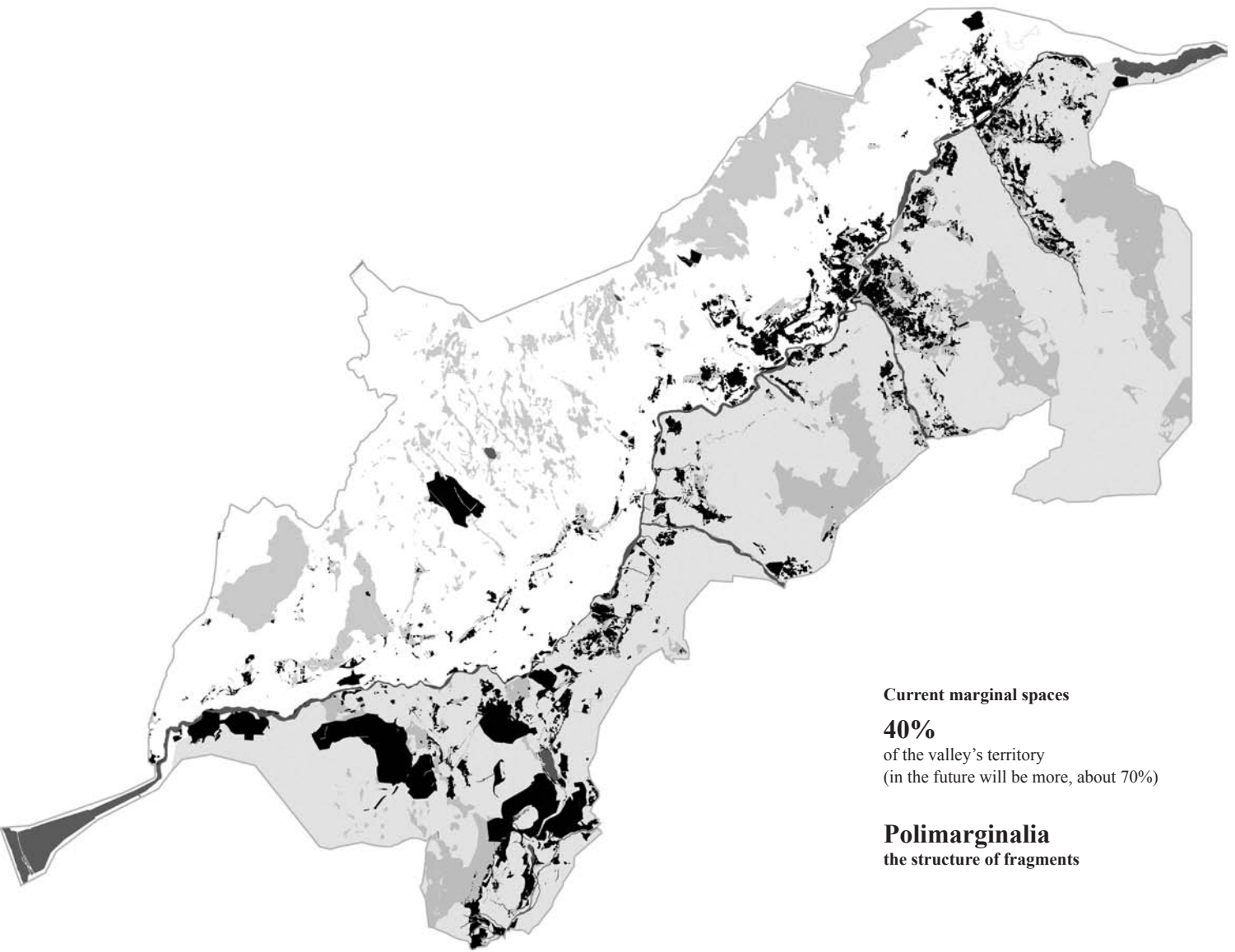
Current marginal spaces

40%
of the valley's territory
(in the future will be more, about 70%)

Polimarginalia
the structure of fragments

111

6. [Strategies] Diffusion. Architecture of re-connotation

"Un certo numero d'oggetti si sposta in un certo spazio, ora sommerso da una quantità d'oggetti nuovi, ora consumandosi senza ricambio; la regola è mescolarli ogni volta e riprovare a metterli insieme." Italo Calvino[1]

A **strategy** (from the Greek *strateghós*, general) is a long-term plan of action that is realized on wide geographical scales; the tactic, instead (See 7. Tactics), indicates some actions that aim to reach a short-term objective, which is realized generally on a small scale. To change tactic during the operations is usually possible and can be a way of adapting to new situations; on the contrary, to change strategy is more difficult, because it requires a general reorganization.

The strategies investigated through case-studies are planning operations that aim to turn the problem of the marginal spaces, within given geomorphological units, into a resource, by identifying the possible actions to re-connote such spaces and their territories.

Some of the cases that we examined concern rejects or residues to recycle; some others are pleasant or undamaged landscapes that, however, undergo conditions of territorial marginality (due to hard accessibility, high altitude or geographical suburbanity) and represent an unexpressed (tourist, cultural, economical, etc.) potential. The **network** system represents the strategy to re-connote the marginal spaces.

1. Italo Calvino, *Le città invisibili*, [1993], Mondadori, Milano, 2006, p. 108.

Therefore, the aim is not to dwell on the architectural-formal outcomes, but to make the chosen "tautology-strategies" (forms of the networks) emerge, according to the following index/classification:

1. **re-cycling** is related to the (re)planning of the marginal spaces;

2. **re-activating** concerns the diffusion of (micro)architectures in the landscape;

3. **re-identifying** refers to the differentiation and plurality of functions within a valley.
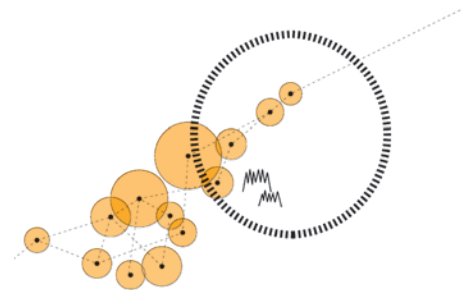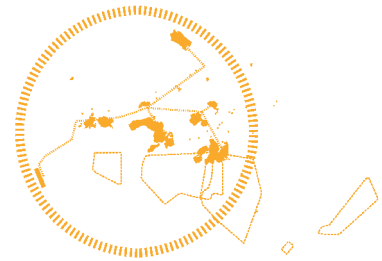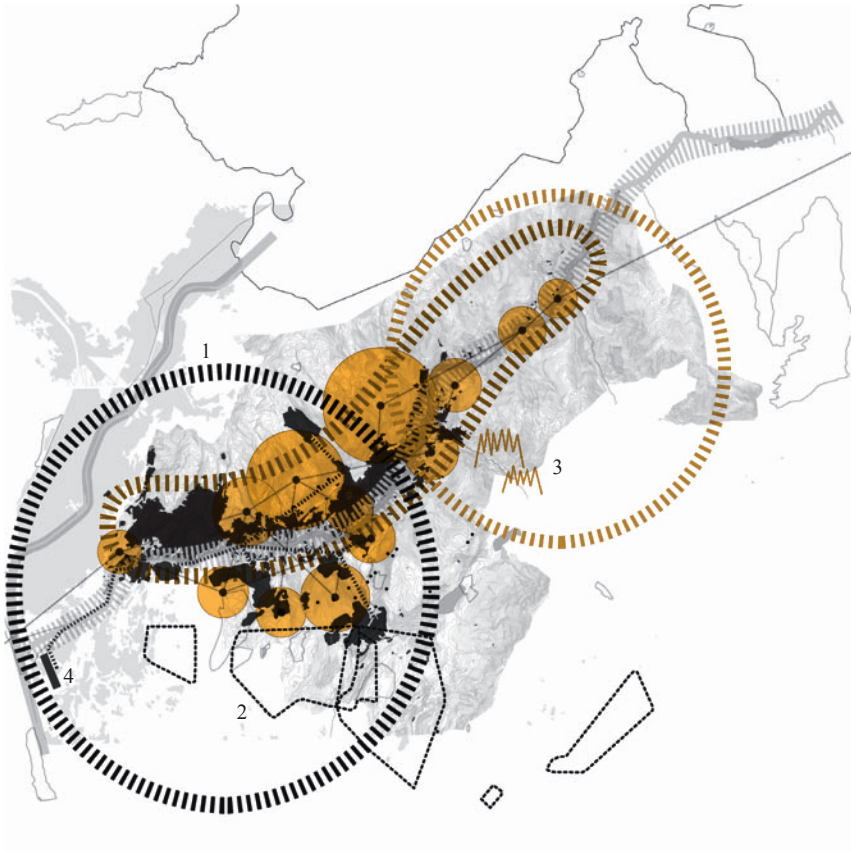
Cembra valley, strategic devices: 1. bio-agriculture; 2. loisir; 3. clusters energia; 4. scrap transport.
From C. Battaino, *Extractscapes. Oltre le cave. Il progetto di ricomposizione del territorio scavato*, Edizioni della Laguna, Gorizia, 2009.

6.1 [Re-cycling] (Re)Planning the obsolescence

Happy is the city which, in times of peace, talks of war.
Robert Burton[2]

When R. Burton talks about the message inscribed by the Republic of Venice on its Arsenal, he stresses the necessity of introducing in the present an element to bring forward the future.

The idea of incorporating time in the architectural plan is the main subject of the research of Archigram[3] and of Team X. Many of their proposals question the static architecture in favour of an architecture conceived as a process. In particular, the work of C. Price about the relation between conservation and recycling, concerns an architecture that is absolutely contemporary: it is able to remain topical in through its formal and functional re-connotation in the course of time (constructed, modified, re-planned).

The plan as a process represents a form of *"preservation"*[4] of the residual spaces and of the rejected objects, based on the capability to transform and adapt, that is to be recycled: by becoming "other", it can continue to be something.

A "light" plan (in physical but above all ideational terms) is consistent with the suggestions of K. Lynch[5] about the necessity/responsibility of planning processes and architectures that are open to the needs that change, just like the *"appetites"*[6] of time change. In fact, according to C. Price, *"the availability of time in architecture is nowhere as sensitive and as important to each of us as is the preparation and consumption of food. It's a cheery thing because it's related to the future. [...] It's they should last an appropriate time, just like the storage food, the preparation, the eating, and the evacuation."*[7]

(Re)planned obsolescence[8] is the planning strategy according to which the process of recycling is an integral part, through the creation of a new connecting system, which can include the reuse of the obsolete parts. This leads to the incorporation of the interval in which a space is transforming, and in which the margin is between a partial phase and the final conformation[9].

Potteries Thinkbelt, (C. Price, 1964) Price's plan for the new Staffordshire University is not a building, but rather an architecture of relations, a moving network that reuses the dismantled structures of

2. Cf. Robert Burton, *Anatomia della malinconia*, [1621], edited by J. Starobinski, Marsilio, Venezia, 1983.
3. We refer to the idea of plan as a process, according to which architecture is included in a cycle of continuous production and recycling, in order to be always reusable. See Simon Sadler, *Architecture without Architecture*, MIT Press, 2005.
4. Cf. Rem Koolhaas, *Preservation*, Venice Biennale of Architecture, 2010.
5. See K. Lynch, *Wasting...*, cit.
6. *"The preparation of food requires a prior intelligence about how long it will take to prepare, like how long it takes to buy in the first place, but it is separate from the eating. So there's a time cycle that someone doesn't start preparing food unintentionally for a casual time."* This process is described by B. Fuller in a note written in a cookery book that was given to him by some friends for his 78th birthday: *"I want you think yourselves in an interesting way as to each of these. If we had some way of putting traces on the chemical elements gradually getting closer and closer together an finally getting closer and closer together and finally getting into those various vegetable places, and into roasts [?] and tighter and tighter into cans and into stores, finally just being you and me temporarily becoming my hair, my ear, some part of my skin, and then break up and goes off and gets spread around as dust. Each of us a very complex patterned integrity of which we are born."* Cedric Price, *Re: CP*, edited by H. Ulrich Obrist, Birkhauser, Verlag, 2003, pp. 86-87.
7. Ibid.
8. An obsolete architecture is a useless object, just like the marginal space. Price states that every environment-building becomes obsolete unless it can adapt to what is not yet defined and, therefore, he conceptualizes the idea of *"programmed obsolescence"*, that is the integration of obsolescence in architecture.
9. This is the case of planning in still active extractive areas; the interval becomes generative and it is included as a fundamental component into the plan of re-connotation of time in such areas.

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Dense Urban Fabric of The Potteries

Sites of massive de-industrialisation

Rail network (Passenger & Freight)

Major road network

T = Tunstall
B = Burslem
H = Hanley
F = Fenton
L = Longton
N = Newcastle
S = Stoke

KEY

Urban fabric
Sites of de-industrialisation
Faculty areas
Shared faculty & Industry site
Housing expansion areas
Transfer huds
New housing sites
PTB road network
PTB rail network
Existing rail network
Major roads

Proposed housing, faculty &
transfer sites.

Thinkbelt rail network.

Thinkbelt road network.

C. Price, *Potteries Thinkbelt*, 1964.

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the ceramic industry of the declining valley and the existing railway system that is not used anymore. The yards of the railway stations in disuse accommodate some rooms for conferences and seminars, while the student accommodation are inhabitable capsules continuously moving on the old rehabilitated tracks, in the middle of the network of collective spaces scattered in the valley, in the residual marginal spaces of the past manufacturing activity. It is the idea of a flexible and open universality, just like its accessible and scattered architecture (rather than a gathered and contained one), through a system of newly functioning connections.
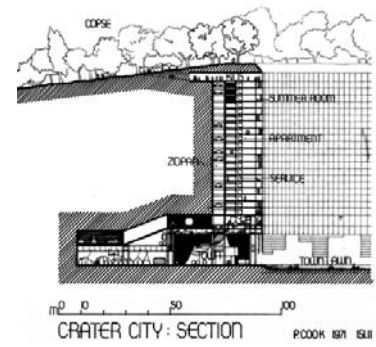
Rather than the original architect represented by its subjective individuation, it is the space of exchange among the involved collaborators, the public, the site and the built environment that have significance through their relationships. *ATOM* (C. Price, 1969) is based on the distribution, in different industrial areas of the city, of various informative "media" (from the bus stops to the objects for domestic use) that are inserted in a relation of exchange managed by a central educational structure called "City Brain", which redirects the use of such means of communication. For instance, an old and decayed industrial site can be included into a network, in order to play an educational role, even if it is seemingly useless, by exploring a new relation between utility and marginality through the creation of a site for the dynamic and unforeseeable exchanges (for example, the purchase of goods).

P. Cook, *Crater City*, 1971.

Similarly, to plan the obsolescence means to let the empty spaces to remain available (a plan of non-construction) as in ***Crater City*** (P. Cook, 1971): a hotel system to be realized in the concentric craters dug around the small airports called *Foulness Airport*; the *crater city* is the thick wall that defines the perimeter of the quarry, contains all the connections, the accommodation, the fixtures, and looks towards the empty inside of the quarry (having a diameter of 300 metres) with a big lawn. Outside, at ground level, the circular crater reveals itself through a planted and inclined and plane of ground, memory of the prehistoric mounds and of the lunar craters: nothing is visible but a sort of green planted dune.

P. Cook, *Foulness Airport*, 1971.

The territorial recycling and the sign re-connotation of the dismantled quarries are the basis of many plans concerning different terri-

tories, from the well-known German experiences in the Ruhr region and in Lusatia, to S. Aronson's plans in the phosphate pits in the Negev. More recently, it is particularly interesting for its similarity with the case-study of Cembra Valley, the **BioVallo** project (L. Centola, 2009), which wants to reopen partially the abandoned quarries for the (limited in time) re-cultivation necessary to the safety measures, the re-naturalization of the quarry fronts, the remodeling of the yards. The scattered quarry network, just like the craters of P. Cook, becomes a space that is rehabilitated in the thickness of the earth, a network of marginal empty spaces scattered like fragments in the landscape, accessible and available to play in free time, to sporting and cultural events, tourist and entrepreneurial activities. The strategy of re-cycling the dug territory[10] is related to the general vision of *Green Economy-CO2* concerning, amongst other things, the reconversion of the non-profitable cultivations, the production of biofuels and energy from renewable sources, the re-examination of the mobility system and of the tourist development.
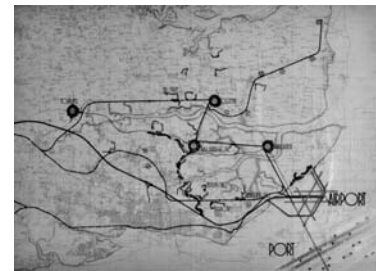
P. Cook, *Crater City*, 1971.

In the **Carso 2014 Masterplan** (A. Kipar, 2009) project, the marginal "material" changes, while the strategy of territorial recycling through widespread interventions is the same. This plan aims to relaunch a "soft tourism" in the mountains near Gorizia in Friuli-Venezia Giulia, through the creation of an ecomuseum in the open, along a series of thematic routes in more or less deep hollows, trenches, tunnels, castelliere, remnants of military settlements, reshaped by *"parasitical"* micro-architectures that accommodate services, parking bays, small observation posts of/in the marginal space.

10. In order to restore the disfigured landscape, we use hempen ropes, natural fibre nets, recycled tubes: through minimal technological supports, placed on the rocks, we allow nature to heal the wounds caused by man. The energy used for the rehabilitated public spaces, even the one for the realization of artistic lights and installations, will be self-produced just by using sun, wind and water.

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6.2 [Re-activating] Diffusion of (micro)architectures

The strategy of reactivating a marginal territory through the diffusion of a new functional programme and of small architectures, is at the basis of the **Fogo Island** project. This island is well-known because of the pioneering experiment called "Fogo Process"[11] (D. Snowden-C. Low, 1967) that, by using the communication technology as a tool within the participatory development of the community, showed how the techniques of film, art and media production represent a useful tool for the communities to face their situation of social unease; such situation is linked to the condition of territorial marginality, which is due to isolation, scarcity of infrastructure and to an economy that was damaged by the progressive weakening of the fishing industry.

Architecture, as an obviously partial answer to the condition of marginality and to the seemingly relentless depopulation, is at the basis of the **Residency Program 2010-2012**, which applies the principle of development based on investments on the territory in an attempt to rebuild the economy. The island is turned into a *"rural epicentre for artistic production"*[12] that is able to compete at international level. *"The Cobb plan, could attract well-known artists; the International visibility derived from the programme would bring high-end tourist dollars; tourism would create jobs, and the island's economy would rebound. It is a process Cobb refers to as social entrepreneurship."*[13]

This programme is interesting because of its definition of a coordinated and general intervention planning, rather than of single plans, that is the diffusion of the functional programme of an art centre in sites that are scattered in the whole island; this capillary network of small architectures, each one containing a fragment of the general functional programme, allows the *Arts Corporation*, the guests and the residents to interlace with the everyday life of the local community.

Diffusion is related to a fluid and partially "undetermined model"[14] in which the artistic and cultural programmes are the tools to reactivate the landscapes marked by a decaying industry that is not able anymore to provide for a sustainable future for the island. A hotel and six studies for artists and writers (from twenty to a hundred and twenty square metres) are the first architectures planned by T. Saunders[15]; these are recognizable architectural "intruders" (and yet

T. Saunders, *Long Studio, Tower Studio, Micro Studio*, 2010.

11. *"Another social experiment that employs a very different medium yet shares some of the characteristics of Snowden's film-based process."* Joseph Grima, *Un'arcipelago di piccole architetture attorno a un'isola dell'atlantico*, in *Domus 938*, Luglio-Agosto 2010.
12. Ibid, p. 48.
13. Ibid, p. 48.
14. Cf. Zygmunt Bauman, *Modernità liquida*, [2000], Roma-Bari, 2002.
15. The first of these structures, the *Long Studio* (T. Saunders, 2010), is placed on an isolated promontory, which is reachable only on foot. It is a narrow and long, stereometric volume, made of wood, painted black outside and white inside. The hollow volume is actually a tube perpendicular to the coast: it looks like a piece of wood carried by the sea or a spur of rock. An architectural entity that is recognizable but not foreign to the surrounding nature, just like many shelters at a high altitude where the static perception from the inside to the outside and the dynamic perception from the outside establish the scenic rule of architecture inside, and in relation with, the landscape.

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they are not foreign to the context), in which, as "extreme" shelters, the static perception from the inside to the outside and the dynamic perception from the outside establish the scenic rule of architecture inside, and in relation with, the landscape.

Seemingly, in the **Benesse Art Site Naoshima**[16] project, the introduction of contemporary architectures in the archipelago of islands in the Seto Inland Sea (Giappone) is the strategy used to stop, through an educated tourism linked to contemporary architecture and art, the economic and population decline of that region and to foster the cultural development of these marginal territories, placed in the widest interior Japanese sea. The architectural and artistic interventions[17] are scattered in the island of Naoshima and, in the more recent phase, in Teshima and Inujima.

The **Teshima Art Project** plans the rehabilitation through fallow of the former terrace of paddy fields and the realization of an art museum (R. Nishizawa, R. Naito) with an architectural structure that mirrors the strategy of diffusion in the landscape: an architecture of dynamic relations rather than a static object-museum[18].

The **Inujima Art Project** is the plan of rehabilitation of the island of Inujima that has been developed in successive stages. In the first stage was rehabilitated a dismantled refinery (H. Sambuichi); in the second one was developed **The Village** project (K. Sejima, 2010), which aims to the revitalization of the local community through the realization of a scattered art gallery, a series of pavilions set like jewels in the village of Inujima[19].

We can find a systematic diffusion of micro-architectures in the **National Tourist Route Project** (1995-2015), which aims to promote the Norwegian landscape through 18 national tourist routes. The infrastructure is the place of the physical and aesthetic interaction with the landscapes that it crosses; it makes nature accessible, creates points of contact between nature and culture, and a visual, physical, dynamic and interactive experience.

The series of small architecture constitute a network to enhance the sites (scenic points, emergency shelters, observation platforms, parking bays, small service structures), because they believe that this can also help to strengthen commerce, industry and settlement, in particular in the most outer regions[20]. The matter of the scenic

R. Nishizawa, *Teshima Art Museum*, 2010.

K. Sejima, *Inujima Pavilions*, 2009.

16. The project started in 1989 with the *Benesse Corporation* and then develops considerably in 2004 with the *Naoshima Fukutake Art Museum*.
17. Many architects are involved. T. Ando realized in Naoshima the *Chichu Art Museum*, the *Lee Ufan Museum*, the *Art House Project* and the *Benesse House Museum*. H. Sambuichi and K. Sejima are working in Inujima; S. Ohtake planned the *Teshima Art Museum*. All these projects are conceived by two planners: an architect and an artist.
18. The museum looks like an irregular excretion of the highest part of a hill, a white bulb, an architectural belly that follows the morphology of the surrounding landscape; a small pavilion contains a shop and a coffee bar; a ticket office is set in the hillside; an elevated ribbon-walkway comes off the architecture and slip into the trees.
19. The volumes in transparent acrylic and reflecting aluminum of the exhibition centre, obtained through the renovation of the already-existing houses and buildings, develop horizontally by occupying places of everyday life.
20. See AAVV, *Detour, Architecture and Design along 18 National Tourist Routes in Norway*, editor N. Berre, Statens Vegvesenn Nasjonale turistvegar, 2007.

routes has a long tradition in Norway. The *NTRP* strategy develops in stages: the works began with the pilot project between 1994 and 1997, and ended in 1998; between 1999 and 2004 it became clear how to proceed in order to develop a new national tourist attraction: the result was the *Road Director's Project's* directive for the national investments[21] *National Tourist Routes 2002-2015* and *Project Plan 2006-2015*. A very important theme is the specific and identity character of each section; the sections are chosen depending on their proximity to already-existing tourist routes: they pass through rejected territories, like the former ore deposits (P. Zumthor, *Allmannajuvet Mine*), or through areas where it will be possible to integrate the tourist route with the construction of plants to produce clean energy (for example, the routes along the coast with wind energy plants).

The strategy is a sort of "new cultivation" of micro-architectures (amenities themselves) that will provide an experience of the landscapes (not only the intact ones, but also the reuse and rehabilitation of the damaged ones, like the former rural and industrial landscapes), and that can be compared to the great infrastructure projects; these simple functions, which are usually considered of minor importance, become the way to produce a new narration of/in the landscape, by giving a name and an identity to places.
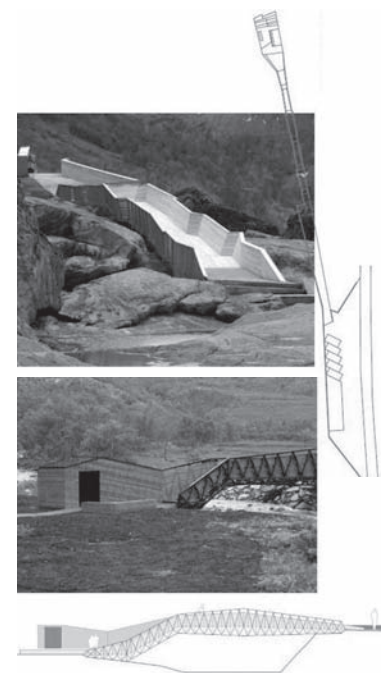
PUSHAK arkitekter, Tourist route Rv 889, Rest area-toilet facilities and hiking path, 2005. Code arkitektur, Tourist route Rv 862, Rest area with ocean view, 2007

21. The project is realized thanks to a continuous public investment (Public Administration for the Norwegian Roads), between 2002 and 2015, which comes from the balance of the public roads and aims to improve the roadways, to develop new parking bays, recreational activities and tourist information points.

6.3 [Re-identifying] Differentiations and multiplicity

"Architecture is a wonderful tool to reflect upon the world, to think how to make it better. We do not mean that with architecture we can make the world better, but we can involve people in a process of in-depth analysis."[22]

Snohetta AS, Tourist route Ev10, Rest area, parking and toilet facilities, 2007.

The strategy of the project in Val Lumezia, which is characterized by agricultural uses and by villages with a compact Romanesque structure, considers the whole valley territory in a differentiation of functions. While the geographical isolation of the valley widely preserved, until the beginning of the twentieth-century, the role of the settlements with a stable number of inhabitants, starting from 1950, the structural change in agriculture caused the abandonment of the valley[23].

As stated by P. Rieder, the material and social needs are satisfied by small public commercial and craft structures, but they can resist economically only if there are at least 500 inhabitants in the village: *"The small villages become smaller and smaller, the big ones bigger and bigger. We can notice it clearly, at least in Graubünden, since the Fifties. This process causes many villages to reduce to the extent that they lose their capability of carrying out their functions. That is, they become too small to provide what people need every day: shops, restaurants, schools, petrol and many other things."*[24]

Only by giving up the autonomy of the single villages and by considering the valley territory as an interconnected system of functions, the power of survival of the settlement can be guaranteed. This way, the strategy develops in each village a specific infrastructure (the secondary school, the hotel, the wood manufacturing, the music house, the convent, the rest home, the youth centre or the agricultural activity).

Pro Vrin (1979) was founded in order to promote *"the safeguard and the improvement in the living and employment conditions and the preservation of the architectural essence of Vrin"* and developed: the *House on the square* (1979-1985) that lays the basis of a new set of rules for the restoration of the existing buildings; *Developing while preserving* (1986-2003) thanks to the commitment of the architect G. Caminada and of the agricultural economist P. Rieder, which aims to the preservation and development of Vrin, to

22. Gion A. Caminda, *Cul zuffel e l'aura dado*, edited by B. Schlorhaufer, Quart Verlag, Luzern, 2006.
23. Nowadays the valley counts about 2375 inhabitants: Morissen (237), Cumbel (271), Vella (752), Degen (256), Vignon (187), Lumbrein (422), Vrin (250). A research of the ETH Studio Basel-Future City Institute entitled *"Switzerland. An urban portrait"* (2005) hypothesizes that, for about 40 years, wide parts of Swiss have been going through a continuous process of urbanization. The result of the research is a new view of Switzerland, which questions the traditional image of this country by means of 5 typologies: "metropolitan regions", "urban networks", "quiet zones", "Alpine resorts", "Alpine fallow lands". Val Lumezia was classified as an "Alpine fallow land" because the authors observed that, despite the financial support, depopulation did not halt. This was the spark that triggered a wide debate in Switzerland about the development of the landscape, the capability to bring about reforms, the financing models and tourism.
24. Peter Rieder, *Intersezioni tra economia e architettura*, in Gion A. Caminda, cit., pp. 100-105.

the granting of loans for new constructions and to the reactivation of the abandoned agricultural activities; *The valley a village* (since 2003) concerns the adaptation of tourism and the realization of scattered and interconnected common infrastructure to guarantee the survival of the villages.

The Vrin case, through the work of the architect G. Caminada, is the symbol of the whole project. Its research is expressed in the concept of "rural context": to strengthen the valley on the cultural plane in order to make it less dependent on the external funding. *"We have to make people recognize that the infrastructure built in another village is useful also to their village. This is the idea of rural context."*[25] Architecture conceived as an instrument to construct local identities is related to the innovation in the traditional building techniques and to the strategy of building on the built, that is the preservation of the compact settlements.

"A building industry abreast with the times allows a formal language between modernity and tradition. However, tradition cannot be the thoughtless copy of superficial forms. Moreoever, this kind of tradition does not accept forced themes, on the contrary it has to be always and continuously revived. It is a matter of putting something new in a natural strained relation with what already exists. In Vrin this means "building on what already exists."[26]
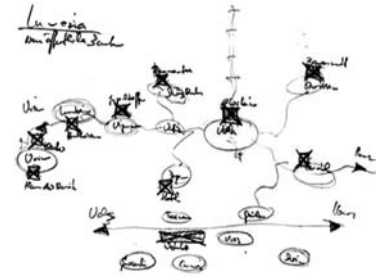
G. A. Caminada, *Diffusion and diffetation for the Lumnezia Valley*, 2006. Suraua (already existing buildings: furniture workshop), Cumbel (youth clinic), Morissen (agriculture: country market), Vella (political and social centre: old people's home), Degen (chief village: hotel), Vattiz (nature: space on the lake and restaurant), Vignogn (central position: meeting place for young people), Lumbrein (history: cultural space), Vrin (harmony of the valley: convent, music house).

Gion A. Caminda, 2007.

24. Peter Rieder, *Intersezioni tra economia e architettura*, in Gion A. Caminda, cit., pp. 100-105.
25. Gion A. Caminda, cit.
26. Ibid.

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7. [Tactics] Mutation. Margin[al] Fragments Architecture

In this chapter are outlined the tactics, or rather, the operative methods of architectural design developed.

Accumulation at the margin is necessary to *make space*[1], to free the void and make it accessible and available. In some cases this is the metaphor of a *"preventive project"*[2] that governs architecture and landscapes in transition, result of the co-presence of different times - geological, plant, human - in which time is material of the project.

The need to open and close a space and store the items necessary to its function without occupying space. The margin acquires body, complexity and meaning, and it is not reduced to the mere separation of the two realities, the margin becomes a spatial entity within which one explores the possibilities of living on a different scale.

The introduction of micro-architectures "between" the space's margins allow to re-live, re-equip and re-perceive uninhabitable places, experiencing new forms of anti-classical beauty but profoundly contemporary and necessary.

1. For M. Heidegger, *space* means *making space*.
2. See K. Lynch or C. Price.

After having investigated the different variations of dissemination strategies as strategies for designing marginal spaces within a geo-morphological unit, the intention is to articulate the possible tactics for the design of individual fragments starting from their ways of relating to their borders. Identifying this theme of the relationship with the margin means proposing it as a privileged "site" for the composition of the fragments.

It can be seen as a kind of necessary tautology, as it is due to the margin that we can design the fragments, making them legible, permeable and capable of relating with the surrounding area. In many cases the margin presents the only possibility of intervention in these areas, through being and living the marginal space. The margin is the only physical location available for the transformation of marginal areas, for example the specialized manufacturing areas and mining sites present in the considered geographical area (See 5.3 Analysis); the metaphoric margin is the only way - that of minimum intervention – of reactivating and recycling the land in abandoned areas of or in the landscape. When working at the margins, to *make space* it is necessary to "clean" the site, making it accessible and available. Using time as material for an "approximate" of the project allows one to govern architecture and landscapes in transition, result of the coexistence of different time-scales: geological, plant, human.

The criteria underlying the tactics are detected by their different ability to operate on the physical and/or metaphoric margin.

The tactics are specified using three categories that correspond to the way the margin mutates and the interactions with it.

These tactics are both new and "archaic", through which new stratigraphs of the earth are composed, actions more similar to those carried out by the *pleistocene*[3] man that those of modernity, which are necessary for living in marginal, uninhabitable or inhabited spaces. Today, new impure and damaged land is available for transformation.

3. Cfr. Roy Lewis, *Il più grande uomo scimmia del Pleistocene*, Adelphi Edizioni, Milano, [1960] 1992.

Architectural tactics of/in the marginal spaces.

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7.1 [Stratification] Margins. Matter, time, void

The tactic of stratification refers to:

1. the way nature builds margins via the addition of matter;

2. mutations of matter under the influence of time and destruction as a re-generative action. This can be described by the following pairs of paradoxical terms: the presence/absence of matter, the construction/destruction and the destruction/construction that produce new forms of the margins/marginal spaces and new spatial identities.

An "archaic" tactic, stratification is an operation carried out with/ of architectonic matter, connected to a way of working by multi-layer overlays and dispositions rather than prismatic volumes, whose topographies are similar to geological forms and processes[3] rather than geometry. It is an architecture-geology that assumes nature and its phenomena as a qualitative and procedural tactic before-hand, rather than as a formal objective; mineral landscapes, artificial mountains, artificial hills or terrains, above or below the ground, get confused with the objects of nature.

In architecture, the tactic of layering is always the result of a creative and constructive act; of a voluntary scheme of "setting" or "settling"; of a planned process of change over time (construction and/or destruction) like a ruin; of an opposite form to accumulation, that is, excavation, erosion, mining and hollowing out the ground. Stratification, in other words, contains two inverse and inseparable figures: the accumulation of the mountain (positive elevation) and excavation (negative elevation) and refers to other concepts such as collection, time, process, transport and recycling. This tactic is taken here as an operation of the project (of marginal areas as fragments and of their margins) of the re-signification of places and "gestures" that characterize some types of marginal spaces and determine their marginality, extendable to other marginal terrains compromised by contemporary development (quarries, storage areas, waste sites for discarded work materials), implemented by means of:

1. stratification of **matter** (positive accumulation);
2. stratification of **time** (ruin process);
3. stratification of **voids** (negative excavation).

Pieter Bruegel the Elder, *The Tower of Babel*, 1563
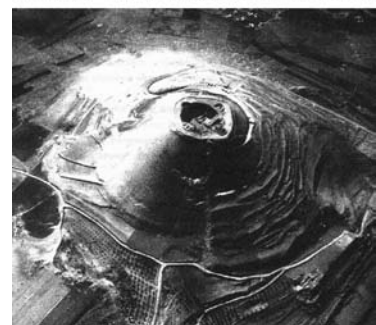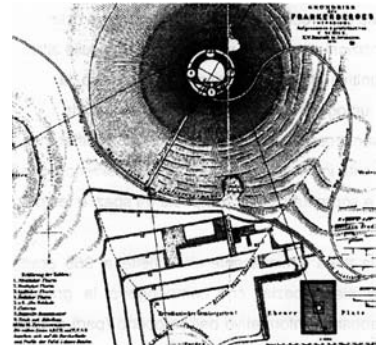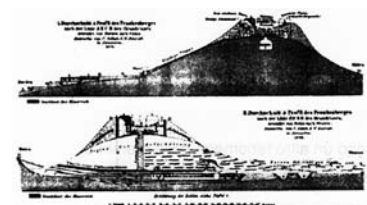
Mountain-fortress, *Herodium*, from Shick, 1880.

7.1.1 Positive accumulation. Stratification of matter

The tactic of stratifying evokes the figure of the mountain and the action of accumulating material. The new artificial mountains are those proposed in *Alpine Architektur*[4] (B. Taut, 1918) to colonize the summit spaces of the Alps with new pure man-made crystals, superimposed on the natural mountains. The mountain-architecture, in fact, is a self-referential figure of deep self-identity (and identified with its own "autopoiesis"), which inspired many recent projects conceived as artificial accumulations, to the point of becoming the paradoxical mountain *The Berg*[5] (J. Tigges, 2008) designed in the center of Berlin. Building artificial mountains is a way of defining a space, from the hills of the Adena culture in North America to the hill-fence of the *Burrows Lea Farm*[6] (A. and P. Smithson, 1956); the artificial hill surrounds the house and constitutes the margin.

According to V. Gaullard[7], the shapes of the mountains follow strict rules of fractal type self-construction, which correspond to those that can be seen when enlarging the microscopic structure of the material of which it is composed. Learning from nature we can build artificial mountains by adding elements or heterogeneous materials, through the collection and stratification of "ready-made" waste and residues from industrial processes, guaranteeing them a second life[8]. As claimed by M. Jakob, *"the spectrum runs from the minuscule, the fragile mountains of contemporary art to the mighty mountains of trash or rubble that in many places constitute the highest points of elevation. This range includes unique singular eminences and serial formations, products of sophisticated engineering and casual, almost accidental conglomerations, peripheral realities abandoned to dissolution and oblivion as well as central symbolic points of reference and much more."*[9]

The volume of obsolete materials, fragments of industrial civilization, waste and scrap, are accumulated in artificial mountains which, like ruins, are marginalized, forgotten, hidden and made conceptually invisible (See 2. CODES). The unintentional mountains, marginal ruins of the contemporary, take on a new identity and recite their own specific roles within the theater-landscape, in the case of artificial hills (more than a hundred meters high) in *The Hand* (A. Kipar, C. Jencks, 2008) or in the shapes made from scraps

M. Schwartz, *Geraldton Mine Project*, 1998.

4. See Bruno Taut, *Alpine Architektur*, [1918], tr. It. G. Forza, *La dissoluzione delle citta, oppure La terra una buona abitazione, oppure anche La via all'architettura alpina*, Faenza editrice, Faenza, 1976.
5. The Berlin architect proposes a one-thousand high mountain on the site of the former Templehof airport, in the centre of Berlin: a "mythical" mountain that does not substitute the old terminal, but surrounds it. The old airport would become the base station for reaching the peak giving tourists the possibility of photographing the urban mountain.
6. Alison and Peter Smithson, *Valley Section, Series of Five Proposal (isolate, hamlet, village, town, city)*, CIAM X, 1956. For the isolated house the Smithsons presented *Burrows Lea Farm*, an earlier design from 1953 they found congenial with the Valley Section series, in which the house is designed in correlation with the surrounding market garden. See, *Alison and Peter Smithson - from the House of the Future to a house of today*, edited by D. van den Heuvel and M. Risselada, 010 Publischers, Rotterdam, 2004, pp. 68-77.
7. In the same way geology is the science that regards the layers of the Earth, *geologic* is the science that regards the architecture of the layers of the Earth. Cfr. Vicente Gaullart, *GeoLogics. Geography, Information, Architecture*, Actar, Barcellona, 2008.
8. The English term *slag* refers to the discarded waste product and rare material that can be reused as new chemical compounds.
9. Michael Jakob, *On Mountains: Scalable and Unscalable*, Harvard, 2010, p. 1.

of the *Cave of phosphate*[10] in the Negev Desert (S. Aronson, 1990-2010). In some cases, the vegetation can even grow on an artificial mountain, as in the hills of *Grass Mound* (H. Bayer, 1955) or *Geraldton Mine Project* (M. Schwartz, 1998).

The construction by means of accumulating in successive layers over time and, in contrast, the decline of construction that allows the layers to appear for the first time, corresponds to a project-palimpsest in which, to the layers that have been added over time in the *Prisons* (G. B. Piranesi), are added the different textures of the *Tower of Babel* (P. Bruegel, 1563); an architecture conceptually similar to the work of the archaeologist Calvino[11]. *"Trash and rubble mountains, industrial waste heaps and other conglomerations of material seem at first glance to be meaningless, placeless, and nameless. On closer look they are however anything but lacking identity. [...] Even these in many ways peripheral realities are nonetheless always constructions, complex architectures. They necessitate a weight-bearing structure in order to hold together, and they transform over time into a typical form."*[12] A new archaeology collects waste from the *Fresh Kills* (J. Corner, 2001-2012) and covers the *Hiriya Landfill* (Latz, 2004). The stratification time is the tool of the project that assigns a new state[13] to the discarded materials, giving them a new function and a new found identity.

The accumulation, through the figure of the mountain, then, is the tactic that allows the composition of new stratigraphies of the earth, recycling divided parts, waste, disparate materials that are often found in a marginal space. Accumulation at the margin is necessary to *make space*, an action of "cleaning" within a site, to free the central void and make it accessible and available. Accumulation at the margin of marginal space by building new forms of land, is a tactic as much needed (re-cycle) as symbolic (re-signification).

7.1.2 Ruin process. Stratification in time

The mountain is the archetypal figure of an architecture built by layers of material, the ruin is the metaphor of a project conceived as the stratification of/in time.

In the poetry of the picturesque, the ruin is the symbol of incomple-
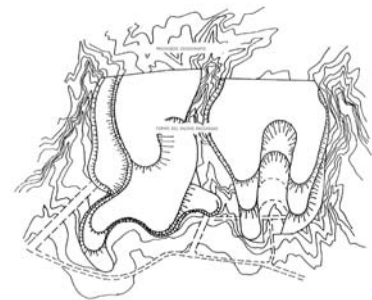
S. Aronson, *Cave of phosphate*, 1990-2010.
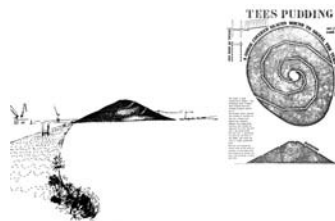
A. and P. Smithson, *Art into landscape, 1977.*

10. See Sholomo Aronson, *Aridscapes. Designing in harsh and fragile lands*, Editorial Gustavo Gili, SL, Barcellona, 2008.
11. Cfr. Italo Calvino, *Lo sguardo dell'archeologo*, [1972] in *Una pietra sopra*, [1980], Einaudi, Torino, 1995.
12. Michael Jakob, cit., p. 12.
13. *"What is the third state? - Everything. What has it done up till now? - Nothing. What does it aspire to become? - Something."* Gilles Clément, *Manifesto del Terzo paesaggio*, [2004] tr. it. di G. Denis, Milano 2008, p. 17.

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teness. This is the way to build natural/artificial landscapes, product of human imagination, like the paintings by H. Robert in which the margin between architecture and landscape, nature and ruin mix and generate open configurations between the completion of a lost past and a mutation always possible in the future.

In the architectural object, the stratification of time produces a "new form" - the ruin - distinct in every moment from its preceding and following conformation: an architecture in transformation rather than a piece of abandoned work. As written by G. Simmel, *"in questo modo le rovine risultano un fenomeno più significativo e importante che non i frammenti di altre opere d'arte distrutte. […] Esse non offrono immediatamente l'aspetto di una unità artistica, ma quello di un'opera d'arte privata di alcuni elementi decisivi. Le rovine di un edificio, invece, mostrano che altre forse e altre forme, quelle della natura, sono cresciute nelle parti scomparse o distrutte dell'opera d'arte; e così, da ciò che dell'arte in esse vive ancora e da quella parte di natura che già vive in esse è scaturita una nuova totalità, un'unità caratteristica."*[14]

To *"let it go to ruin"* corresponds to the change over time that projects are subject to, such as the architecture of the "invisible" house *Spidernethewood*[15] (R&Sie(n), 2007), part of an organic system that is is constant transformation. The core of the house is enclosed in a rectangular volume with paths and tunnels which extend into outdoor spaces, wrapped in a net and immersed in the woods (the *"territorializing"* element, as the specific place that generates the building). The vegetation of the forest, by which the house is surrounded, will gradually cover all the interstitial spaces and leave only the "internal" spaces enclosed by the network. In other words, the walls of the space coincide with the forest and the house will become the wood itself, in a genetic process in constant mutation.

The forest of *Spidernethewood* is like the dust that accumulates in Duchamp's *Grand Verre* (which is part of the full program of the work of art), and constitutes an area that the project has apparently abandoned, but which nonetheless is shown as part of the life of the architecture itself.

"Il fascino delle rovine è che un'opera dell'uomo viene percepita alla fine come un prodotto della natura. Le stesse forse che danno alla montagna il suo aspetto - le intemperie, l'erosione, le frane,

F. Kiesler, *Portrait of Marcel Duchamp*, 1949.
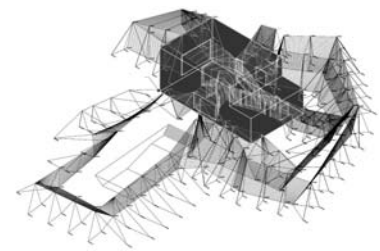
R&Sie(n), *Spidernethewood*, 2007.

14. Georg Simmel, *Saggi sul paesaggio*, [1913], edited by M. Sassatelli, Armando Editore, Roma, 2006, pp. 72-73.
15. The first stage of development is planned over a period of five years, the time required for forest vegetation to seize all external gaps, during which the house will undergo an aesthetic continuous, constant, active change: the end result will produce the effect of a stamp imprinted on the landscape.

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l'azione della vegetazione - qui hanno agito sui ruderi [...] un sollevamento vulcanico o una stratificazione graduale hanno innalzato la montagna verso l'altro, pioggia e neve, erosioni e cadute, decomposizione chimica e imporsi della vegetazione, hanno frastagliato e svuotato l'estremità superiore, fatto precipitare in basso parti di ciò che era stato sollevato, e dato così la sua forma attuale al profilo della montagna. In questa noi avvertiamo perciò la vitalità di energie che spingono in direzioni opposte."[16]

M. Herz, E. Weiaman, *Diagrams of construction with debris*, 2003. 1-delivery of structure; 2-covered with debris; 3-spring foliage.

Stratified time, that slowly produces *ruins* and quickly produces *rubble*[17], is the metaphor of a "preventive project" that governs architecture and landscapes in transition, result of the co-presence of different times - geological, plant, human - in which time is material of the project.
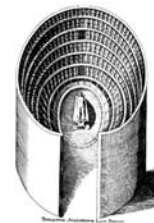
7.1.3 Negative excavation. Stratification of voids

The accumulation of material to build objects "in positive" also contemplates its opposite, namely the removal of material in other places that produces forms "in negative": the stratification of matter is replaced by the stratification of voids.

This happens for example in the *Lands of Emptiness* by N. Ambe where the hollow form constitutes a mountain landscape made "in negative", where instead of the mountains there are caves - "mountain-negative" - which contain other small caves. The inverse mountain is the real form of the *Binghan Canyon Mine* (R. Smithson, 1973); excavated over a century, the quarry looks like an empty *Tower of Babel*, stuck deep into the ground. And like the *Tower of Babel*, the cave is not only super-human, but also supernatural in relation to the mountains of the surrounding landscape. Rather than conceiving the quarry as a wound in the body of the Earth, the project does exactly the opposite: it highlights the traces of man as a cultural form, it is a "reclamation act" that interprets the shape like the underground spiral of the *Teatro anatomico* of Padova (1594)

Teatro Anatomico, Padova, 1594.

M. Light, *Mono Craters*, 2006.

Sites of extraction are a fundamental element of contemporary culture, because in them are visible in all their violence and greatness the works of man-made construction/destruction of/in the ground, artifacts that refer to the subtraction of matter in negative. The
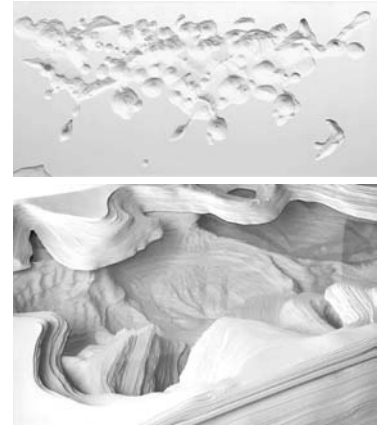
16. Georg Simmel, cit., pp. 74-75.
17. Cf. Marc Augé, *Rovine e macerie: il senso del tempo*, [2003], tr. It. A. Serafini, Bollati Boringhieri, Torino, 2004.

mountain and the cave, full and empty, visible and invisible, the manifestation and the occult, are two complementary aspects that live together in architecture, from the Japanese *Kofun* to the Etruscan *Tumulus*: inverted and inseparable forms merged together. Similarly, stratifying the vacuum corresponds also to the need to pierce the mountains in order to cross them and live in them. *"Since the phase of construction of artificial mountains is only in the rarest cases accessible, it is necessary to remove the mountain reconstructively. […] In this manner the other, the reverse and forgotten side of the mountain becomes visible again."*[18]

The vacuum conquests and allows the conquest of the mountain as in the case of the *Tindaya Mountain* (E. Chillida, 1996-2005) where the excavation introduces a crossable vacuum in the heart of the Earth, invisible from the outside; real rooms of light that transform the visit of the vacuums into a perceptive experience of light and stone. The action of extracting material to create a vacuum, refer to the filling of the cavity walls (the Latin *struère*), to the "layering"[19] and to the destructive force that creates beauty[20]: mountain and quarry, architecture "in positive" and architecture "in negative" can live together in the margins that separate and connect them.
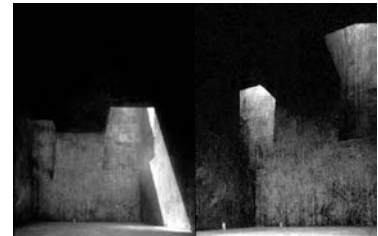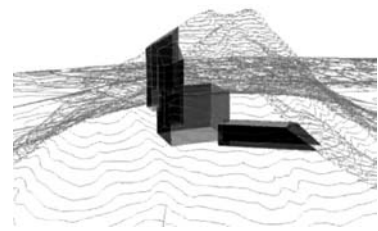
In this sense, the ruin of *Herodium*[21] (as it appears today) is the archetype of the marginal architecture - the fortress - of a marginal space - the cave inside the fortress - which makes them indistinguishable and inseparable. The margin of the mountain reminds us of fortified architecture together with and around the central void, from which seems to be extracted the material for the building itself. In the stratification of the vacuum and around it - in and around the marginal edge - accumulation, ruin and subtraction meet in the "architecture as landscape" and in the "landscape as architecture" of the artificial mountain.

N. Ambe, *Land of Emptiness*, 2008.

E. Chillida, *Tindaya Mountain*, 1996-2005.

18. Michael Jakob, cit., p. 17.
19. See P. Eissemann or R. Koolhaas.
20. Beauty can be generated from tragedies, from radical transformations of a place or of an individual point. Cf. Francois Cheng, *Cinque meditazioni sulla bellezza*, [2006], tr. It. G. Brivio, Bollati Boringhieri, Torino, 2007. Just as, in the explosion of a firework, destruction, meant as transformation, generates beauty. Cf. Crispin Sartwell, *I sei nomi della bellezza. L'esperienza estetica del mondo*, Einaudi, 2006.
21. The mountain fortress built by Herod the Great: the ruin, as it appears today, looks like a natural mountain with a cave on the summit from which the material for building its fortress-like margin was extracted.

7.2 [Porosity] The margin(al) as sponge architecture

The tactic of porosity affects the margin as a generator of continuity between a marginal space and its context.

The idea of the sponge - able to absorb or to expel due to its constituent cavities - evokes the constant dialectic between the pairs inside/out, full/empty, visible/invisible, light/shadow, and between the pairs associated with them space/time, nature/artifice, habitable/uninhabitable.

This tactic regards a project that articulates opposites, crosses and makes permeable a physical margin by working with its thickness. The margin undergoes a mutation in its threshold (the threshold, in fact, implies the landscape as a margin to be crossed and inhabited) that replaces the set boundaries with uncertain bands, suspended in the space that simultaneously divides and unites them.

Porosity, as an archaic tactic, is contemporary by definition because it binds different spaces and times working on the thickness of the margin; it works by reconfiguring the borders and their thickness. As claimed by S. Holl, *"what if an aspect of a place - the pores - becomes a concept? The porosity may be a new type of being. Its potential of consciousness indicates an opening that includes the skyline. We hope to develop the possibility of a collection of things gathered together in a new way where the 'horizon' is open and merges both the inside and the outside."*[22] The pores can be defined as the marginal space, "between", which gives rise to a continuity between inside and outside and that becomes the area subject to planning (See 1.1 Margins). Applying the tactics of architecture "in thickness" to the project of the marginal spaces means working with/in the thickness of the margin of the fragments aiming to restore habitability and relational capacity. Various types of porosity have been recognized:

A. Garcia-Abril of Ensamble Studio, *The Truffle*, 2010.

1. **walls** as containers of sites;
2. **phenomena** as architecture to be experienced through senses;
3. **endless** as dialectic between marginal fragments;
4. **programmes** as concept for the reconfiguration of a marginal space.

22. Steven Holl, *Parallax: architettura e percezione*, [2000] tr. It. A. Bergamin, Postmedia Books, Milano, 2004, p. 32. On the concept of porosity in architecture, meant as the fusion of building and landscape (in the works of Le Corbusier and Alvar Aalto) and as phenomenological research con light, see Steven Holl, *Experiments in Porosity*. The 2005 Martel Lecture, SUNY-Buffalo School of Arch. & Planning, Buffalo, 2005.

7.2.1 Porosity as container of spaces

The porosity, seen as thick walls, concerns the possibility of obtaining significant places by taking the thickness of the wall as a sort of "container" of marginal spaces.

A large number of secondary spaces are obtained within the thick perimeter walls[23], open or hidden, on the inside or the outside: an *"ever more invasive process of excavation aimed and acquiring the profundity of the wall like a true field for the production and conquest of limiting space."*[24]

S. Holl, *Sponge*, conceptual sketch, 2002.

The porosity of the border and its ability to contain inhabitable places within it, is the basis of architectonic and spacial research of L. Kahn[25]. *"Build with cave stone"* and *"express positively the voids in the project"* address the need to respond to the increasing amount of systems modern buildings require and, taking for instance monofunctional marginal spaces such as active quarries, this corresponds to configuration of the margin between quarry and road, or between quarry and town where the equipment and processed materials are usually accumulated. As in *Last Apples* and in the project *Zentrum fur Kunst und Medientechnologie* by R. Koolhaas[26], the porous configuration of the perimeter is the architectural action. The porous boundaries accommodate all the elements necessary for the operation of a building that for Koolhaas account for approximately seventy percent of a building.

A. Mateus, *Casa Mira de Aire*, 2001.

Designing a margin such that it is a container of smaller spaces constitutes two actions: the folding over and the doubling of the wall. In *Fischer House* (L. Kahn, 1960-61), for example, the folded wall gives rise to a series of marginal cavities used as equipment for the house, or seating elements and devices of light. In contrast, the doubling of the wall means the creation of two separate profiles inside and outside, creating a hollow space in-between them, a place of transition. *"It's a question of spaces [...] without a particular use, so much so than one can talk of marginal or resulting voids, compared by Kahn himself to the character both ambiguous and deprived of specific functional connotations of antique ruins"*[27], because that which has become ruin is again free from the limitations of function. It is the operation of reconfiguration of the *"parasite architecture"*[28] in which the separation between existing building
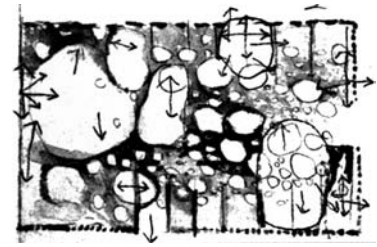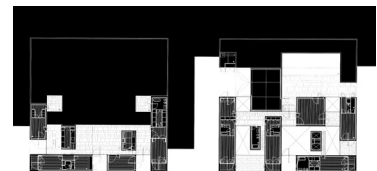
23. From Egyptian to Roman and Medieval architecture, from Michelangelo to baroque walls.
24. Francesco Cacciatore, *Il muro come contenitore di luoghi. Forme strutturali cave nell'opera di Louis Kahn*, Lettera Ventidue, Salerno, 2008, p. 32.
25. *"Since Kahn, the wall, meant as the perimeter of a building, is no longer a passive consequence of the need to close, or a privileged place for the transmission of purely constructive or representative aspects, but the most dense and characterizing moment of the spatial experience."* Francesco Cacciatore, cit., p. 39.
26. OMA, Rem Koolhaas, Bruce Mau, *S,M,L,XL*, edited by J. Sigler, The Monicelli Press, New York, 1995, pp. 662-762.
27. Francesco Cacciatore, cit., p. 98.
28. See Sara Marini, *Architettura parassita. Strategie di riciclaggio per la città*, Quodlibet, Macerata, 2008.

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and parasite architecture determines an *"inhabitable vacuum, accessible, protected, dense of character or even simply meant as a possibility of existing."*[29]

In *Alenquer House* (A. Mateus, 1998-2001), the margin is modeled by the dialectic between the two geometries of the container - the ruin - and of the content - the home - creating the possibility of inhabiting that space "between" the two walls, between the old and new, no longer residue but a place for living, a resource and ideal extension of the house.

Using the concept of the ruin, *"behind which there is no life"* and understanding the reasoning behind the planning of the fragmented border, we can conceive, in contrast, living spaces in places that are usually uninhabitable: pedestrian areas, diaphragm walls, fences to be crossed without the specific connotations of use. It is, in other words, a question of imagining the margin as a porous space - the in-between - available, for example, for the observation of a marginal space, like a cave, which is man-made, and subsequently give it meaning through an act of perception. These new sites that can live within the margin of a fragment, produced by the continuous game of alignments and indentations from the established boundary, are not real closed spaces that can be precisely encircled, but positions that become *"available for minimal signs of everyday life, but full of a profound sense of humanity."*[30] The need to open and close a space and store the items necessary to its function without occupying space and conforming to areas from which to observe the landscape and in which to spend privileged time, makes these architectural devices of/in the margin "deeply necessary" and not simply intense and valuable accessories: the margin becomes space due to the total possibility for objects and people to exist.

7.2.2 Relational porosity

Porosity, as A. Rossi suggests, does not only regard inside and outside, but different aspects of architecture including above and below, the feeling of being in a "cave" or "underground". The porous architecture of the city of Naples, an architectural sponge carved into the rock, is described by A. Rossi as a sequence of coves, caves, gorges, in which lies its beauty. *"This can and must be crossed*
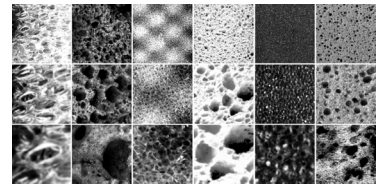
Sponge sctructure, scanning 1:1/5:1/10:1.
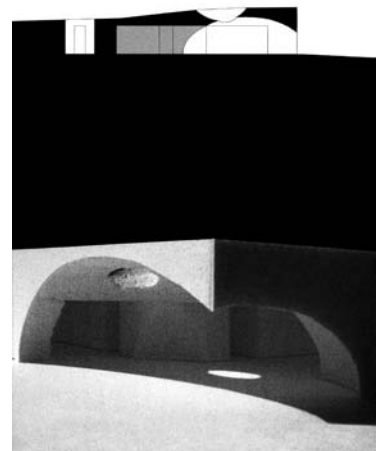
A. Mateus, *Casa Monsaraz*, 2008.
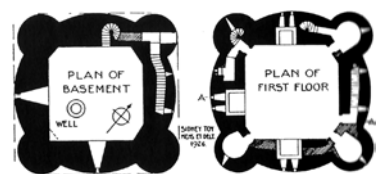
Plans of *Houdan Castle*, 1130. L. Kahn was inspired by the thick wall containing smaller spaces, which surrounds and defines the central space.

29. Francesco Cacciatore, cit., p. 101.
30. Ibid., pp. 114-115.

[…] and it is in the idea of this path that the project will originate and take form."[31]

The sponge, in fact, other than being a form is a spatial character in constant mutation. The porous nature of the architecture is not limited to physical-material quality of the form, but transforms them into relationships. Porous architecture is full of gaps, making it possible to cross, and as such it can turn an otherwise inaccessible or even invisible margin into an inhabitable one. Porosity is the space between public and private or between a specialized closed function and its surroundings.

The margin as a privileged place of work and the porosity as a goal of this work, is the poetry of many projects of A. Mateus, made evident by the same technique of drawing in black and white. In *Setubal House*[32] the double wall, in the style of L. Kahn, creates a space "between" that contains the vertical and horizontal connections and allows access to a number of boxes that hang in the empty space, as a penetration of voids within voids; in *Sao Bras and Monsaraz Houses* this is expressed in the margin between the mass of the mountain and the void of the landscape. It is the poetry of porosity seen as the lack of correspondence between the external figure of the building and that of the interior space, where the material is thicker at the margins resulting in an increase in space for small rooms and the modulation of the light through the mass. It is a space that is always understood in terms of the gaps "between", where content and container are in constant dialectical relationship, permeable because porous in all directions, in which the spacing and excavation operations have saved only a few masses - margins - of the original solid.

The possibility of the thickness of the margin of gradually increasing up to the point where it is able to contain space, the use of empty spaces large enough to be crossed and to be live in and of hollow structure of any possible scale is the generator of new architectural configurations that turn the theme of the porous margin, of the permeable boundary, into an experience of space and light, a phenomenological machine.

Perforation, erosion, eruptions, caves, hollow cavities, discontinuity of volumes and heterogeneity of the voids are the many faces of porosity both for organic and for artificial matter. A mass that is not
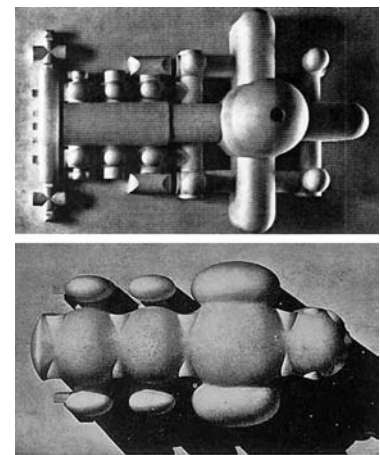
L. Moretti, models of architectural voids from *Space n. 7*, 1953.

31. Aldo Rossi, *Progetto per l'area Echia a Napoli*, 1988, in Aldo Rossi, *Tutte le opere*, edited by Alberto Ferlenga, Electa, Milano, 2003, pp. 200-201.
32. The same principle of empty containers and contents (in a space of continuous porosity) is found in *Aira House*, where the private spaces are created within closed bodies, which in turn define the resulting space of the house, fluid and continuous; in *Alvalade House* the "thickness" of the walls corresponds to diverse ways of introducing natural light. See Francesco Cacciatore, *Abitare il limite. Dodici case di Aires Mateus & Associados*, Lettera Ventidue, Salerno, 2009.

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derived from the combination of full and empty, but from subtraction and addition, form part of the same body that makes up the whole and creates the possibility of relationships and passage, as in *Vals Thermal Baths* (P. Zumthor, 1996) where the voids, carved from an ideal monolithic starting material, modulate a space made of stone, water and light.

The porosity of a space, in which the fragment constitutes a marginal space, is created inevitably by separating it from whatever remains outside, and its character lies in this "inversion", in which the material at the margin is thickened and becomes the threshold and device for living, leaving a central marginal void of the fragment available to take on different functions use or non use. The margin of the fragment, thanks to the porosity *"even acquires body, complexity and meaning, and it is not reduced to the mere separation of the two realities [...] this fringe can be taken as a spatial entity within which one recognizes and explores at the same time the possibilities of living on a different scale."*[33]

7.2.3 Dialectic of endless porosity

The porous space is a space of many dimensions, a space where the repetition of fractal geometry gives rise to endless variations in which unity and multiplicity merge, as defined by J. Derrida: *"Variety is not only that which has many parts, but it is also what is folded in many ways [...] an infinitely porous, spongy or hollow texture without presenting vacuums, but similar however to a cave within a cave: every body, however small it is, contains another world."*[34]

Using porosity as a tactic can be explained as a compositional operation of a surface that folds over on itself and in many directions, scoring the presence, promiscuity, border and absence of border, an ever-crossable threshold rather than a net margin. *"Puncturing the mountains rather than climbing them, digging the earth instead of smoothing it, piercing the space rather than keeping it smooth, making the earth a Gruyère."*[35] As in the *Endless House* (F. Kiesler, 1959-60) where the "empty interval"[36] of a structure, the creation nothing-in-between, is not only the absence of matter, but regards
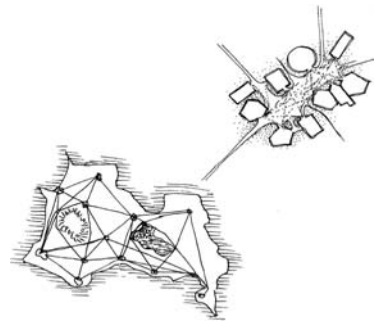
F. Otto, *When a long-distance path system between settlements is created, peripheral roads and circular roads around obstacles such as lakes and mountains are formed*, 2009.

33. Manuel Aires Mateus, *Presentazione*, in Francesco Cacciatore, cit., p. 13.
34. Gilles Deleuze, *La piega. Leibniz e il barocco*, [1988], edited by D. Tarizzo, Einaudi, Torino, 2004, p. 5.
35. Gilles Deleuze, Félix Guattari, *Millepiani. Capitalismo e schizofrenia*, [1980] Cooper, 2003, p. 150.
36. The first version of the *Endless House* (1947) is a primordial egg like the Stele of Odyssey or the Egg of Brancusi; in the second version (1959-60) the cocoon opens and the openings are not just holes but the area vacated by the folding of a continuous ribbon. The research of the vacuum, as a range of relationships between the parts of a set, are similar to: the use of silence in the music of J. Cage (a silence that is not the mere absence of sound, but the range of listening to the outside world); the study of biological porosity applied in the "art of making holes" of Le Ricolais, in the ephemeral structures of R. Buckminster Fuller, in the urban speculations of Frei P. Otto, and the covering surface of Ronchamp by Le Corbusier. *"John Cage [...] said: I was very impressed by the sculptures made of many individual parts. It is the work of Kiesler that interests me most [...] I feel very close to this aspect of Kiesler's art, to what one could call the creation of nothing-in-between and which is very beautiful."* Maria Bottero, *Frederick Kiesler. L'infinito come progetto*, Testo&Immagine, Torino, 1999, p.9. On the theme of openings (and opening) see the stimulating book by Roberto Casati, Achille Varzi, *Buchi e altre superficialità*, Garzanti, Milano, 2002.

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the "open form" produced by the folding of a continuous ribbon that seems to infinitely involve the interior and exterior.

The idea of *Correalism* expresses the principle of the permeability of borders and the dynamics of the relationship between different parts and their surrounding areas - the principle of constellation - in which *"the only way of connecting the parts is through a general objective."*[37]
In the constellation, the continuity is visible by means of the fragment, an incomplete and open element which finds its balance only in relation to other fragments of the galaxy, namely a set of fragments in formal equilibrium thanks to the separation, the interval, the relationship between distant parts: the quality of the galactic form is based on relationships rather than on the individuality of the single fragments. *"I relived the galactic idea in painting personalities fixed in time and space - E.E. Cummings, Marcel Duchamp, Henry Laugier. These were families of paintings rather than isolated bachelors and spinsters. To do this I only has one formal instrument: the accurate measurement of the distance between one unit and the other. And so the intervals between the units became of great importance in the correlation of the total work."*[38]

Transposing the metaphor of the galaxy to the archipelago of fragments (See 2. Topology), the marginal spaces are meant to be what allows the consistency of an "operating"[39] territorial structure by means of the inclusion of marginal voids within the contemporary territory.

7.2.4 Programmatic porosity

It is essential to understand the importance of the voids in a marginal space and conserve them in the project, for example in the Zollverein Masterplan (R. Koolhaas, 2002). Conserving the central void is the concept - "walled city" - that drives the project of the former mining site. *"Organizing the new buildings within the empty space would have meant destroying the historical context and thereby causing the death of the entire area, which would have completely lost its coherence. We decided instead not to add buildings to the center, but only at the margin."*[40] The interior of the

F. Kiesler, *Endless House II*, 1959-60.

37. *"The object of traditional art, whether it be painting, sculpture or architecture, cannot be seen as an isolated unit, but must be considered in the context of space-time changes, through physical movement and visual perception in every direction, artificial or natural [...] The environment becomes as important as the object, if not even more so, because the object breathes as we do with the surroundings."* Frederick Kiesler, *Inside the Endless House*, Simon and Schuster, New York, 1996, p. 151.
38. Ibid., p. 151. The distancing of the parts is made possible by the formality that they are able to attain. The metaphor we can refer to is that of the gravitational field, where the orbits of the planets are in relationship to the respective masses and the tension generated by magnetism has the ability to inspire the continuity of the "functioning" system.
39. The marginal fragments can be compared to a system of relationships based on distancing, similar to the structure of the matter, of the atom, of biological tissue, of constellations. Regarding analogies between spatial organization of biological tissue, ways of occupying the territory and the concept of *"sphere of influence"* see Frei Otto, *Occupying and Connecting. Thorghts on Territories and Sphere of Influence with Particular Reference to Human Settlement*, edited by B. Burkhard, Edition Alex Menges, London, 2009.
40. Floris Alkemade, *La riconversione dei paesaggi industriali dismessi: Zeche Zollverein, Essen, Germania. Masterplan e riconversione di una raffineria di carbone in museo e centro visitatori*, Convegno Nuove Ecologie, Modena, 24 maggio 2008.

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area becomes a special "interval" through the creation of a porous margin that contains the new buildings and separates the marginal void from urban surroundings, releasing it .

Like in *Alice in Wonderland*, once surpassed the "thick" margin, place of maximum spatial contrast, one enters a vacuum, where everything is different: the buildings, the history, the scale of reference, the functions. Here is where the new public buildings are located, "ambassadors to the outside" of what is happening inside. The idea is to apply the tactic of porosity of the project of marginal fragments in order to reinterpret it as a threshold-sponge rather than a set of static forms: (re)compose the margins of the fragments not for spatial continuity but rather to assimilate the spatial (and functional) duality and hybridize one and the other.

R&Sie(n), *Conceptual study model of Dusty Relief/B-mu*, 2003.

7.3 [Intrusion] Margins. Camouflage, mimicry, belonging, contaminate

Intrusion is the way the project colonizes space through figure in continuous exchange with the marginal background space[41].

Figures of intrusion cause the physical and/or perceptive margins to go into crisis. Intrusive operations are substantially two:

1. intrusion as a colonizer which is integrated in the space;

2. intrusion as an element that contaminates[42] and connotes an area.

Let's start with two examples of painting. In the ink drawings of the master Shi Tao[43], the relationship between figure and background is in dynamic equilibrium, the result of a mutation between subject and context, a mutation in which the figure communicates closely with the background. In the paintings of G. Morandi, the borders of objects determine the shape of space. But, if we invert the figure-background perception, it becomes the margin of the space to make up bottle-like shapes: in other words it is not clear whether the subjects of the representation are the bottles or the marginal spaces which are created by them.

In painting, intrusion is able to establish dialectical relationships between figure and background; in biology, parasites, lichens, viruses or bacteria contaminate by dissolving optically, namely defen-

41. Refers to figure-background relationship.
42. In marginal spaces, architecture cannot afford to search for purity but must concentrate on the rewriting of/on the many existing traces by acts of contamination. This contamination, which *"prevents a writing that does not limit itself to repeating its structure and formation"*, can be thought of as a generator, thanks to its ability to recognize and interpret variety, to establish relationships and to highlight diversity. Regarding the concept of architecture that contaminates space see Franco Purini, *Architettura virale*, in *Lotus n.133*, 2009.
43. Regarding the poetry of mutation and the works with vacuums of Shi Tao, and oriental culture in general, see: Francois Cheng, *Cinque meditazioni sulla bellezza*, [2006], tr. It. G. Brivio, Bollati Boringhieri, Torino, 2007; Giangiorgio Pasqualotto, Yohaku. *Forme di ascesi nell'esperienza estetica orientale*, [2001], Esedra Editrice, Padova, 2007; Giangiorgio Pasqualotto, *Estetica del vuoto. Arte e meditazione nelle culture d'Oriente*, [1992], Marsilio Editori, Venezia, 2007.

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sive/ambush tactics that are necessary to survive[44].

For the project, the tactic of intrusion is useful for its ability to colonize by covering itself and to adapting itself by revealing the context, that is, the marginal space marked by existing tracks. The intrusion does not cause the project to express a defeatist attitude, rather it is part of the enhancement of the details in a background that is impossible to erase.

Contaminate, parasitize, infect, are actions that occupy and (re)characterize the space; it is a question of integrating into the existing marginal space new spaces, relationships, and architecture which allow a new kind of living space. Disguising, hiding, camouflaging and mimicking are actions of the intrusion that changes its appearance in order to adapt to the marginal space, working on the dissolution of the physical/perceptual, public/private, building/context, is/is not margins.

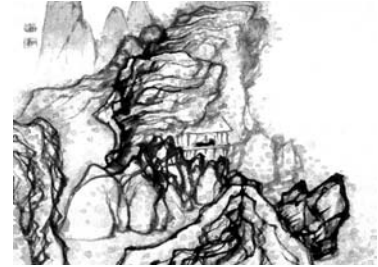Shi Tao, *Man in a House beneath a Cliff by Shitao*, late 17th century.

The following actions have been recognized:
1. **camouflage** process to reveal through hiding;
2. **mimicry** of the *as found* for permanent adjustments;
3. **belonging** to a specific location;
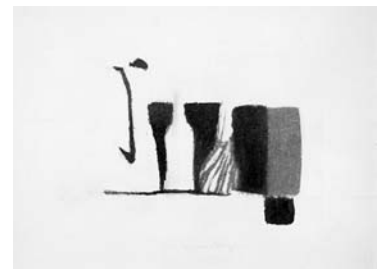4. **viral** architecture with legs for temporary adaption.

G. Morandi, *Natura morta*, 1959.

7.3.1 Camouflage process

The art of camouflage[45] perpetuates the aim of invisibility; the figure loses definition to blend with the environment: the intruder duplicates the identity of the enemy in order to conceal its intentions and escape recognition for survival or to get a strategic advantage. Both objectives need to maintain the distinction between the object and its context, and certainly not its deletion, because, as shown by G. Bateson[46], margins always define distinctions and delineate identity.

An architecture-intruder that tries to hide through dialogical forms in relationship to the physical context (natural or artificial), is the case of the *Juvet Landscape Hotel* (Jensen&Skodvin, 2008) where units are located in the woods like the roots of the surrounding trees: when viewed from the side they disappear against the wood of trees in the forest, when viewed frontally they disappear, but this

44. To avoid attacks from predators, weak animals reproduce the colors and shapes of their surroundings on their bodies. In a military context this means the camouflage of arms, uniforms and means of transport.
45. In biology, like in the military, intruders in order to defend or attack need to hide, and so camouflage themselves. This reflects a need to establish a tight relationship with a site and recognize it as home. *"The desire to assimilate potentially contains within it a specifically architectural concern, in that assimilation involves a process of relating to the environment."* Neil Leach, *Camouflage*, MIT Press, Cambridge, Mass., 2006, p. 3.
46. Cf. Gregory Bateson, *Mente e Natura. Un'unità necessaria*, [1979] tr. It. by G. Longo, Adelphi, Milano, 1984.

time by reflecting the image of the forest on its mirror facades. This example shows two aspects of hiding: the reflection of the mirrors and the mimicry of the materials "borrowed" from the context.
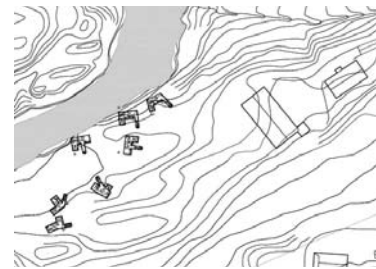
Mimetic is the exterior of the building surrounded by vegetation in *The floating gardens*[47] (A. Holtrop, 2009), an artificial floating mountain (modeled by using a derivative of the material used to produce fast food wrappers) outside of which we find a succession of hills and valleys covered by a layer of hydroponic vegetation and which contains a sequence of amorphous and multi-faceted spaces of various dimensions and heights. Mimetic is a "territorial" architecture that deeply belongs to a territory and takes on board its critical elements, such as the insects in the *Mosquito Bottleneck Project* or the dust of *Dusty Relief/B-mu'*[48] (R&Sie(n), 2003).

Jensen&Skodvin, *Juvet Landscape Hotel*, 2008.

An architecture that aims to *"dissolve"*[49] in the context and uses the properties of reflection is the case of the *Inujima Pavilions* (K. Sejima, 2009): the project foresees a number of small cube shape buildings, rectangular or circular, scattered on marginal land and free from the traditional wooden houses of the village on the island, the polished aluminum or clear acrylic casings that, duplicating the landscape, vanish in the landscape itself[50].

The stated attempt to blend in makes these structures even more powerful in their presence. The uncertainty that dissolves the identity, in the name of the environment and its potential, is the distinguishing feature of a design that works by means of small intrusions in the marginal space.

K. Sejima, *Inujima Pavilions*, 2009.

7.3.2 Mimicry *as found*

The intruder (the foreigner, See 1.1 Margins) by a crossing a margin experiences transformation. This, in terms of architecture, corresponds to the transmutation of the morphological characteristics in order to adapt to the conditions found in the new space; a shape as found. This occurs when the image of a building tends to imitate or make more or less explicit reference to a reality belonging to a world outside itself, changing its code, as in the *Art Museum Teshima* (R. Nishizawa, 2009): the building is a folded sheet of paper, a modeling of the crest of the hill, low on the horizon that is genera-

47. From the terraces and outdoor swimming pools, a series of paths allow one to walk over the entire external surface of this mountain architecture: a lived landscape made of elements, uses and relationships that are not coherent but coexistent, where landscape and architecture form an inseparable unit.
48. *Dusty relief/B-mu'* is a volume thought to attract the gray atmospheric dust from the city and cover itself entirely with it.
49. Regarding the concept of dissolution in architecture see Kengo Kuma, *Anti-object: The Dissolution and Disintegration of Architecture*, tr. by H. Watanabe, Architectural Association, London, 2008.
50. Reflection and transparency, twin tactics of disappearing and camouflaging in architecture. See *Domus n. 931*.

ted by analogy with a drop of water on a flat surface. The indefinite, in this case, is obtained by removing any reference to a traditional spatial stereometry, architecture without borders or limits[51].

Informality is the arrangement of objects in space, an architecture that fits the landscape disappearing into its creases as in *The Distributed House*[52] (R. Koolhaas, 2000) and in *Hexenhaus "Witch House"*[53] (A. and P. Smithson, 1986-2002): a series of satellites orbiting inside and around the house sneak into the woods and take the branched shape of the trees. The *"conglomerate order"* and the mimetic *"frame"*[54] generate a perceptual instability that leaves no distinguishing features between the real branches and the artificial branched lattices: a dialectic of reflections, overlaying, transparencies, all developed through an intrusive tactic of separate pieces, branches and roots *"as found"* in the undergrowth. A *"found"* architecture is the *Trail House* (A. Holtrop, 2009) that adapts to minor signs of a place, a series of paths created in the ground by the daily movement of pedestrians. The house becomes the path itself that branches out on the ground, an intruder that does not have a precise start or end, without clear boundaries it is a continuous margin: contaminating the marginal space, the architecture take possession of it and becomes the space itself.

The morphological contamination as an intrusive tactic of architecture, strongly regards the terrain, the patterns of the existing signs, the topography. The morphology of the site is suitable for handling architectural operations such as cutting, lifting, stratification of the elements of the landscape at the end of which it is no longer easy to trace the boundaries between nature and artifice, between landscape and architecture. Interesting, beside the formal results, is the continuous work with the *"ground line"*[55] in a succession of masking-revealing of architecture.

These projects appear to be applications of a way of understanding the architecture in relationship to the landscape as a special "meter" and knowledge device of the marginal space.
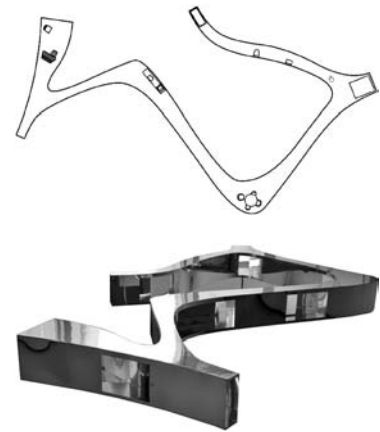
A. Holtrop, *Trail House*, 2009.
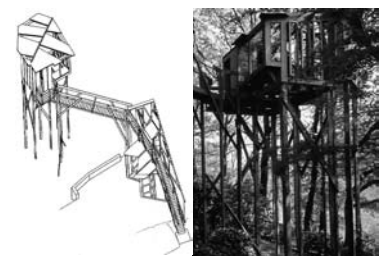
A. and P. Smithson, *Hexenhaus*, 1986-2002.

51. Ibid.
52. Regarding architecture disseminated in the landscape as a tactic of intrusion that contaminates the space like a virus which diffuses, by Koolhaas see also *Taschen House* (2000); *Anish Kappor House* (2006); *Rak Jebel al Jais Mountain Resort* (2006).
53. The starting point of the design for the house was the concept of a *"conglomerate order"*, namely an architecture able to involve all the senses and transmit *"the pleasures of the territory"*. See, *Alison and Peter Smithson - from the House of the Future to a house of today*, edited by D. van den Heuvel and M. Risselada, 010 Publishers, Rotterdam, 2004, pp. 186-210.
54. The branched figure of the tree that is applied to all the openings of the house as a frame that separates, connects inside and outside and creates a dynamic ambiguity between architecture and landscape, open and closed, light and shadow.
55. Cf. Raffaella Laezza, *L'architettura della linea terra*, Edizioni Osiride, Rovereto, 2001.

7.3.3 Belonging in context

"An up to date building allows a formal language between modernity and tradition. The tradition cannot however be the unreflective copy of superficial forms. This type of tradition does not tolerate forced themes but must always and continuously be reanimated. It's a question of putting the new addition in a natural tense relationship with the existing elements." Gion A. Caminada

Belonging in context is the architecture that is introduced in a space as if there has always belonged there, like in the research by G. Caminada that, starting from the tradition of the "strickbau", investigates the possibility of developing a new type of architecture: *"The rough texture gives us the face of the building. [...] It is very important to show how the construction is made. It regards primarily a balance between construction and finish."* A building that has a lot to do with the tradition of architecture and not with the traditionally designed architecture, because only a real contemporary experiment is able to produce architecture, as P. Zumthor says, *"they seem to be there, simply. We do not pay them any special attention, yet it is almost impossible to imagine the place in which they are located without them. They are buildings that give the impression of being solidly anchored to the ground, of being an integral part of the environment to which they belong and they seem to say: I am just the way you see me and here I must stay."*[56] It is an attention to the "territorial elements" of the project, of the physical and formal anchor to the morphology of the site, which in the mountains, highlighted A. Loos[57], requires horizontal elements firmly anchored to the ground: *"Build in stone, build with stone, build inside the mountain, take from the mountain, be inside the mountain."*[58]

The dialectic between intruder and context, together with the reduction of means and forms, regards the necessary character of alpine architecture in numerous recent projects for tourism in marginal alpine areas. Particularly in high-altitude huts (the *Plateau de Saleinaz Refuge*, De Montmollin&Widmer 1996; *Cristallina Lodge*, Baserga&Mozzetti 2002; *Refuge Tschierva*, Ruch and Spirig 2003), create a dialectical relationship between minimal architecture and the natural context, between defined geometric shapes and the organic character of the landscape.
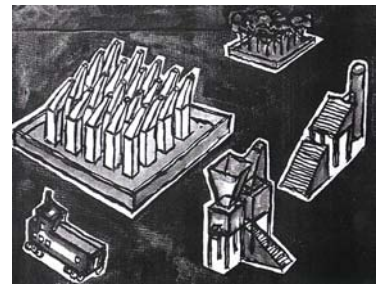
J. Hejduk, *Studies on the Riga* ,1989.

P. Zumthor, *Zinc mine museum*,2003.

56. Peter Zumthor, *Pensare Architettura, Milano*, 2003, p. 26.
57. Cf. Adolf Loos, *Regole per chi costruisce in montagna*, in *Parole nel vuoto*, [1913], Adelphi, Milano, 2009.
58. In the Vals Thermal Baths (P. Zumthor, 1996), the building appears to be a great slashed and porous stone, a monolithic monomaterial, fixed to the green slope of the mountain that continues also above the green roof. A continuous series of layers of natural stone, like dry walls typical in the mountains, determines the sections, the plans and the elevations of the whole building; an architecture made only with the strictly necessary.
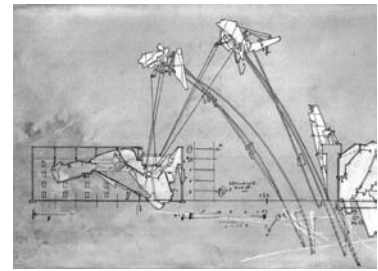
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This also applies to the project *Sendero Pinar de la Algaida* (R. Pico, J. Lopez, 2008), where small architectural elements appear as brittle skeletons carried by the current of the sea and informally washed up on the shore, resting on the topography of the site made uninhabitable by the industrial exploitation and cut by the infrastructure. The elements, like small tools, define areas of movement and rest through gestures that are minimal yet able to give back to the community a space for light use.

Lebbeus Woods, *High Houses*, 1992.

7.3.4 Contaminant "with legs"

In marginal areas, architecture has to contend with all that is already there for its possibility of existence. The contamination includes the concept of "architecture with legs", incorporated in the context as "events"[59], singular and temporary[60], who regardless of their duration, relate to the existing elements of/in the marginal area (infrastructure, ruins, degraded geographical elements, etc.). in a continuous movement between being and not being, like in nomadic architecture *Land/marksmann* or *Studies on the Riga* by J. Hejduk[61]. Swarms of small buildings are imagined for inhabited or completely uninhabitable places, some of which are built only for a specified time, to be disassembled and rebuilt in other places, others designed to remain stable, such as those of P. Zumthor in *Zinc mine museum* (2003) and *Pension Briol* (2001).

A. Antonas, *Crane Rooms*, 2007.

In contrast with strictly defined architecture, the intrusion uses settlement patterns that comprise the mobile state able to respond to the precariousness of marginal areas and reactivating the urban utopias of the Archigram or prototypes of houses on wheels by Buckminster Fuller and M. Suuronen. Small nomad[62] architecture invades and repopulates the marginal spaces such as the utopian *Crane Rooms*[63] (A. Antonas, 2007) and *High Houses*[64] (L. Woods, 1995) who use artificial craters of former mining sites to experiment with new forms of living in hostile areas.

Architectural devices with legs, trans-mutant beings by definition, allow to re-live, re-equip and re-perceive uninhabitable places, experiencing new forms of anti-classical beauty but profoundly contemporary and necessary.

59. The term *event* is used here to indicate the predisposition of the nomadism of architecture and to describe the character of apparent or real mobility of these structures.
60. See the distinction between *"permanent"* space and *"nomad"* space outlined by Deleuze and Guattari, cit..
61. See Anthony Vidler, *John Hejduk: architettura vagabonda*, in *Lotus n.68*, 1999.
62. For example the *High life* by Front Architects, the *Trailer tricks* by Gollifer Langston Architects or projects by Nox-Architects. For the most recent experiments on micro-architecture refer to Phyllis Richardson and Ruth Slavid recent books.
63. Simple concrete foundations and elementary water pools are proposed to be installed in non hospitable beaches or arid hills nearby the sea. The room units form independent cells, platforms go up and down following the will of every provisional inhabitant: *"crane rooms"*, rooms moving up and down provide summer shelters with changing views.
64. The *High Houses* are proposed as part of the reconstruction of Sarajevo after the siege of the city that lasted. Their site is the badly damaged old tobacco factory, the houses rise up high into the airspace once occupied by falling mortar and fired artillery shells. See Lebbeus Wood, *Borderline*, Springer, New York, 1998.

8. [Conclusion] Designed variation of marginal voids

"Non sempre le connessioni tra un elemento e l'altro del racconto risultavano evidenti all'imperatore; gli oggetti potevano voler dire cose diverse [...] ma ciò che rendeva prezioso a Kublai ogni fatto o notizia riferito dal suo inarticolato informatore ero lo spazio che restava loro intorno, un vuoto non riempito di parole [...] ci si poteva girare in mezzo con pensiero, perdercisi, fermarsi a prendere il fresco, o scappare via di corsa." Italo Calvino[1]

The "archipelago of marginal voids" appears to be the key needed to interpret this research that has taken the marginal space as a category of project that investigates the operations necessary to turn the condition of marginality into an opportunity, the archipelago as a form of resistance within the tumultuous and paradoxical processes of territorial transformation, as a landscape produced by an ongoing project that constantly recycles the surplus in exchange for something advanced, permanent and necessary within which the marginal voids become fragment architectures, representing a collective identity, both multiple and diverse.

1. Italo Calvino, *Le città invisibili*, [1993],Oscar Mondadori, Milano, 2006, p. 39.

8.1.1 Starting over from the territory

The territory is where current needs are organized and summarized, where the resources of marginal spaces can find meaning and space, uneven and fragmented. It is essential to return to face the suburban contexts through structuring projects which set the critical and often most problematic nodes of the changes under way and that are based on the revision of the concept of scale in relationship to the physical structure of the territories.

Research has shown that in suburban contexts, in this case mountainous areas, the traces and marginal areas should be brought out more clearly[2] as, especially in these areas where the cultural landscapes and the availability of land are an asset, their appearance is dictated by sectorial approaches[3] and by a policy of subsidies that are struggling to produce figurative traces and qualitative uses. We must build landscapes that will renew the aesthetic use related to exploitation/transformation of land by planning procedural actions able to eliminate the production of marginal spaces and materials, or by recycling them avoiding using other resources. Because building landscapes means keeping alive their distinctiveness and their economic value.

It is important to take care of the marginal areas by developing cultivation not only in agricultural terms but also experimenting with new forms of energy crops, water, diffused tourism etc., capable of producing landscapes with meaning through gestures stratified over time and of multiple uses.

8.1.2 The impossibility of the island

The island is a marginal space of excellence. On the island, the one from the famous TV show, the actors are confined to a single microcosm and adopt varied innovative behavior and strategies to compete and survive. In the global competition that forces them to reflect on the strengths of the territory as a whole, an archipelago of islands corresponds to the differentiation of local economies rather than a single mono-economy potentially subject to crisis. It is necessary to reconsider the marginal spaces to structure spatial and economic archipelagos as independent strategies of each type of sectorial planning; their multiple articulations corresponds to a territorial structure able to flourish with new places and new uses

2. The project aims to rediscover the independent role of the marginal area without leaving it to market forces such as land exploitation or second homes which do not provide a long-term local economy, in the same way that improved accessibility does not automatically provide a greater well-being.

3. The accessibility of some sites has been improved with the goal of creating prosperity and well-being, however, they have remained excluded from many markets.

with communication and relational capability.

8.1.3 Fragments and necessary voids

The marginal areas are deeply necessary fragments of the territory, because they represent a precious reserve in an archipelago of diffused punctuation, network infrastructures adapted to the changing relations and variable assets with respect to a rigid plan of action, places prone to many inscriptions.

However, it is essential to configure recognizable forms-fragments belonging to an archipelagic group defined by open and dynamic combinations, physical or visual: this means recognizing within architecture the dynamic references of perceptual control, designing the margins of the fragments as spatial elements of orientation, punctual or linear reference, connotations of node-events, figuratively distinguishable through margins, focal elements, directions, during the spatial experience of the fragments that capture the everyday sequences, slow or fast, of the landscape.

The vacuum appears to be the most effective tool for describing the articulation of rhythmic sequences, alternations of visual events, balancing the strength of the volumetric margins of the fragments with the value of their superficial voids. To this end, a topological sensitivity to the value of the terrain is useful to its tectonic development: projects/terrains whose main feature is to act upon the senses.

The void is the dominant element of these fragments and should be stored through non sectorial "rules and tools" capable of triggering approaches of design in which the generative force of the "void margin" becomes the engine for new ecologies of the millennium. The research aims to work on the "thickness" of the margin of the fragments making them become the "framework" that identifies forms, defines events, images and possible functional programs, thickening the internal degrees of freedom of the void, sometimes such defined thicknesses as to result in real lines and boundaries to over-fold or double-up, more often large areas of uncertainty that have no form or prevalent function, to be stratified.

8.1.4 Marginal spaces as "collective goods"

Anticipating new areas and forms/architecture with an independent design within a heterogeneous patchwork, the marginal voids are not evocative of a coherent whole but a common strategy: an archipelago of potential voids as a "place of possible places," territorial *pharmakon*, sites of value to be preserved: "collective goods"[4], structured marginal voids (metaphorically thought and felt/perceived) as *res communis omnium* instead of waste or scrap, *res nullius* or *res delectus*.

The threshold between these concepts is subtle but crucial, because what makes the difference is the existence of a community that makes use of public spaces, takes possession of it and recognizes itself within it, discovering their own identity. Perceiving the marginal voids as a collective good gives back to the marginal areas the role of constructing new identities through the representation, possible uses, collective exploitation and marginal voids as a collective good which suggest behavior patterns that can be translated, updated and applied to the extended horizon of the contemporary global economy, precarious and liquid.

The meaning of marginal voids as collective goods needs the experimentation of a grammar that is ancient and new at the same time, recovering experiences of collective territorial assets that have distant origins at which to look with great freedom as patterns of resource management that have produced slowly changing cultural landscapes, multilayer palimpsests rather than waste and debris.

The marginal voids can be obtained by incorporating the existing pattern of marginal spaces in the processes of transformation, to make then become activators of new potential functions, or by producing them deliberately by means of the project.

8.1.5 Planning with time

Taking the marginal voids as a collective good means not only (re)creating an identity and rights of exploitation but implies the need for management and especially reproduction, in other words a process of continuous transformation, a delayed project able to continuously update them. The project is intended as a form of preservation, that is, of continuous construction of meaningful traces, with the ability of maintaining the eloquence of their shapes

4. Metaphorically, we can indeed learn a lot from the rediscovery of the role previously held by "collective goods" in mountainous areas as parceled out pieces of forests of alpine pastures, that are *"common property resources to which a group of people has equal rights of use."* (See E. Ostrom)

beyond the limits of their duties.

So the delayed project of construction of the archipelago of marginal voids is stretched over two fronts: on one side it integrates what is already there, discovering abandoned marginal fragments to be reused as materials for territorial planning; on the other it foresees what will happen in the future after the exploitation of the land, reversing a problem to be resolved ex post into an opportunity to build architecture and an identity of the changing landscape, with adaptive skills and new values of permanence according to objectives that are not only of functional order but also and above all formal, perceptual and useful.

8.1.6 The archipelagic project

The "archipelagic" project outlines the diffusive strategies and works with changing tactics and it promotes the continuous recycling of marginal land, creating new territorial icons as result of the stratification of matter; architecture and earth movements are designed to build the void by defining the margins of the void itself, able to innovate the phenomenology of gestures already inherent in some actions of rapid transformation, such as in mining areas or those of industrial waste storage, with the objective of producing new forms of permanence.

Working with fragments and building potential marginal voids is a necessity, providing development, suspension or delays, abandonment strategies, backup systems and collective goods. Inconsistent spaces are ready to become more than that for which they were foreseen. Islands that are not necessarily physically related, but nonetheless prepared to receive unexpected intrusions or build new relationships. In the considered case study this means, for example, in the shape of the archipelago: fragment-islands of quarries and former quarries, summit areas, derelict land, old abandoned fragments, represent the new marginal voids, generators of new economies and landscapes.

8.1 [Synthesis] A designed conclusion

The marginal spaces present within the geomorphological unit of the Cembra valley, constitute an archipelago mostly made of closed, simple and complex figures.

The fragments increase near the extractive areas in the lower part of the valley, and in the dismantled terraces in the higher part.

A series of smaller fragments add to these two big concentrations; such fragments correspond to the minor settlements that lie at the margins of the Avisio stream, on the peaks, near the lakes.

These figures/enclosure currently occupy about 40% of the valley surface, but they will reach 70%, if we consider the divestment both of the active extractive areas, and the residual one, caused by other factors (infrastructure, etc). The marginal fragments/spaces appears as black holes, as the empty spaces of a porous material. Even if each fragment is autonomous, because it is isolated from the continuity of the landscape, it shares its own margin with other figures; therefore, in the margin concentrate interference and vibrations.
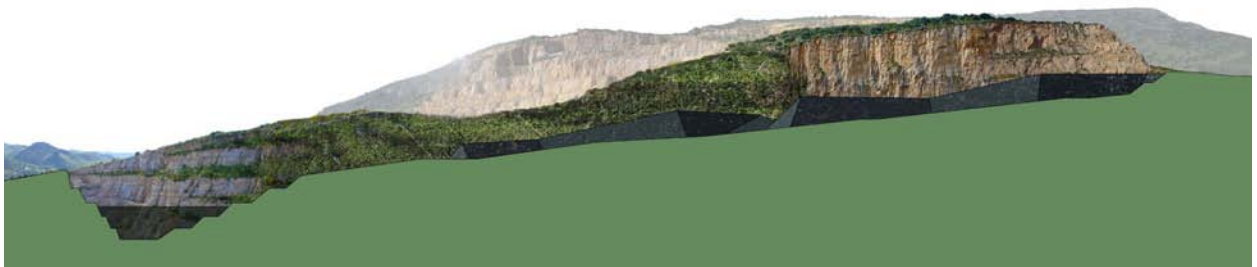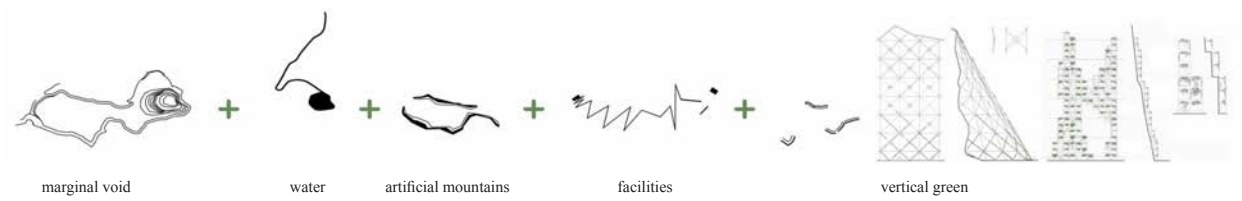
The archipelago of the marginal fragments, existing and found ones, is the image of the *master plan* of the Cembra valley, which becomes the drawing of a new "map".

Archipelago. Marginal spaces (white) of the Cembra valley.

As a matter of fact, the map does not outline the action, it clarifies the specificity of some strategic junctions on which we should intervene through scenarios in evolution, which are located in the known cores (the intensive exploitation linked to the extractive activity) and in the abandoned ones (connected to infrastructure, the margins of the built-up, the highest areas).

The *master plan* identifies and describes the territory of the valley through two readings of the landscape - the horizontal and the vertical one - that correspond to two different outlooks.

marginal void · water · artificial mountains · facilities · vertical green

A significant fragment

The big active quarries are probably the most significant group of fragments; they are big in size and visibility: the archipelago of marginal empty spaces is imagined as a landscape-figure in evolution for the Cembra valley.

The basic idea is that the extractive activity can use compositional tactic able to make the margins of the quarries significant: beyond a precise orientation, the satisfaction of the senses. The margins of the quarries are bounded and removed from any practical economic purpose. Their physiognomy will make them characteristic points; their seriality will make their relation with the landscape evident and remarkable. Reference: design experimentation *ex quarries of Segariu*, with M. Amerio, C. Battaino, E. Schir, 2010.

8.1.1 Horizontal. Domains

The first interpretation identifies some landscape layers[5], which corresponds to horizontal segments of the territory, in order to recognize its characterizing elements. The reading through horizontal layers specifies the landscape domains[6]. There are five domains outlining a perception of the territory that is functional to the plan and that does not correspond to an ecosystemic reading (in such case we would have two ecosystems, the valley one and the one at a high altitude): it is rather necessary to the topological reading of the marginal spaces that lie on the layers.

By using different parameters[7], the research recognizes five landscape layers.

VF - valley floor, corresponding to the domains of the waters of the stream and its tributaries, with the engraved gorges and the waterfalls, the dam and the artificial lake, the ancient abandoned mills.

PS - piedmont slope, corresponding to the layer that goes from the stream to the line of the hillside settlements: it is the agricultural domain (current areas of agricultural value and abandoned areas)

5. In the urban plan of Trentino (PUP 2006) the valley is described through three landscape units (1. linear, river valley; 2. agricultural; 3. historic), but such reading appears inadequate to describe the complexity and to identify the marginal spaces.

6. In ecology, the domain is "the field of existence of a process or of an organism"; we hypothesize the existence of many landscape domains that allow us to recognize different ways and uses in the transformation/construction/abandonment of the territory.

7. Altimetry quote, vegetation, human activity, morphology, socio-economic tendencies, etc.
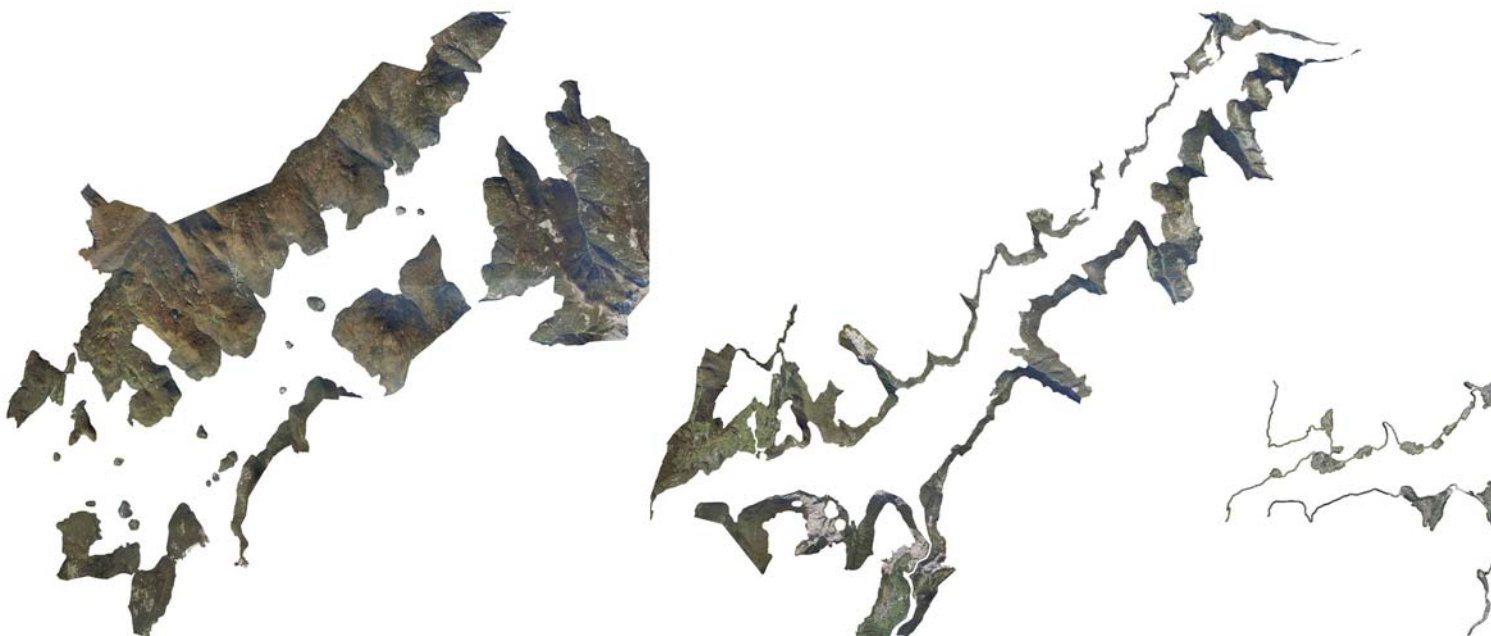
Summital   Versant   Mountainside

characterized by scattered settlements that have mostly disappeared.

M - mountainside, corresponding to the main infrastructure ring that links the biggest settlements of the valley that lie on the alluvial terraces.

V - versant, corresponding to the wooded areas that today are dotted, in the lower part of the valley, with the extractive areas (active and dismantled quarries, waste dumps).

S - summital, corresponds to the natural prominences that mark the valley with dots and that were fortified in the past, and to the tops of the mountains bounding the valley, where there are small lakes; today they are completely occupied by the wood, while in the past they mostly appeared barren, because they were used as grass for pasture and alp.
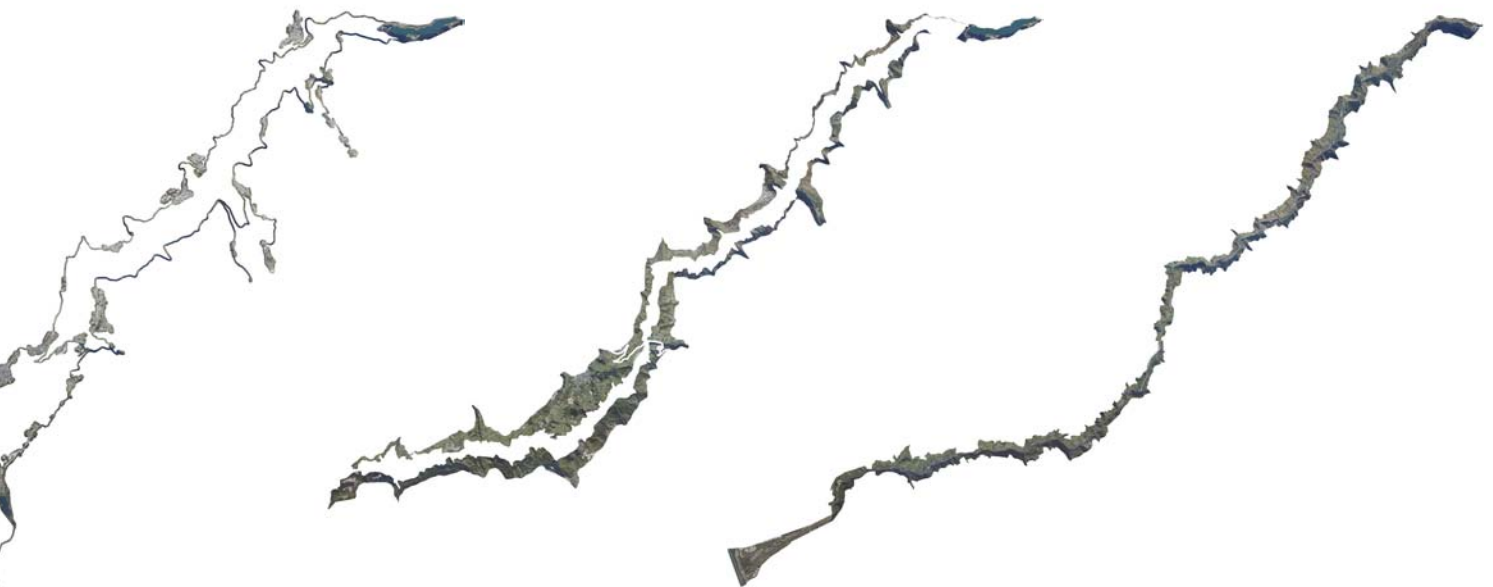
Piedmont slope   **Valley floor**

8.1.2 Vertical. Relations

The Cembra valley is a very tridimensional territory-architecture, where the territorial sections are useful to show the perceptive value and the physical and visual relations of the marginal spaces within the geomorphological unit.
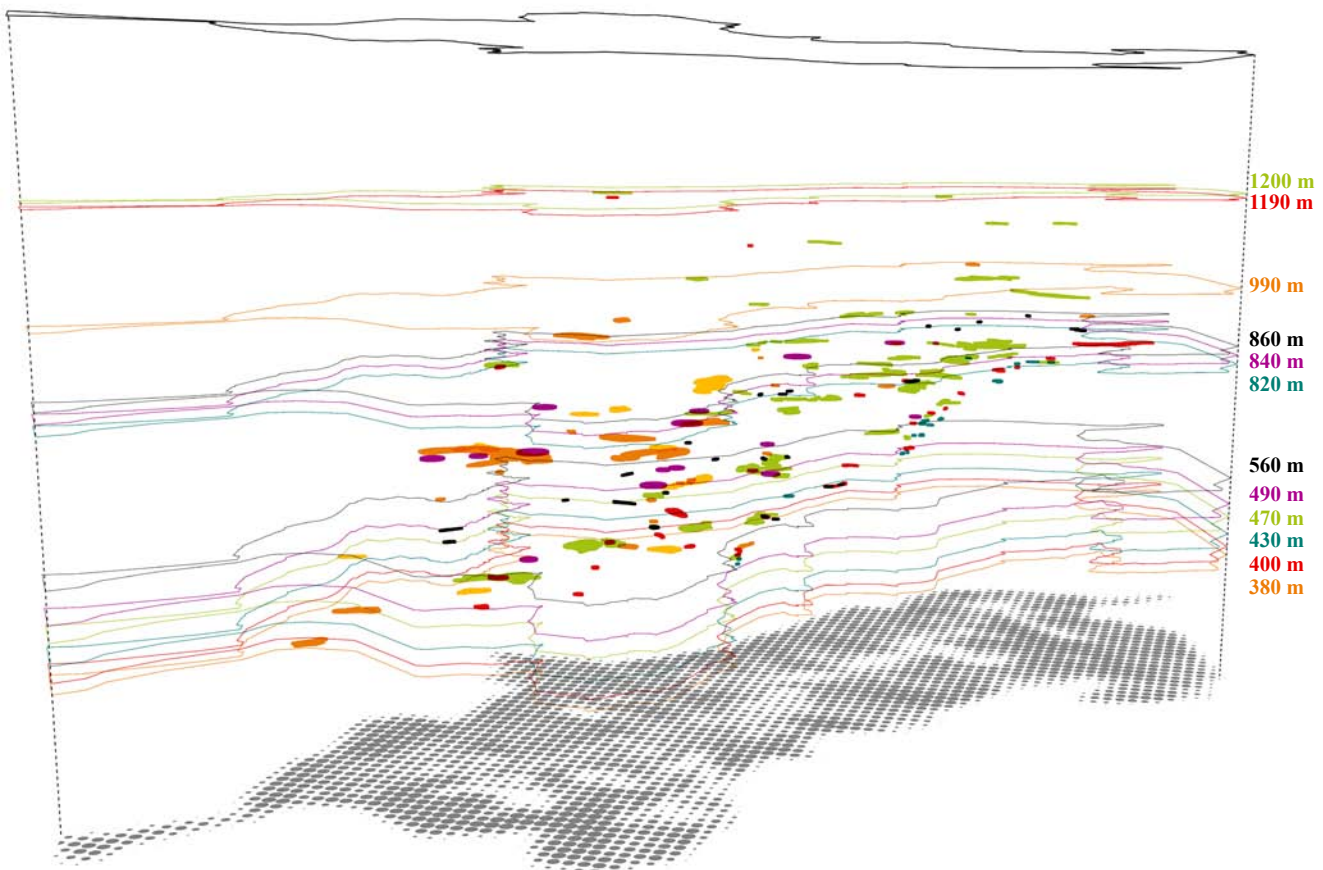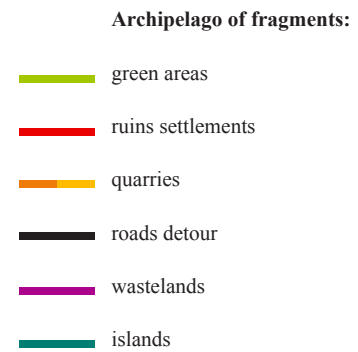
Starting from the five landscape layers, the research plan builds some significant vertical territorial sections - "transepts" - that identify specific themes of the master plan.

The plan/sections are transversal to the Avisio torrent and cross the five landscape layers-domains that we identified. In each section are specified the strategic points, that is the most significant fragment to work on, in terms of:

M - margins of the fragments;

P - points, single micro-fragments;

N - networks of scattered points.

Archipelago of fragments:

green areas

ruins settlements

quarries

roads detour

wastelands

islands

Masterplan Cembra Archipelago 2030.

2250 m—

2000 m—

1750 m—

1500 m—

1250 m—

1000 m—

750 m—

500 m—

0.5 mi   1.0 mi
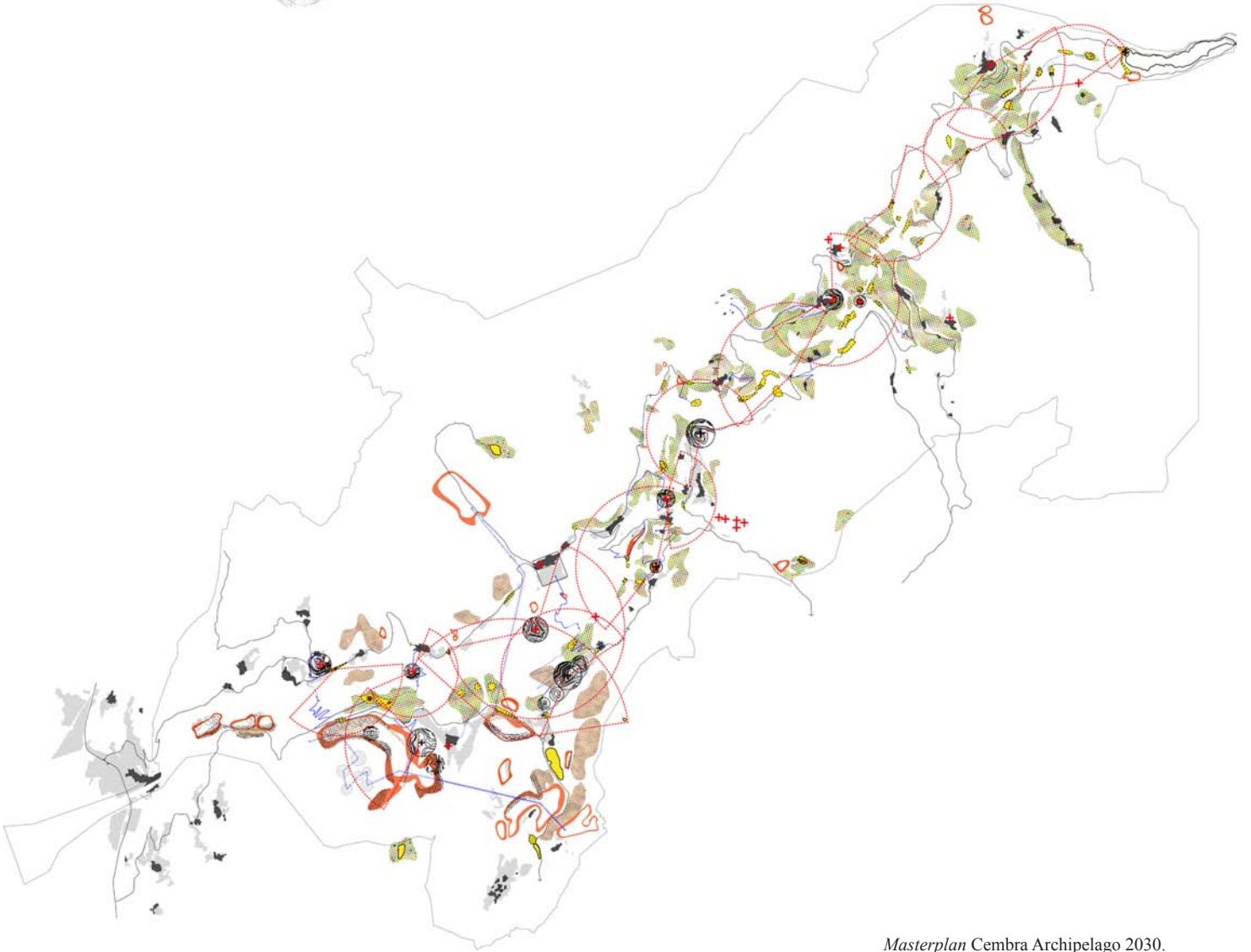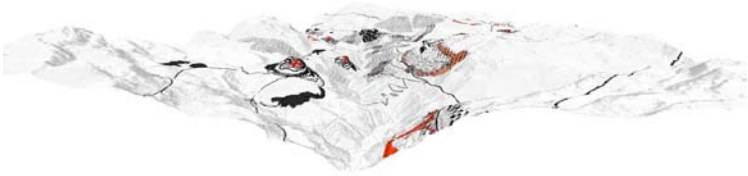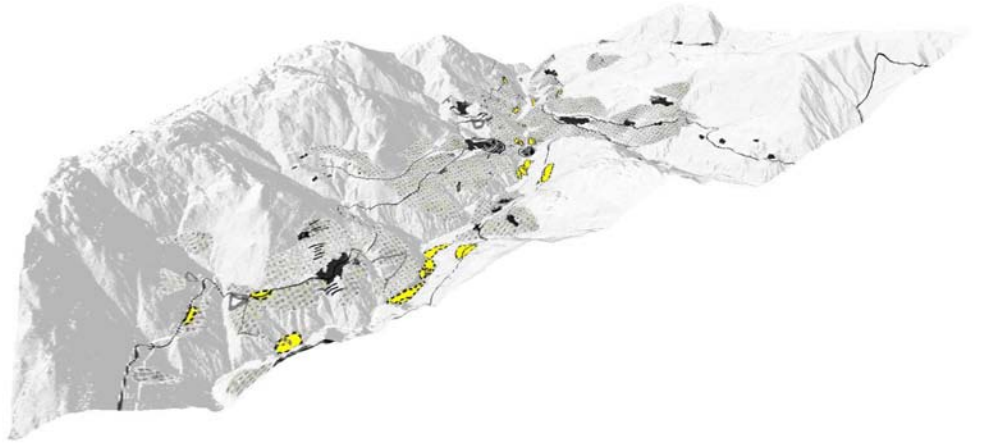
Giovo-Lisignano/Albiano

VF. Alveo incassato e inaccessibile, passerella a fune demolita nel 1966.

PS. DX terrazzi agricoli coltivati a vite con da masi sparsi (alcuni recuperati per l'agriturismo diffuso). SX terrazzi agricoli e insediamenti minori abbandonati (Barco di Sopra, Barco di Sotto).

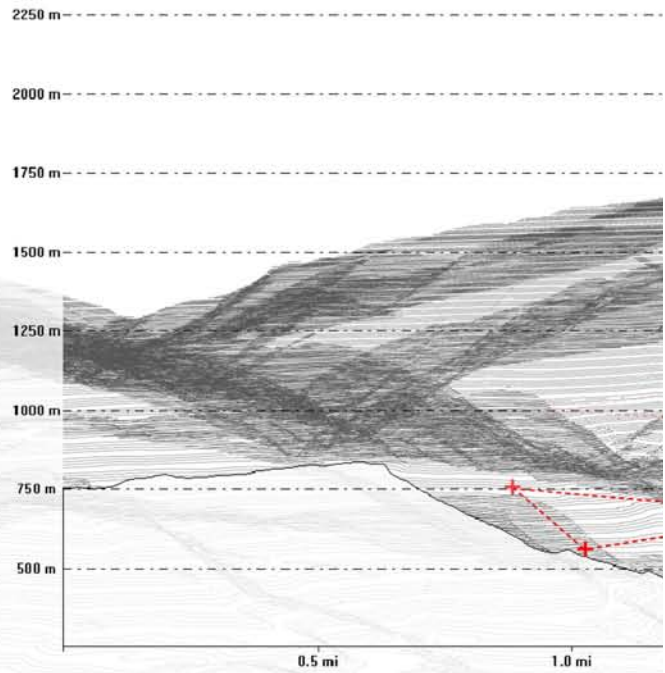**M.** DX in previsione stazione ferroviaria Trento-Fiemme a Verla. SX la nuova infrastruttura di collegamento veloce con Trento taglia la permeabilità minore tra Albiano e gli insediamenti più a valle. La strada da accesso ad alcune aree estrattive che frammentano il bosco assieme ad alcune aree artigianali per la lavorazione, stoccaggio e vendita del porfido.

V. DX piccola cava dismessa in prossimità di Verla, sulla strada statale. SX l'area estrattiva di Albiano, la maggiore per estensione del distretto del porfido, si sviluppa fino al dosso di Albiano e ne modifica la sezione.

S. DX bosco con lacerti di prati. SX lago di s. colomba ed percorsi dell'Ecomuseo minerario dell'Argentario.

Criticità

M. Dismissione dei terrazzi agricoli con de ruralizzazione e abbandono insediamenti minori.

N. Interruzione fisica e visiva dei luoghi causata dai margini delle nuove infrastrutture.

N. Degrado delle aree sommitali di margine dell'attività estrattiva.

P. Abbandono puntuale di ex aree estrattive minori.

Obiettivi

M. Ricostruzione naturalistico-agricola (fasce ecotonali o società d'uso), pianificazione agro-energetica a biomassa del bosco di neoformazione, progettazione micro attrezzature albergo diffuso e fattorie didattiche.

N. Ricostruzione paesistico-percettiva degli itinerari storico-culturali e i loro temi attraverso connessioni e facilities (funzioni di: paesaggio, sosta turismo, civico-sociale prossima agli insediamenti come stazioni, punti informativi, internet point, etc.).

N. Messa a sistema delle aree attraverso la costruzione di capisaldi visivi e funzionali dei percorsi turistici esistenti e di progetto.

P. Progettazione di riusi quali capisaldi funzionali per il territorio.

158

1.5 mi   2.0 mi   2.5 mi   3.0 mi   3.56 mi

159
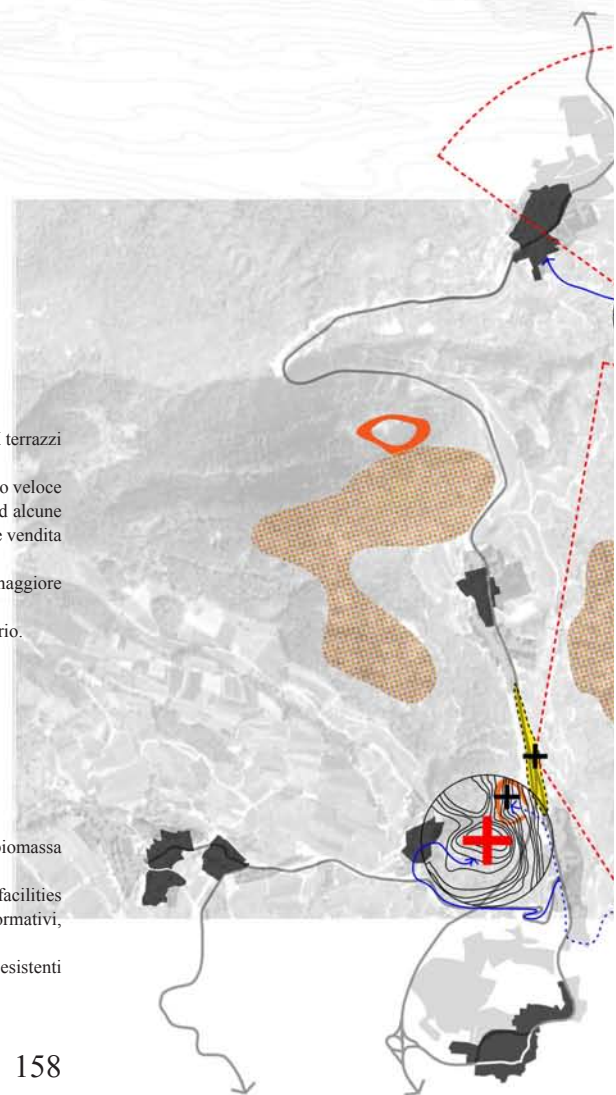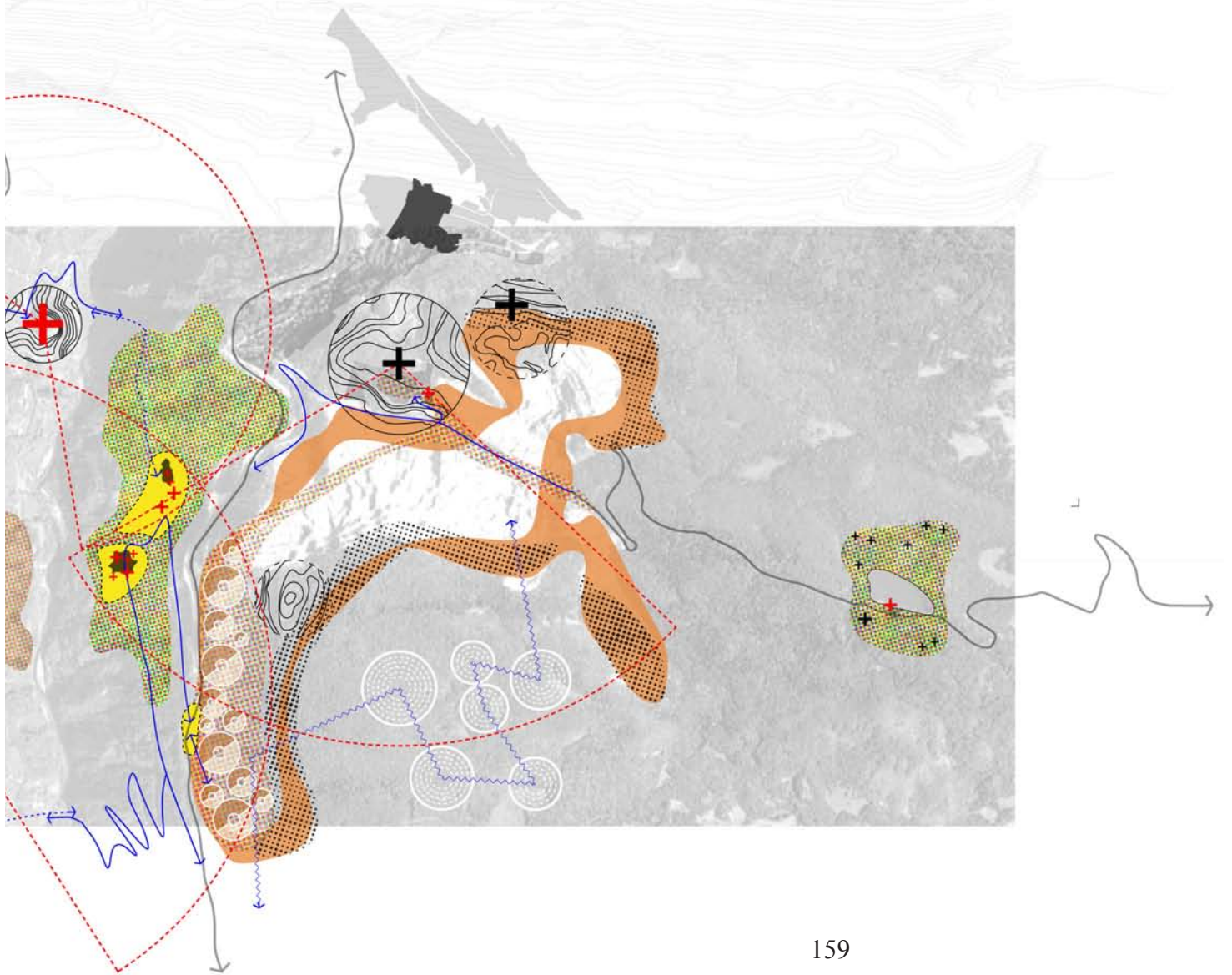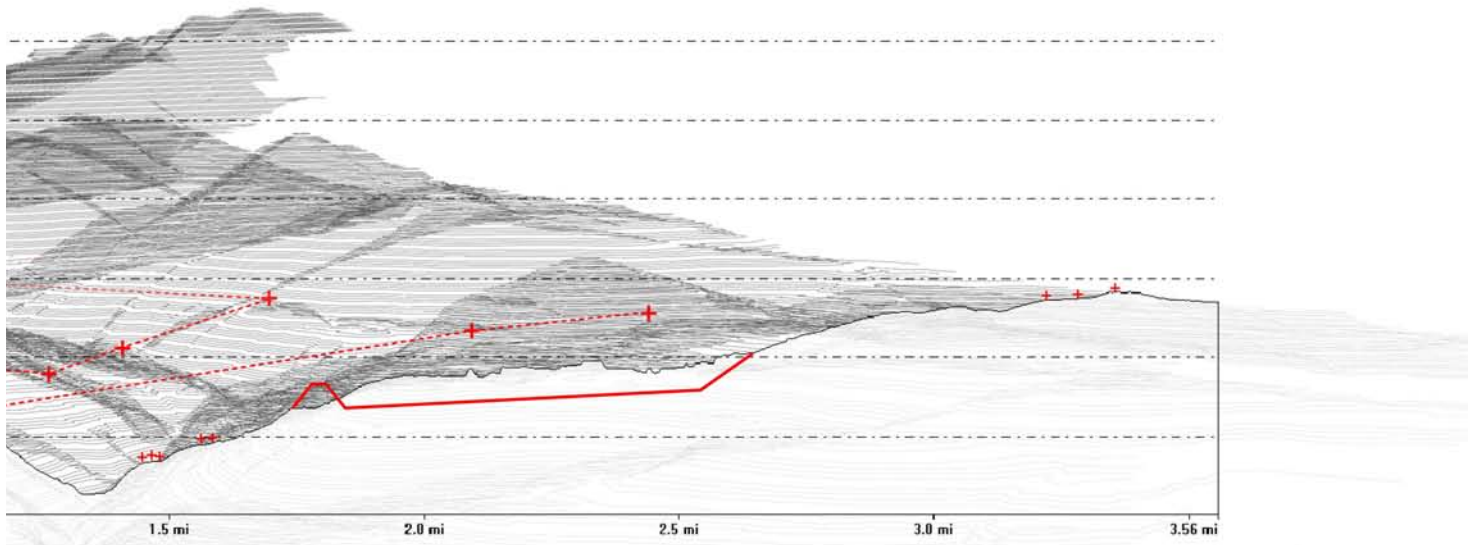
Potential marginal voids

The new figures of the margins will be architectures of earth and rejects, new landscapes that rouse the possibility of extraordinary perceptions.

The margin is recycled and the necessity of dumping grounds becomes the tactic of construction of the margin as an icon to see from afar. A series of non-finished structures, like skeletons of porphyry concrete, bounds some technical empty spaces that are available to many uses. Waste is stacked and exposed to the sight above these empty architectures and they will complete them in time, by making them artificial mountains themselves. New inhabited pyramids of porphyry, memory of the ones in Cappadocia, will be a key-element of the topography of these places. The heaps are not hidden, they are dramatized in an arcane representation: what is not seen, not wanted, rejected, comes back to a new life as a necessary building element over the time. The rejects are turned into visual icons with an educational function, capable of spark thoughts and reflections.

The extractive activity will continue building, through removals, the inner marginal empty spaces and, once it will end, the hollow empty spaces will have new functions or will simply remain empty; because even the empty space waiting or its abandonment is not a reject, if it is the fruit of a project. Reference: design experimentation *ex quarries of Segariu*, with M. Amerio, C. Battaino, E. Schir, 2010.

Cembra/Lona-Lases

VF. DX alveo accessibile dalla rete di percorsi tra i terrazzi agricoli. SX discarica materiali di scarto (cave) realizzata negli anni '80-'90 . Esisteva un ponte tra Albiano e Lisignano scomparso.

PS. DX terrazzi agricoli coltivati a vite, punteggiato da masi sparsi e da alcune piccole cave (inattive ma ufficialmente non dismesse, in fase di esaurimento).

SX. Terrazzi agricoli e insediamenti minori parzialmente abbandonati (Lona di Sotto); presenza di ex cave e discarica materiali di scarto sui versanti.

M. DX in previsione la stazione ferroviaria Trento-Fiemme a Cembra. Spazi marginali ritagliati dall'urbanizzazione recente di scarsa qualità sui suoli semi pianeggianti, residenziali e industriali. SX punti panoramici non attrezzati.

V. DX piccole ex cave puntuali tra i vigneti, area estrattiva non visibile dall'interno della valle (con l'unico frantoio della valle per riciclaggio scarti). SX area estrattiva monte Gorsa fino al dosso di Fornace, con margini degradati (non pianificati) e ex cave in dismissione vicino a lago di Valle, versante di detriti e piccole ex cave inquinate ai margini del lago di Lases e del lago di Valle.

S. DX lago Santo con insediamenti di seconde case non pianificate. SX lago di Laghestel e percorso turistico dal Altopiano di Pinè (centro turistico importante del Trentino).

Criticità

N. Degrado delle aree sommitali di margine dell'attività estrattiva.

M. Inquinamento delle risorse (acqua, versanti con scarti) nei margini delle cave.

P. Pressioni causate da un modello improprio di uso turistico (seconde case).

Obiettivi

N. Messa a sistema delle aree attraverso la costruzione di capisaldi visivi e funzionali dei percorsi turistici esistenti e di progetto

M. Costruzione di paesaggi di margine come fitodepurazione acque, landart di scarti, acqua, luoghi per osservare o produrre cultura e vendere materiali e immateriali.

P. Progettazione architetture di qualità, mobili come insetti.

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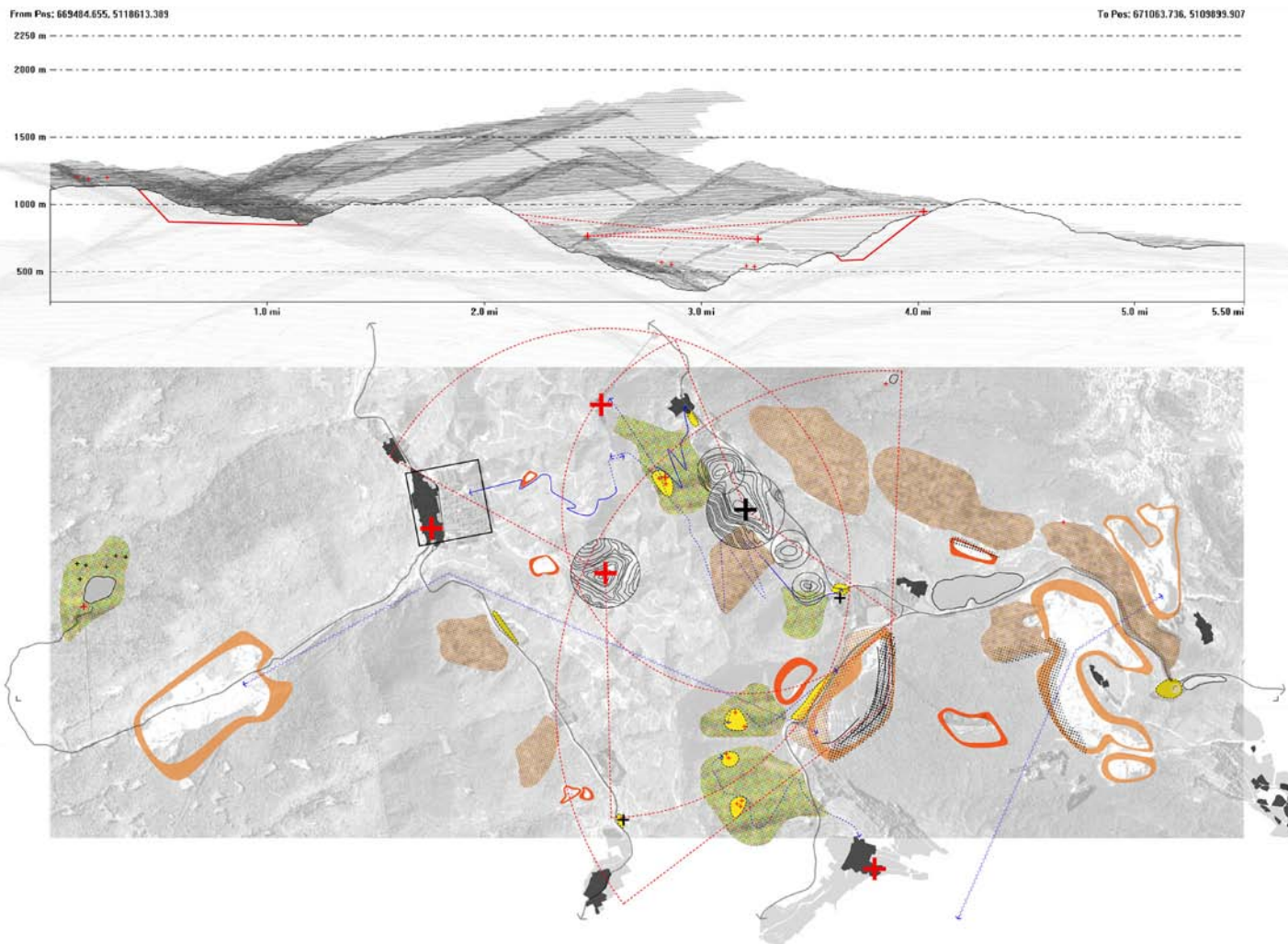
8.1.3 Strategical devices and tactical containers

Experimentally, we assumed some procedural devices, to which correspond some containers of operational tactics to configure the fragments (See 7. Tactics).

The **organic farming** device expects the fragment with more favorable orientation to be reactivated and to take in cultivations of value like vines or greenhouses for small fruits. The tactic container plans to work on the soil, that is actions of bas-relief in order to put to crop again the marginal spaces, which are abandoned but also structured by a thick network of terraces and unsurfaced routes.
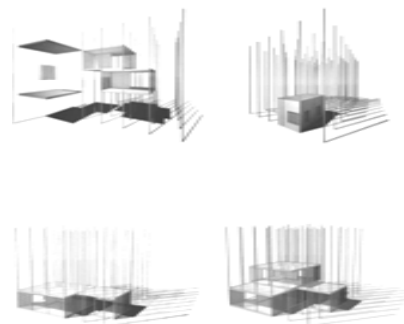
The **energy cluster** device is the strategy to reactivate the productive capacity of a part of the territory that otherwise is abandoned and potentially can generate environmental upheavals, because it is not controlled by man anymore. The cluster can concern the production of solar energy, small basins to store water, memory of the old cisterns dug into the porphyry to guarantee water for the cultivation on the terraces, wooded areas for the production of biomass, by making relevant the role that in the past was held by the wood common goods of the territory. The tactic container plans to integrate the energetic functions by constructing porous margins, rather than closed enclosures, so that this new infrastructure can become technical places and special engines to visit.

Micro-architectures and energy infrastructures. Reference: design experimentation *Liquid Landscapes*, with C. Battaino, E. Schir, 2010.

The **loisir-folie** device is applicable to the places with free view and to the higher areas, where the relations between the natural and the artificial landscapes are more evident. The tactic container plans the realization of small intrusive architectures, folie "object à réaction poétique", landscape observatories, architectures that aim to establish complex relations with the landscape, to excite curiosity and surprise in the visitors, by activating slow and scattered tourism. The settlements of the Cembra valley offer a rural nature that is still intact and authentic. Then, we are dealing with a scattered intervention in the area, through punctual and network operations that, together, have the aim of reconnecting the territory, of giving functional and fruitive continuity for tourists and residents, of strengthening its identity.

The **porphyritic landmark** device is conceived as the hypothesis of a landscape that is in continuous transformation/construction in the fragments of the quarries: a sort of open stone ecomuseum. The tactic container plans the configuration of the margins of the

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Faver/Segonzano-Sevignano

VF. Presenza dell'unico ponte della valle. DX alveo accessibile. SX mulini dismessi, ruderi castello di Segonzano.

PS. DX terrazzi agricoli coltivati a vite, insediamenti in parte abbandonati. SX terrazzi agricoli e insediamenti minori abbandonati.

M. DX in previsione la stazione ferroviaria Trento-Fiemme a Faver. Spai marginali ritagliati dall'urbanizzazione recente di scarsa qualità sui suoli semi pianeggianti, residenziali e industriali. SX punti panoramici non attrezzati, percorso museale all'aperto delle Piramidi di Terra.

V. DX bosco ex beni comuni dismesso dopo costruzione infrastruttura stradale. SX percorso turistico dal Altopiano di Pinè (centro turistico importante del Trentino).

S. SX presenza di una piccola cava dismessa sul dosso di Sevignano (il dosso non c'è più).

Criticità

N. Interruzione fisica e visiva dei luoghi causata dai margini delle nuove infrastrutture.

M. Dismissione dei terrazzi agricoli con de ruralizzazione.

P. Abbandono di ruderi del paesaggio costruito (piccole rovine, luoghi inabitati).

Obiettivi

N. Ricostruzione paesistico-percettiva degli itinerari storico-culturali e i loro tematismi attraverso attraversamenti e facilities (funzioni di: paesaggio, sosta turismo, civico-sociale prossima agli insediamenti come stazioni, punti informativi, internet point,).

M. Ricostruzione naturalistico-agricola (fasce ecotonali o società d'uso), pianificazione agro-energetica a biomassa del bosco di neoformazione, progettazione micro attrezzature albergo diffuso e fattorie didattiche.

P. Progettazione di micro luoghi per turismo lento e diffuso, usi temporanei flessibili, connessi agli itinerari storico-culturali e ai loro tematismi.

163
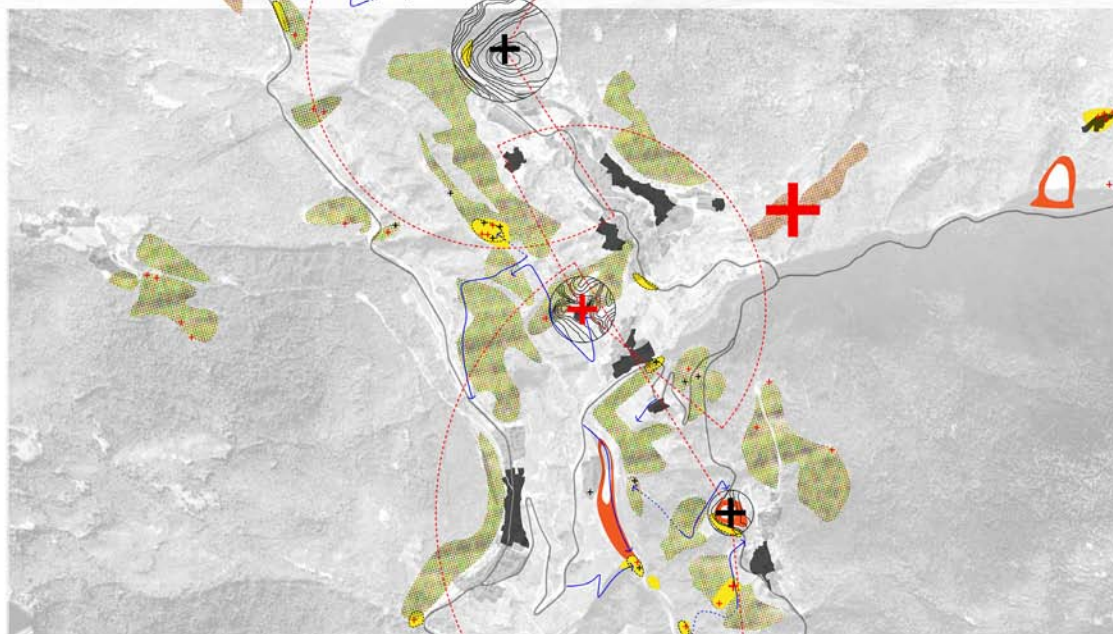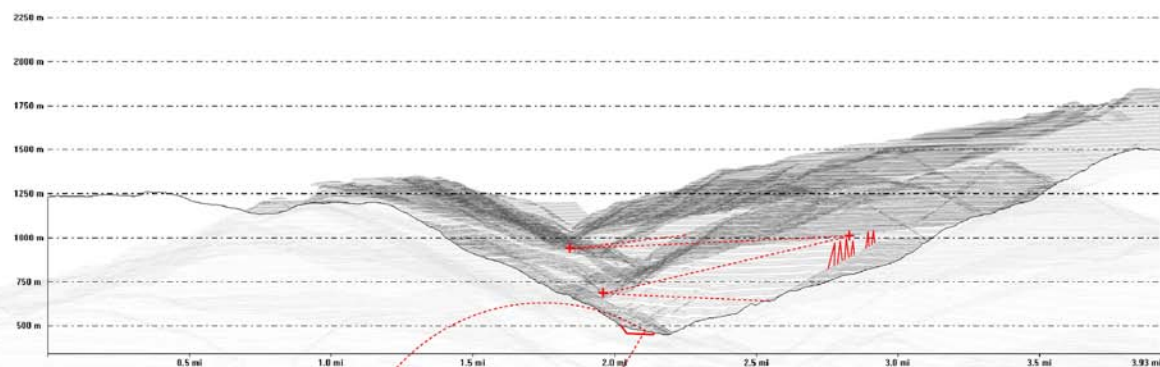
still active extractive areas, in order to bound the internal marginal empty spaces that, once the extractive activity will end (in stages, according to the progressive conclusion of the activity), will be able to accommodate uses linked to the previous strategic devices. The work on the margins, which are porous, discontinuous and variable, will be able to make more evident the change in the landscape sections realized by the extractive activity. It is a space that tells the history and the stories of the place. Sometimes, the margin is a necessary enclosure, but, more often, it is a space of sale of the finished products or simply a space of stacking of materials and service structures that were planned for the landscape. In other cases, the margin is a mineral mountain-soil-architecture, where one can accumulate rejects around empty spaces that have been built in order to welcome and inform the visitors and to define the wide sceneries of the landscape; at the same time, they will be Landmark visible from the whole valley, noteworthy and magical points, just like the natural earth pyramids.

The **islands** device wants the fragments abandoned near the torrential areas to be reactivated, through small scattered leisure and sports facilities. They are landmarks, bicycle parks, kiosks, small reception service units, equipped spaces to support the fishing, rafting and natural rock faces. The tactic container redraws the margins-shores with light wooded systems, routes, piers, volumes for services and flexible structures, which are reduced during the winter and expand in the summer.

The **villages** device concerns the scattered system of small settlements that protected the territory; today they are abandoned but, if rehabilitated, they can guarantee a still authentic rural nature. The system of villages represents on the whole a precious resource (40%), in particular if we consider the availability of real estate. In fact, because of depopulation, 70% of the houses are not occupied and are therefore available for a strategy of scattered farmhouse accommodation.

The strategic devices could outline in the course of time even the new quarry landscapes of the Cembra valley, by putting at the base of the whole process the porphyry, its extraction, its experimental use, the recycling of the waste of production. A new system of waste transportation on conveyor belts could be arranged in order
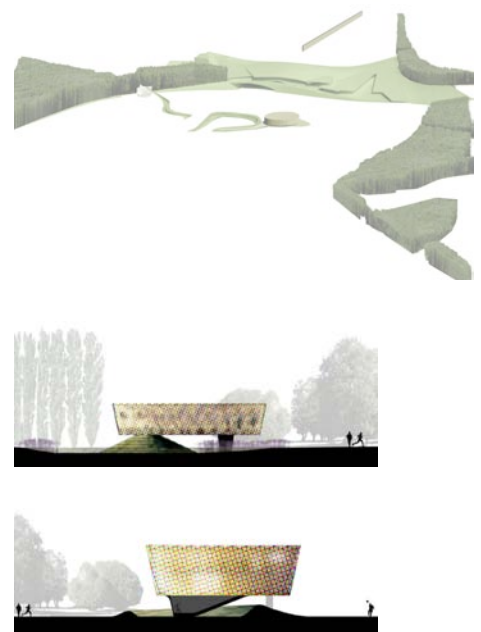
Micro-architectures and energy infrastructures. Reference: design experimentation *Memory and Innovation*, with J. M. Palerm Salazar, M. De Poli, C. Azzali, E. Beordo, N. Buson, E. Schir, 2009.

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Grumes-Valda-Grauno/Sover

VF. Villaggi abbandonati.

PS. DX terrazzi agricoli, insediamenti minori, segherie e mulini, abbandonati. SX pianori agricoli e insediamenti completamente abbandonati.

M. DX-SX grandi porzioni di terrazzi agricoli e presidi territoriali minori completamente abbandonati.

V. DX due piccole cave non attive.

S. SX porta di accesso all'Altopiano di Pinè.

Criticità

N. Interruzione fisica e visiva dei luoghi causata dai margini delle nuove infrastrutture.

M. Dismissione dei terrazzi agricoli con de ruralizzazione.

P. Abbandono di ruderi del paesaggio costruito (piccole rovine, luoghi inabitati).

Obiettivi

N. Ricostruzione paesistico-percettiva degli itinerari storico-culturali e i loro tematismi attraverso attraversamenti e facilities (funzioni di: paesaggio, sosta turismo, civico-sociale prossima agli insediamenti come stazioni, punti informativi, internet point)

M. Ricostruzione naturalistico-agricola (fasce ecotonali o società d'uso), pianificazione agro-energetica a biomassa del bosco di neoformazione, progettazione micro attrezzature albergo diffuso e fattorie didattiche. Distretto delle serre dei piccoli frutti.

P. Progettazione di micro luoghi per turismo lento e diffuso, usi temporanei flessibili, connessi agli itinerari storico-culturali e ai loro tematismi.

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to link the working quarries and to convey the waste into the crusher of the quarry of Cembra or into the new plant set in the area of the railway interchange in the North of Trento. The most finely smashed rejects should be used to revitalize the disused terraces to be put to crop again, while the largest ones should be employed for the systematic restoration of the dry-stone walls or the construction of new reinforced earth. The realization of new micro-architectures, or the partial rehabilitation of the abandoned ones, could be the chance to construct folies samples in the landscape, where one can test new techniques and architectural images in stone. Some inactive quarries, the oldest, which are small-sized and uniformly scattered in the whole valley, could be partially reopened to cultivation, together with some new ones, in order to make them empty spaces available to accommodate some collective valley infrastructure, by partially using the extracted material itself[8].

8. For example the ones that were already present in the *Tourist Development Plan* in 1990 but that have never been realized (a sports hall, an auditorium, a stadium) and the ones planned by the *Territorial Pact* in 2007 (a public winery, a seat for the valley community, a museum of the porphyry), etc.
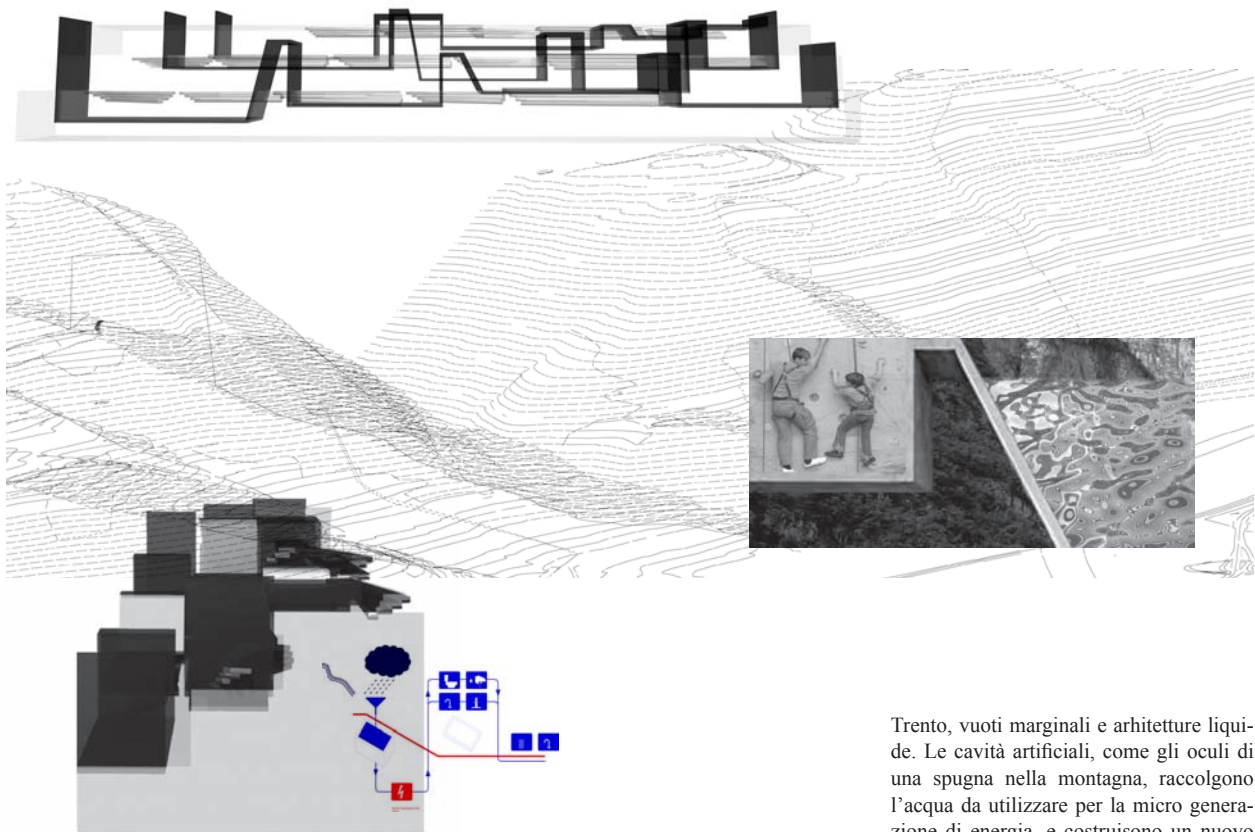
Trento, vuoti marginali e arhitetture liquide. Le cavità artificiali, come gli oculi di una spugna nella montagna, raccolgono l'acqua da utilizzare per la micro generazione di energia, e costruiscono un nuovo luogo attrezzato, riconoscibile in relazione visiva con gli elementi orografici del paesaggio. Reference: design experimentation *Ecocity 2030*, with C. Battaino, F. Bertolo, C. Cozzini, 2010.

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Capriana/Valfloriana-Ischiazza -

VF. La parte terminale della valle è dominata dalla diga di Strementizzo che ha modificato la figura e l'uso dei luoghi (villaggio abbandonato di Isciazza, periodico svuotamento che inquina tutta la valle). Era presente un ponte tra Casatta e Valfloriana oggi perduto.

PS. DX terrazzi agricoli, insediamenti minori, segherie e mulini, abbandonati. SX pianoro agricolo e insediamento di Ischiazza (poco a valle della diga) completamente abbandonati.

M. DX in previsione la stazione ferroviaria Trento-Fiemme a Capriana. DX-SX grandi porzioni di terrazzi agricoli e presidi territoriali minori completamente abbandonati.

V. DX due piccole cave non attive.

S. DX Sentiero Europa 5, antica strada di collegamento tra la valle di Cembra e quella dell'Adige. SX porta di accesso all'Altopiano di Pinè.

Criticità

N. Interruzione fisica e visiva dei luoghi causata dai margini delle nuove infrastrutture.

M. Dismissione dei terrazzi agricoli con de ruralizzazione.

P. Abbandono di ruderi del paesaggio costruito (piccole rovine, luoghi inabitati).

Obiettivi

N. Ricostruzione paesistico-percettiva degli itinerari storico-culturali e i loro tematismi attraverso attraversamenti e facilities (funzioni di: paesaggio, sosta turismo, civico-sociale prossima agli insediamenti come stazioni, punti informativi, internet point)

M. Ricostruzione naturalistico-agricola (fasce ecotonali o società d'uso), pianificazione agro-energetica a biomassa del bosco di neoformazione, progettazione micro attrezzature albergo diffuso e fattorie didattiche. Distretto delle serre dei piccoli frutti.

P. Progettazione di micro luoghi per turismo lento e diffuso, usi temporanei flessibili, connessi agli itinerari storico-culturali e ai loro tematismi.

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The new small and scattered quarries could be an effective alternative to the current quarry plan[9], by recovering the image of archipelagos of empty spaces that we can see in the aerial photos of the Fifties: small quarries linked by a network of aerial and sliding conveyor belts, which lie high up in the most hidden and disadvantaged places of the valley. If their size will be controlled through a preventive plan, they will not come out of the wood and contaminate the hillside settlements and the slopes anymore; moreover, their digging will coincide with the construction of an archipelago of small porosities, marginal empty spaces available to accommodate infinite uses, small artificial lakes on the tops of the mountains, or possible non-uses. The valley could make the porphyry its genetic material, which is made visible by the valley itself: it could be the means through which to build in time a renewed specific identity to use for tourism and to promote the realization of a sort of "technological stone district".

The application to the case study of the Cembra valley demonstrates the relevance of the low and medium mountains theme, and opens many perspectives from the current and future marginal spaces as places of research for new spatial and functional configurations connected with the project of transforming landscapes. Through strategies and tactics that create a multi-functionality based on the quantity and complexity-temporality of the processes can be designed unedited "figures" able to structure new images for these valleys; design strategic orientation to prefigure the construction of physical and conceptual polimarginalis archipelagos.

9. The *Quarry Plan* (2006) planned the concentration in small and wide extractive areas.
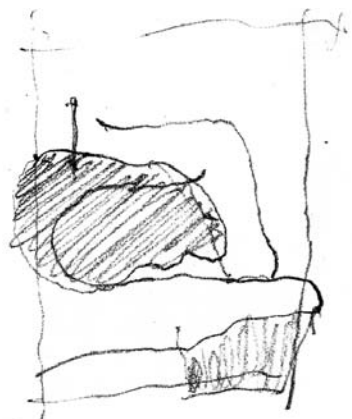
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Iconography

The author images (LZ) about the Trentino and Cembra valley case study, were elaborated with LiDar model, orthophotos and cartographic data, provided by the *Sistema Informativo Ambiente e Territorio* (SIAT) of the *Provincia Autonoma di Trento* (PAT).

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