Signs of space.
Interpreting the complexity of territories.

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Relations

A representation of the possible ways of *exploring* a space would probably be vast and dense of meanings as the space itself. Without pretending to build taxonomies of the possible interactions between the explorer and space, we could start this analysis from the basic elements of this relation. When I write the term *explore* I am already choosing a specific kind of movement, I'm already giving an interpretation of this relation with the space, but it is only one among the very many of them. We can move, progress, shift or transfer; we can travel, navigate, explore, vagabond or wander; we can investigate, scan, search or ramble. Even if very diverse each one of these actions has three basic ingredients:

- A subject, an active actor;
- An environment, usually a place;
- An interaction, typically a movement or a motion.

The interaction between the explorer and the environment is the core of this system; it plays a fundamental role insofar as it is the qualifying element that generates *interpretations*, what explains a language with another language in order to *re*-present in understandable terms and to negotiate[1]: it gives life to the system and it exhorts the subject to build a *vision* of the environment. This relation partakes in defining the subject and the environment and builds up the context they are acting in.

In order to perform within a system each actor should determine how to relate to it, he chooses how to behave within the system. Kurt Lewin developed the formula B = f (P, E), that is Behaviour is function of the Person and of his or her Environment. Inspired by this idea it can be suggested that the behaviour makes the purpose visible and reveals the goal that leads a subject to interact with his environment: we could say that the force connecting purpose and behaviour is a *graphic*, is the force of *representation*.

In this framework the Person is a multiple entity that presents different features and behaviours according to the role he has in a specific situation[2]. In a social context each individual belongs to different groups and can play various roles related to the others elements of the system; i.e. I'm at the same time a designer, a researcher but also a woman, a political actor or and a consumer; this makes me behaving in very different ways: I'm a highly risky actors in a personal context but very critical and careful in professional situations. Each subject is an active principle; his perception affects and builds up the environment and at the same time the physic and sociological environment affects and defines the subject.

The Environment is an open system that encompasses such a high number of information that it is not possible to fully understand it; as a consequence the definition of what it should be considered part of the environment depends on the Behaviour as well. Moreover, a behaviour is always enabled by a purpose: an objective that motivates the action of the subject.

The purpose of the behaviour sets the *frame* and the *scale*[3]: the extension domain and the distance the system has to be observed from. It defines the considered *region* of space; the frame of a picture depends on the *objective* lens chosen by the photographer and the distance from the subject, but this choice depends on the *objective* of the picture (panoramic, close up, portrait) in other words, on the photographer vision of the future.
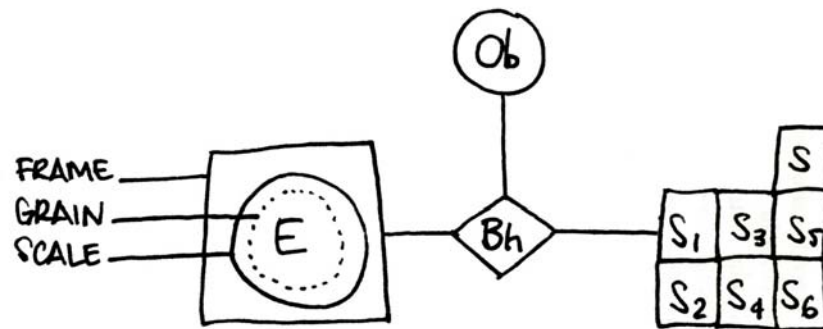
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[1]   Interpretation: From Latin. *interpres* agent, translator, negotiator

[2]   humans bend and deform their identity both individually and collectively
[3]   Framing: the definition of the complex system extension domain being enquired and in which intervene; Scaling – the definition of the viewpoint on the represented domain and related visualization.

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Furthermore the objective affects the behaviour and it allows choosing the level of *grain*[4] fitting the representation of the system –black and white, blur or sharp.

In figure 1, the Purpose enables and represents the Behaviour; the Behaviour selects the specific role played by the Subject and defines the Environment through a process of setting scale and grain. The active subject intervenes in the environment through behaviour and interprets its characteristics. In a project that aims to design services for the mobility in a dismissed area of the city (E), the project is the enabling objective (Ob), the behaviour could be an investigation of the area identity and signs (Bh) and the subject could be the designer researcher (S1). The designer could set the level of scale to the district and the minimum level of grain to the individuals that pass through it.

Signs

Setting scale grain and frame is the first step for the interpretation of the environment. The second step suggested is a synthetic process of gathering

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4   Graining: the definition of the threshold accuracy and deepness of the information whole, helpful to describe the system;

more hidden elements of the system. In this phase a constructivist tool is needed. Each territory creates itself from an abundance of sign and gestures, markings and symbols. Grasping territory signs and building their interpretations provides the researcher with both qualitative and quantitative data. These data are the keys to understand the system and to design any action aimed at change.

The exploration concerns the *space of relation* that consists of the *space of movement* - the set of all the physical transfer of subjects or things - and the *space of communication* where all the dialogues and exchanges happen. The space of relation connects areas and opens them: an area can be considered closed not by reason of its physical form or attribute of its boundaries – this concern the designation of the space – rather it has to be thought as open by reason of the intensity of the movement and in particular of the communication flows crossing its boundaries. For this reason, the city, as a result of the large number of movements and social and cultural communication, is one of the most open areas we can analyse.

While moving in the environment, the researcher observes the signs the territory presents; the analysis of different signs should run parallel and aim to gather information about it. (In the list below the order is arbitrary and non hierarchical as the territory signs appear in a different way in every research and to every researcher).
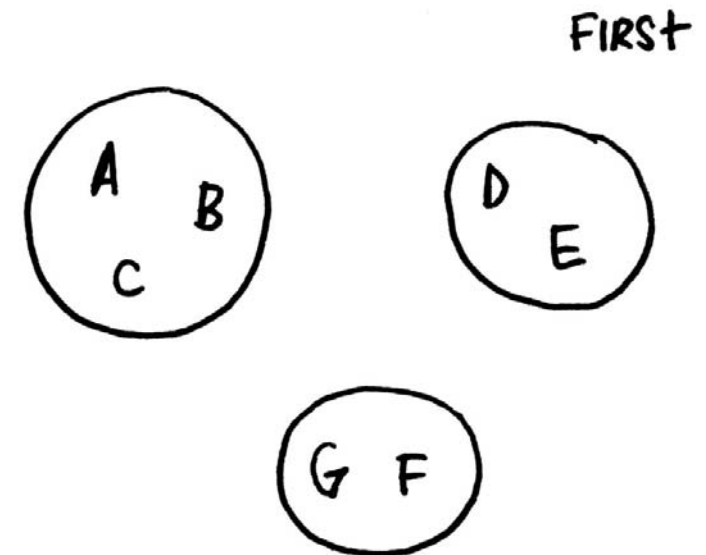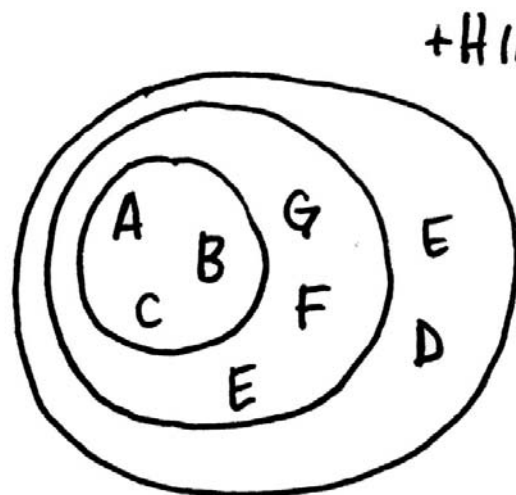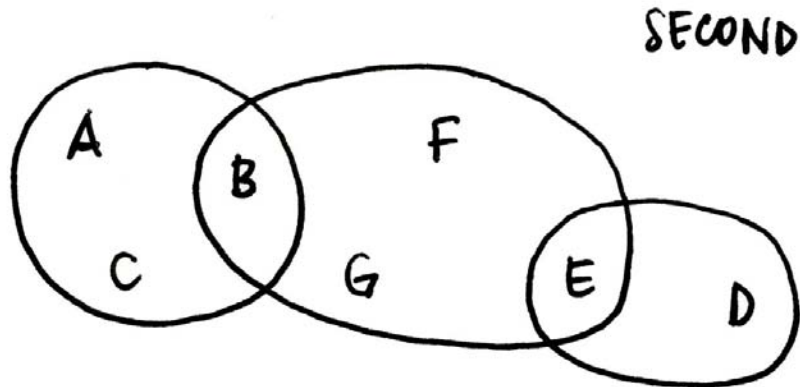
In the space of relation we can find:

● *Languages -* the communication systems common to people of the same community or nation, the same geographical area, or of cultural tradition. When the researcher is able to understand the language of a territory he has access to a deep level knowledge concerning the system actors and their organization; even if unable to decrypt it, he can acquire information on the system dynamic looking at how languages are used.

● *Flows.* As a relation is the mode or kind of connection between one person and another, a flow is a transfer of energy or matter. Whereas there can be relations without flows there cannot be flows without relations, in other words a flow is a relation where a transfer (not

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necessarily mutual) between two elements is in action.
Conversations and *trades* are flows, but also *trajectories* or relation of use; for instance, the relation between human activities and the morphologic characteristics of an environment – as the presence of a fisherman community around a river basin or building methods that use local resources – highlights the results of an interdependence relation between elements of the system.

- *Positions,* memberships, inclusions. These kinds of relations are very important for the understanding of the mutual influences among areas and elements of the system. Recognising how the present areas are arranged lead to the identification of the *power structures* as of the *cause-and-effect* interactions, *dependences*, *hierarchies*. The influence undergone by the system elements will be very different depending on their respective positions. In the first situation, when B varies only A and C will be influenced; instead in the second case, G, F and E will be influenced too. In the third situation, the influence will fade moving away from the centre [See diagram2]. However the complexity of the system and consequently its non linear reaction has to be taken in account. A complex system is sensitive to initial conditions: a scientific term meaning that the measure of the cause is not proportional to the measure of the effect. The system responds in unforeseeable ways to outside perturbations: a massive force can be reabsorbed without effect and (I would say less often) a small perturbation can have giant consequences.
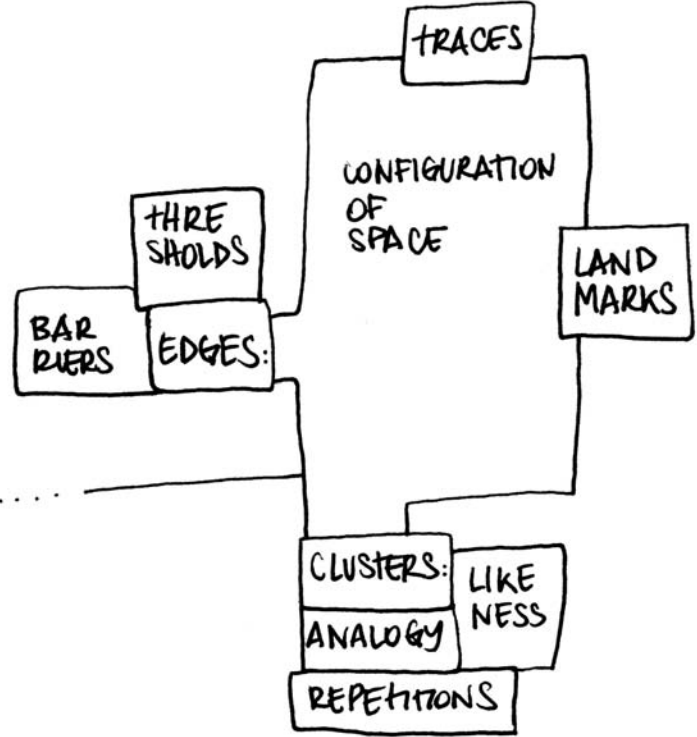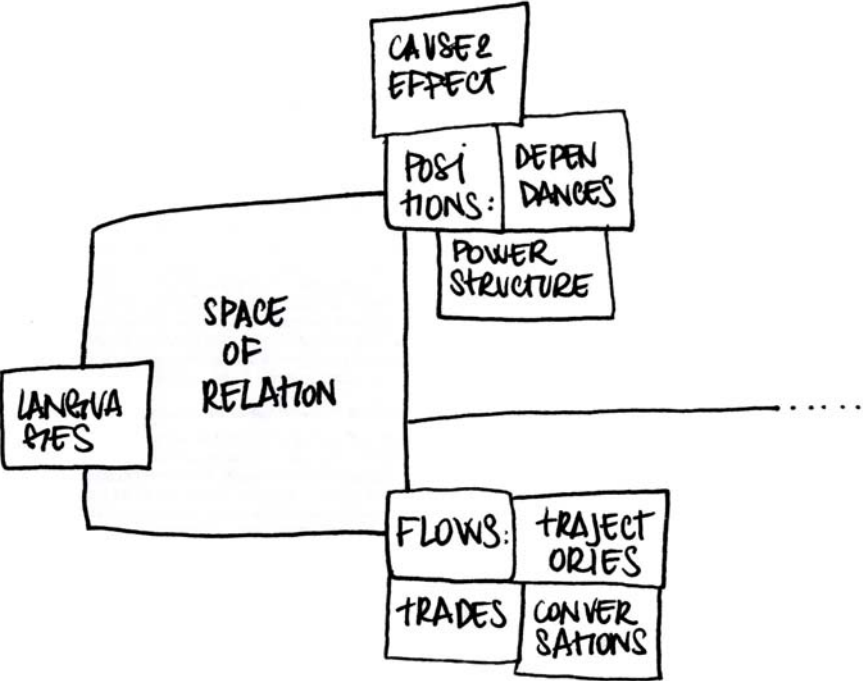
FIRSt

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SECOND

THIRD

In the analysis of the space configuration we can observe:

- *Edges*: perceived boundaries that can be optical or physical *barriers* more or less permeable; *thresholds,* any place or point delimiting of entry or exit. These breaks of continuity are very important both for their power of separation (as the fortified wall of medieval cities) and when they act as junction of contiguous parts.
- *Clusters,* regions presenting thematic correspondence and static characteristic of similarity (analogy, repetitions, likeness); in an urban scale the neighbourhood can be seen as clusters of similar attributes both visual (i.e. architectural style, working activities, inhabitants typology) and intangible (noise, traffic, poverty).
- *Landmarks* are points serving as reference as a result of their prominence. Their orientating power works not only as a spatial sign (skyscrapers and domes help in understanding my position) but also as a time index (the bell towers beat hours and indicate the daytime). They are highly significant when recognised as identity icons of a territory.
- *Traces* left on the environment by the time are very important for the exploration. Each complex system has a history that is co-responsible of its present behaviour. Identifying and knowing the past allow to understand the territory identity and to build scenarios on its possible future. Moreover, the footprints left by the actors reveal some of the most hidden dynamics of the system; the urban graffiti make visible the need of visibility of a group of actors or the spontaneous growing of a wild vegetation points out the human abandon of a green area.

The sign listed do not pretend to be exhaustive of all the features a territory can present, they should be approached as empiric categories helpful in the arranging and organising of the information gathered with the exploration. In so far as of any use, they could provide the researcher with a grid to compose something like a collection of elements never rigid or segmented but pliable and in continuous evolution. The drawing of a grid should be more a process of mapping the possible rather than the imposition of a binding order. When addressing complexity, a grid should be intended as a *necklace* that has a peculiar shape but can be at any time restructure and redesigned.

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Diagrams

The goal of a sign-grasping observation is not the compilation of a catalogue however clever and specialist it could be, but the quality of a internal model that the researcher should be facilitate in building and communicating. This internal model should be made visible and sharable to other stakeholders; this should be the third phase of any territory research. Visual language became fundamental for these purpose; drawing geographical and conceptual maps and diagrams[5] of the spaces enables the synthesis of the knowledge gathered exploring and the signs grasped. Moreover, maps allows to visualise them in a model what otherwise would remain a collection of data. The visual language facilitates the observer in expressing the sign emerged from the research and in sharing the model he built up. Even more, designing visual representations is a particularly effective action for the improvement of the mental model since it trains the researcher in observing a system from multiple points of views. Sharpen the observer attention and enrich his experience with a deeper consciousness is one of the worth the effort of the visualization could offer.

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[5] Diagram: all those artefacts (maps, scenarios, charts, storyboards, etc.) that have a revealing capacity, a diagrammatic attitude finalized to the act of design

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