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“The indeterminacy of spaces seems a good ally of the latent reversibility that all habitable programmes and new generation tertiary works yearn for”

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Indeterminacy, complementation, appropriation, delayering.

Notes on the functional adaptation of inhabited interiors

Even today too often the answer to the use given to a space is an abstract block diagram based on the simple distribution of rooms designated to predetermined functions. Here we specify other ways to address the issue which, as we understand it, feature a high degree of operability. The four elements of our statement—indeterminacy, complementation, appropriation, delayering—correspond with orientation prior to the project and are valid terms for decision-making, both at the level of property organisation and the distribution and arrangement of the specific interior elements.

The text focuses on the inhabited space, corresponding to residential and working areas, where there is a certain degree of permanence in everyday activities. It is well known that the boundaries between the two environments are blurred nowadays. Assuming interchangeability based on the dispersion of activities, schedule variation and extreme mobility, these lines are even further blurred into the air full of information which we inhabit. New terms are added for uses we give to the home (SOHO,¹ for example), but also to recognise the acceptance of everyday behaviours in the workspace.

These arguments require tweaking our thinking and planning methodology. The university environment thus becomes an ideal laboratory for confirming the opportunity of this approach. Here we shall present some projects from the latest ELISAVA postgraduate degree courses in Design of Work Space and Strategic Habitat Design, coupled with outstanding projects from professional studios.

The key terms used here prioritise aspects related to the reality of behaviours as an alternative to the conventional language of layout art. The accuracy of the terms is a significant challenge since it consolidates knowledge, facilitates its

1. Small Office Home Office

'indexing' and authorises its extension as a study tool. However, the underlying concepts are malleable and intersecting, so it is not easy to isolate them. They are spread throughout the text here, which is solved based on related descriptions or models.

Proposals and executions.

Living space, home and/or work

We propose to pay special attention to certain proposals and executions distinguished by their undifferentiated matrix, indeterminacy, complementation, appropriation, etc. Although some examples are already well entrenched either in architectural or interior design culture, we superimpose non-standard interpretations.

We choose four examples in previous decades as the ones which best might illustrate a conscious attitude of these issues in the domestic interior project and which involve various programmes and patterns.

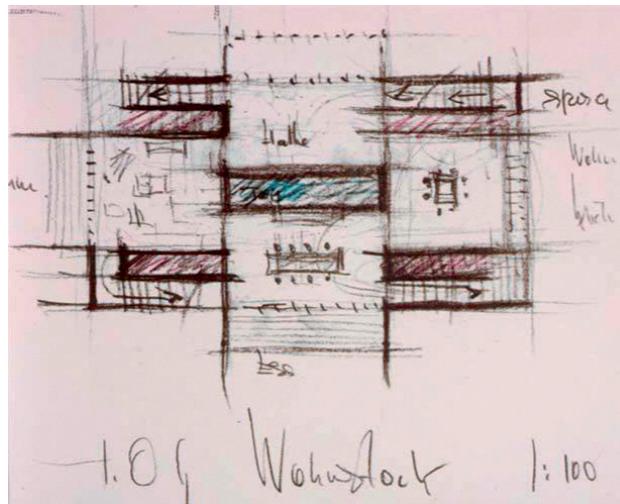
Casa Luzi, by Peter Zumthor

The floor layout of Peter Zumthor's *Casa Luzi* attracts our attention more than its iconic exterior. Its appeal lies in the simplicity of the geometric pattern used: an oblong grid modified by interpolation of pairs of smaller, more slack stripes. A few exploratory lines are enough to appreciate a tartan pattern.² The dominant impression is that of an offset arrangement. In other layouts for other constructions, Zumthor seems to follow the laws of a combinatorial grammar. The initial sketches for *Casa Luzi* clearly show his intentions.

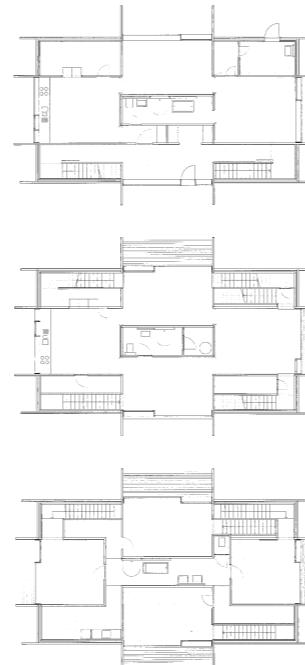
The oblong rectangles house equipment, channelled circulation and storage space. The rest can fulfil any kind of function, supports all types of furniture, featuring enough wall space against which it can be placed. Although there is certainly some indication about potential use of space, there is no difficulty in changeability.

There is no polarity, there is a peripheral order. Social activity resides around the center which give access to the individual space, the path towards 'the room of one's own', embedded in the outer oblong rectangles. In his schemes for the first floor there is a reception area and three living spaces. Still, considering that outside access is on the ground floor, this *halle* is more an space for appropriation than for receiving guests.

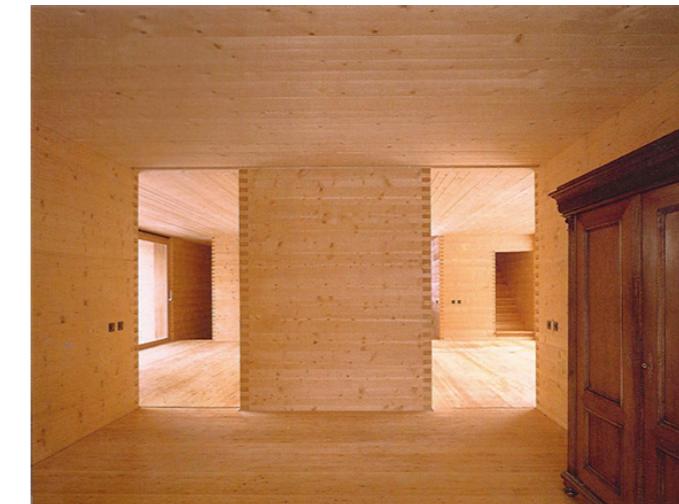
Taking the terraces into account, the layout takes the shape of a Greek cross; from the inside this strictly visual effect cannot be appreciated, although the experience is there to be had! The floor as a whole is likewise an available appropriation space, somewhat labyrinthine, equivalent in all four directions. The walls are the same, and also its intervals and symmetrical perception. Everything in our field of vision is wood, but there is no interior woodwork in sight. The bal-



▲ ▼ Peter Zumthor, *Casa Luzi*, sketch and plans, 2002.



2 Richard, Mac Cormac, "Anatomía de la estética de Wright". In: Ricardo Guasch (ed.), *Espacio fluido versus espacio sistemático*, Edicions UPC, Barcelona, 1995, p. 143-146. Original version "The Anatomy of Wright's Aesthetic", *The Architectural Review*, no. 143 (February 1968).



▲ Peter Zumthor, *Casa Luzi*, interior, 2002.



conies are protected with the same internal technology, the *strickbau*. The visual weight of the inner divisions continues beyond the window plane.

The embedding of some of the kitchen equipment in the side wall is worth noting. This kitchen board (*comptoir*), in one of the four areas, partly invades this strip and activates many of the backlit activities. Excluding this social and convenient space in the kitchen area, the remaining three spaces have no other designated use than can be guessed from the traces of furniture and other elements.

In this case, what can be called a space of appropriation? On the first floor, the equivalent dimensions of the resulting four rooms allow the formation of up to four conversation cores (circles). Creating a workgroup area in one of them is not ruled out.

On the second floor, for the bedrooms, cabinets form part of a transit layout including the toilet and maintenance space.

Returning to the floor layout, we would like to highlight the casual designation of room use. The four spans over the tiered sections that give direct access to the four upper bedrooms are quite deliberate and seem to show how each of these particular spaces stands well away from the rest. Stairs separate two adjoining rooms. The central toilet space in the middle of the bedroom floor connects them, together with the maintenance and storage spaces.

The art of the layout can be appreciated in the top floor. There is no predominant room. In fact, storage, maintenance and hygiene spaces feature dimensional and proportional equivalence and intertwine their functions throughout the bedrooms. Unless otherwise imposed by the plan, a bedroom can be exchanged for a study, an office or any other form of temporary accommodation.

So, there are five staircases leading up from four areas on the middle floor, and they are one-directional. Movement and storage disappear from the visual field. They are not visible, inside or behind a wall.

The secondary dwelling in the ground floor likewise reflects the degree of latent reversibility and indeterminacy.

In summary, a main house arranged over two floors, with a stratified gradient of privacy: access, living area and bedrooms.

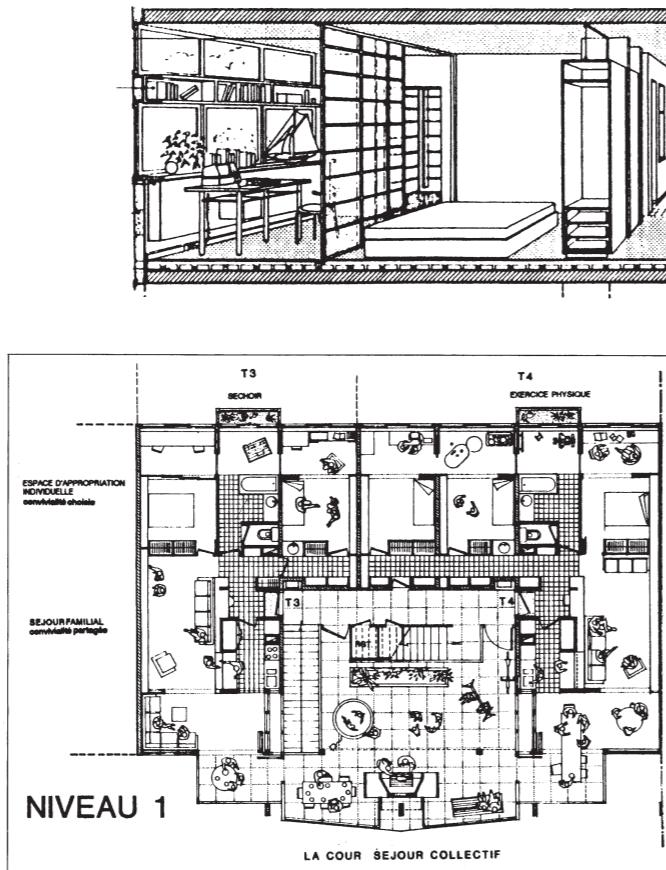
Fenêtre sur cour, by Minazzoli-Chauvin

The project submitted by the Minazzoli-Chauvin team at the 1989 edition of Europan is a wonderful synthesis of various design operators, an eloquent example in many respects, which exhibits a smart approach to the space appropriation idea and to the non-hierarchical matrix of the floor. The plan view reflects the new reallocation of space required by contemporary lifestyles, highlighting different activities thanks to an unusual low-angle image of occupants.

Bedrooms, cabinets and bathrooms, but also common space—in its latent subdivision in terms of uses—form a network of equivalent-size areas.

Again, it may overlap with a plaid pattern, this time with lower horizontal stripes, which would include storage, transit, the sliding gallery—even in front of the bathroom—although configuring dual cabinet and bedroom spaces as possible individual and appropriation positions. An equivalent space matrix which, without actually neutralising the floor, balances it in social and private areas. A glazed balcony with a sliding and translucent wall covering defines the bedrooms, and another sliding panel device closes the balcony at rectangles.

The ability of feeling space as an appropriation territory—without any boundaries other than those imposed by education and camaraderie—is undeniable in the semi-private, exterior access area outside the home. Activity in front of the barbecue, a baby's movable swimming pool, a light vehicle and the position of the oblong and round tables are all meaningful graphics that speak of the shared access idea in an outdoor area.



▲ Minazzoli-Chauvin, *Fenêtre sur Cour*, 1989.

Dapperbuurt, by Duinker & van der Torre

An open floor plan with a core of services which, slightly off centre, dominates its potential environmental division. A dimensional adjustment of the sides of the core is detected against the width of possible rooms. From there, sliding panels—or partitions, better—set up in the core can subdivide the area into four communicated rooms which would require users to walk through them. The inclusion in the services core of a small corridor (*dégagement-escape*) gives independence to the various rooms. As a device, it can also be likened to a by-pass.

This whole concept holds enormous reversibility potential. Hosting a family group or preparing a workspace is just a question of integrating some kitchen equipment as part of the welcome and set-up arrangements.

The degree of indeterminacy is undeniable. Sliding panels, completely filling the free span, even allow for double spaces and again can be used in both domestic and office spaces, thereby increasing their efficiency.

St. Alban, by Diener & Diener

The ground plan of these St. Alban apartments by Diener & Diener can be interpreted from the way in which some architecture theorists in the sphere of Martin Steinmann in the Lausanne school³ have pinned down a contemporary way to address the floor plan of a housing unit, going beyond the typology concept, neutralising it.

They argue that there is no longer a standard resident, as was argued in discussions at CIAM of 1929 and later. Moreover, they claim that there is no single type of resident. They recognise different profiles, different behaviours, market segmentation, or simply the traditional socio-professional classifications. They argue that what does occur nowadays as something normal is different lifestyles.

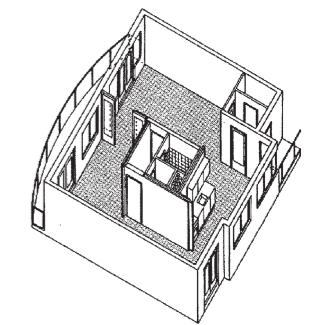
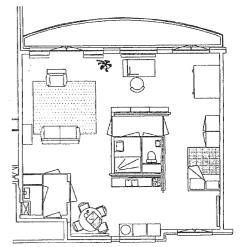
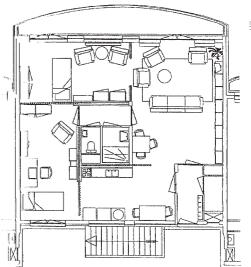
They note that there are other conditions that are more appropriate for projecting floor plans, beyond the functional sense of following a functional logic.

They question whether it would be possible to resolve differences through floor plan neutralization and even if it might be appropriate to bypass the designation of uses—standard nomenclature—in the rooms (as in, 'parents' room', 'children's room', etc.) and thus altering their dimensions. They also oppose the usual classification between day and night areas.

They wonder: Would it not be normal to go beyond how we handle the corridor as a *kahnian* paradigm of server and served spaces? (not to mention spaces that have no use). How to integrate or locate some professional activities (as in fact was already done in the great town houses of the second half of the nineteenth century)?

They recognise and use the concept of behavioural plasticity and, to some extent, people's adaptability to the buildings they access.

The layout super-imposed on the ground plan allows visualisation of this discussion. Two ways of moving around inside. Two parts, divided in differ-



▲ Duinker & van der Torre, *Dapperbuurt*, Amsterdam, 1986.

³ Plan known as Swiss plan, and the thread of a conversation with Adler, Diener, etc. genealogy is revealed. *Faces*, no. 28 (summer 1993), p 4-27.

ent ways: one where rooms are repeated in size and conditions, the other serving as a filtration matrix for commonly used areas. A clear juxtaposition between social and private areas. A strategy of opening up parallel circulation that provides the rooms with a degree of independence, which makes it possible to switch rooms from season to season or between occupants.

The ends of the corridor are of most interest, serving as a gallery at one end and as a cabinet on the other.

Proposals and executions.

Tertiary work space

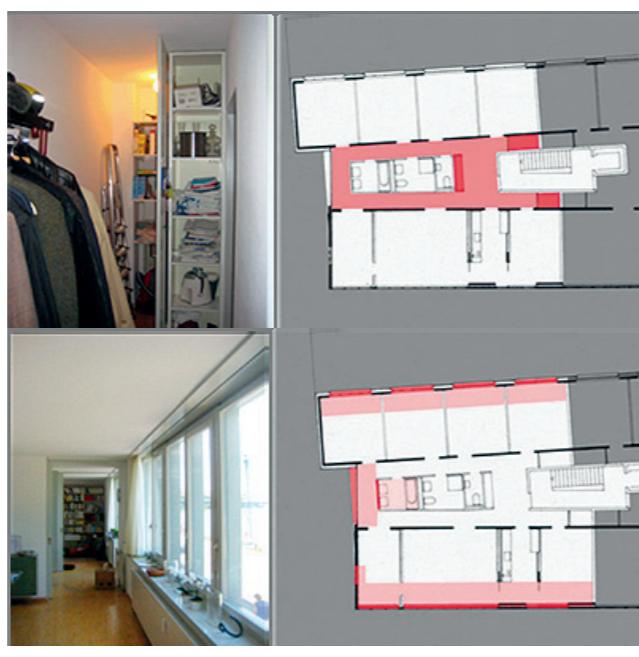
The indeterminacy of space seems to be a good ally of latent reversibility for which any new-generation program is yearning, whether residential or business-related. A non-hierarchical and only slightly designated floor plan does not force any specific use and supports more uses than those foreseen.

In the office space, an underlying mesh is normally the ideal tool, especially if it is configured as an undifferentiated matrix. The dimensional equivalence of the various areas validates the interchangeability between them.

It is well-known that this tool was consolidated during the 60s with the emergence of the open office and the paradigm of flexibility, supported in large structural spans and a strict modulation exemplified by the false ceiling lattice. This modulation was then taken to the extreme by adapting all critical layout elements—partition, furniture, raised floors—to the imperative of the surface area module.

But this modular discipline, with which the modern person identifies, gradually lost strength. In the 70s the grid isotropy was replaced by a new energy isotropy. The eccentricity logic, which took the iconic Beaubourg Centre in Paris as a benchmark, dovetails in a dispersion which is 'simultaneously figurative and technologically resourceful' and then downplays the value of the grid as a functional argument.⁴

However, the equivalent matrix makes sense today in office design, not by its response to a production system based on the standardisation of components, as for its adaptation to the ideals of literally transparent, mutable and, above all, non-hierarchical space.



▲ Diener & Diener, St. Alban, 1981-1986.

4 Iñaki Abalos y Juan Herreros, *Técnica y arquitectura en la ciudad contemporánea*, Nerea, Madrid, 1992.

Citizen Office, de Sevil Peach

Let us consider the project by Sevil Peach for the *Citizen Office*⁵ for Vitra (2001). Here the grid isn't obvious but is latent in the design, addressing an organisation of work in which everyone has a range of positions, where work is fragmented and subjected to spontaneous accretions. Facilities now assume a variable geometry. However, only the lack of definition in the floor plan, based on an underlying isotropic layout, ensures the organization's effectiveness.

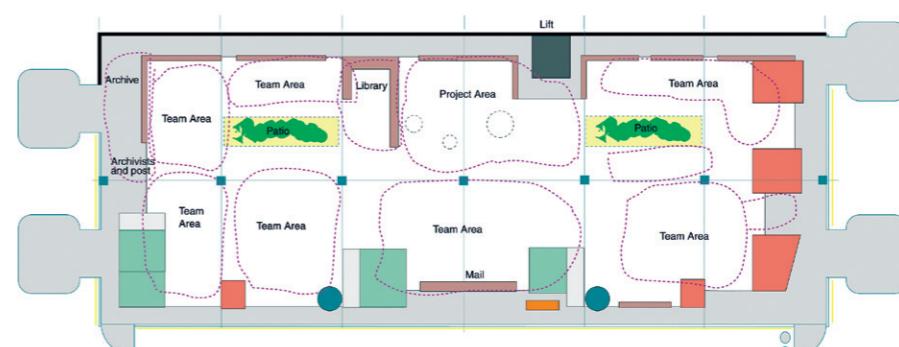
Vitra can be interpreted as 'a collective space that can be shared by a diversity of environments and applications, such as meeting rooms, private offices, library, bar and gym. The staff, with their particular features, select the location where they wish to carry out their work according to their needs for privacy and communication with colleagues'.⁶

Beyond their skill with stylistic devices and their ease in creating environments, the Sevil Peach project for Vitra's *Citizen Office* is interesting for the operability of its complementing areas with each other, and the complementarity of these with filing and storage elements. The project follows a functional diagram totally explicit. File and storage areas are shown in brown (with a good level of equidistance), confidential meeting rooms in red, meeting areas in blue, transit areas in grey and office and library spaces in white. Beyond this, no further distinctions need to be made. With the exception of the 'project room' and 'library' other activity areas come under the scope of 'community office'.

This ground plan shows that not determining space does not imply not equipping it. Appropriation spaces, areas with no official use, are numerous, and therefore the potential indiscriminate use is elevated. These spaces are environmentally appropriate and sufficiently equipped, and despite having different shapes, they are usually balanced between directional tension and potential position. With such an abundance of ownership spaces, social efficiency and individual wellbeing increases and provides a balance between exclusive use and features.

It may be considered a call, a suggestion. In Vitra these interstitial spaces next to the facade or interior, bathed in natural light and sufficiently equipped, are the best places for an informal meeting, for a good conversation, a moment

▼ Sevil Peach, *Citizen Office*, scheme (2001-2013).



5 *Citizen Office*. This was the expression used by Ettore Sottsass, Andrea Branzi and Michele de Lucchi referring to the analysis they all did, since 1991, to define a new concept of user-based office. Three years later the results of this analysis were settled into the book and the related exhibition at the Vitra Design Museum (1994).

6 Although it does not specifically refer to the offices of Vitra, the text is a fragment of Lluís Peiro and Ricardo Guasch: 'La evolución del espacio de oficina', in *On Diseño, Monográfico Oficina*, 2001.

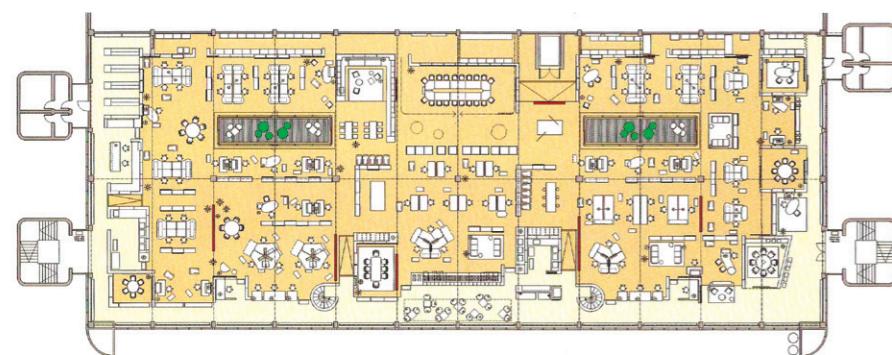
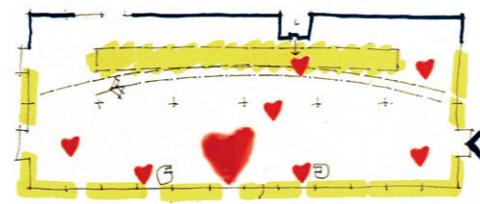
of rest, and even for focused reading, writing or data research. In a telling diagram, the project is explained simply by use of a yellow frame expressing the entry of natural light and hearts which seem to allude to the emotional value of the spatial register. Natural light is present in all areas of the enclosure, entering through the large perimeter windows and central skylights, resulting in environmental comfort throughout.

The underlying mesh giving order to the floor plan guarantees the interchangeability of spaces, highlighting its versatility, which thus results in a high degree of functional indeterminacy and ensures variable uses. Historically, to this day, this *Citizen Office* has smoothly assimilated new-generation furniture equipment that addresses new modes of use. For the most part these are not allocated workspaces but features that surround bodies, stressing moments of concentration on work, reading or meetings. The design thus reveals a great functional flexibility that is unquestionably contemporary.

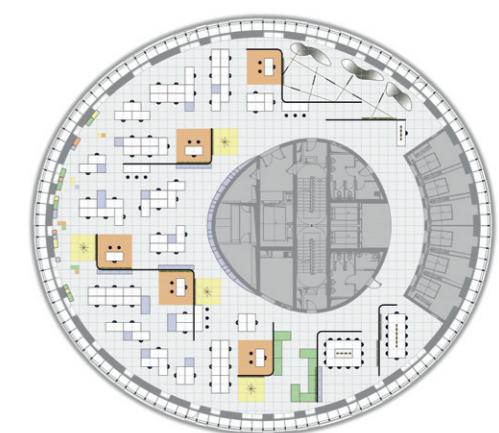
Extending this reasoning to the classroom

As we noted at the outset, in the exercises proposed at ELISAVA's postgraduate degrees in Design of Work Space and Strategic Habitat Design, these habitability approaches have been developed and attention has been given to use beyond the

▼ Sevil Peach, *Citizen Office*, interior, plan, scheme and sketch (2001-2013).



▲ Ma. Teresa Pérez Moreno, offices in Agbar Tower, Barcelona, Postgraduate Diploma in Design of Work Space, 2013.



strictly hierarchical interior space geographies. We detect that both for residential and workspace communities, indeterminate and/or ownership spaces are now almost an object of worship.

Office implementation project in the AGBAR tower floor plan. Postgraduate Diploma in Design of Work Space⁷

In the proposal by Mayte Pérez Moreno, who was tutored by Octavio Mestre, formal reference attached to the neoplasticism aesthetic is a pretext, while it constitutes a non-hierarchical, centripetal matrix which allows adaptation to the programme with the idea of 'not providing a complete solution, but a spatial framework that could be finally completed by users.' That is why, according to this project's report, they opted for an objective plastic language, stripped of all accessories, where the clear and geometric order has the dominant notes, and where forms are boiled down to their essential components: lines, planes and cubes.

The details confirm the initial strategy. The basic permanent elements—floors, ceilings, walls—establish a neutral frame in light matte shades. The dividing panels add character to the space with neutral and primary colours, with an asymmetrical rhythm, and suggest work areas which are equivalent in size and features. They are treated with curtains of varying weights (taking as an example the *Café Samt & Seidel* by Ludwig Mies van der Rohe and Lilly Reich), vegetable panels, magnetic panels and hanging shelves. The furniture, the hanging panels, cabinets, and even pavements complement the use areas, and follow a modulation logic, with proportional 40, 80 and 160 dimensions, ensuring functional elasticity.

⁷ <http://dedit.elisava.net/>. "Design of Work Space" blog, Postgraduate Diploma at ELISAVA.

Design for university accommodation in a building dating back to 1888, located on carrer Wellington - Eixample (Barcelona).

Postgraduate Diploma in Strategic Habitat Design⁸

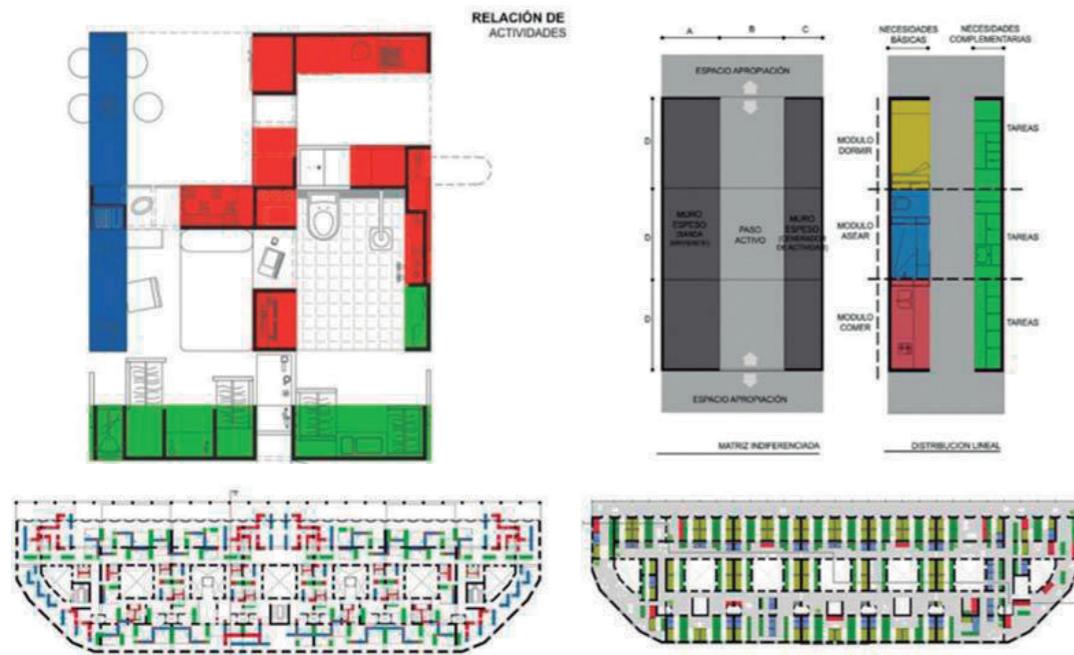
Building on this existing construction, two shared habitability proposals were made, both tutored by Emiliano López and Txatxo Sabater, based on a first hypothesis (removing inside walls) and a final use plan (setting up a living space).

In a sketch and mock-up, the material organisation was initially defined to ensure a minimum of features to the immediate environment, the everyday use, of an individual as a cultural person. It virtually follows his tracks, drawn by the actions of everyday life. It would be a complementary device in terms of usage, built to scale, capable of deploying functions expected in the functional space, bedroom and/or office areas.

Two furniture hypothesis were presented—even without specifying where the furniture would be placed—to embody the activities and positions of the body in space in two thick walls: one in the shape of a reel and the other in parallel.

In a second phase, each group found its pace, broadening and assembly principles, within a disaffected and wall-free residential structure. Discrete wall demolishing was authorised above the dividing walls of the old military buildings at the UPF campus.

▼ Boniche, Escobar, Hernández / Cruz, Moles, Fernández. Project for the accommodation of students at the university. Postgraduate Diploma in Strategic Habitat Design, 2013.



8 <http://hemt.elisava.net/>. "Strategic Habitat Design" blog, Postgraduate Diploma at ELISAVA.

Result: two proposals for accommodation in cohabitation, resolved with great plasticity. In addition to featuring a very pictorial and balanced picture of the floor plan—as a dispersed area that can be constantly changing—they show a potential adaptability to new needs and a certain degree of reversibility.

They reach a capacity of 170-200 residents, specifying a random geometry and image on one side of the block in this Barcelona neighbourhood.

Following a dissociation process, the concretions achieved for the individual immediate environment are combined until an undifferentiated residential network is achieved.

The items of furniture surrounding the activities are assembled from catalogue materials: acoustic panels in one case and large packing boxes in the other.

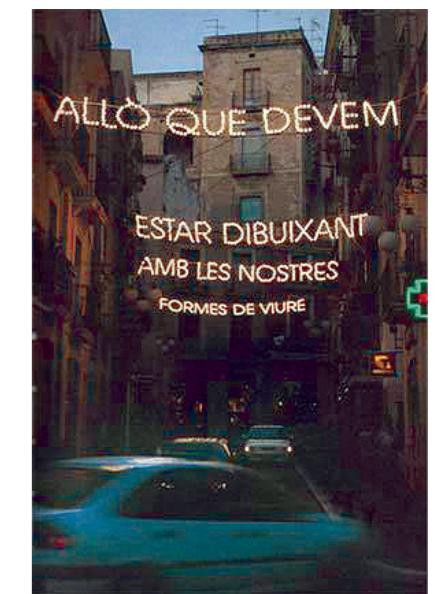
These designs show that the only distance between multiple cohabitation and shared housing is that determined by housing culture.

In conclusion, the mutation of the family unit—with new work efficiency and lack of financial resources—makes it advisable to think of reversible, adaptable and co-shared housing structures.

The idea is to get closer to an idea of the floor plan from the point of view of logistics and floor routes.

The idea is as simple as it is innovative. It consists in moving from the traditional, functional conception (focused on defining items related to a specific function) to an anthropocentric definition of space. This view sees space on the basis of own demands in a person's life situation in terms of habitat, equipped with the functional features required by each person. We are facing a small mental revolution which, far from jeopardising stability, is actually guaranteeing it, enabling a functional adaptation to the natural passing of time, absorbing psychological variations and critical phases.

"The idea is as simple as it is innovative. It consists in moving from the traditional, functional conception (focused on defining items related to a specific function) to an anthropocentric definition of space"



▲ Perejaume, ephemeral installation in a street of Tarragona, 2000.