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TOWARDS A NEW HOUSE

The recent crisis have clearly showed how the houses we live in doesn't fit our contemporary way of living in terms of construction conceptions, lay-outs, dimensions, urban spaces they concur to define. The following article tries to identify the main issues of the contemporary house and some topics that should help to clarify the conception of the New House: from the upgrading/retrofitting of the public housing heritage to a new conception of living shaped by the prolonged lockdowns many nations suffered in the wake of the current pandemic as well as the many challenges modern living has to cope with after the dramatical changes society faced in the last thirty years in terms of demographics, gender equality, energy consumption, ecological awareness, work modes and relationships. But as urban history clearly shows, a shift in the paradigm of the architecture of the house always means a radical departure in terms of urban principles and it leads to a different idea of city. From all the considerations above it emerges the profile of a new kind of housing complex as a multitasking urban artifact, attaining a critical mass in terms of physical and functional dimensions to collect different typologies of housing and metropolitan facilities and conceived to serve as well as energy hub for the whole neighborhood.

Keywords: Social housing, crisis, heritage, new architecture, Smart city, ecology.

The 2019–2021 pandemic crisis could have been a benchmark for the architecture of the house as we know it. More or less each and every one of us have seen our Safe European *Homes* transformed overnight in an office, a classroom, a gym, a ballet hall, etc., often all of it at the same time.

And it happened only few years after the credit crunch and the subsequent sovereign debt crisis have already swept away the optimism and faith in global economy which emerged in the '90s and '00s. The great recession had took down yet, or at least had severely reduced, the glamorous architecture previously spread all over the world by star architects as many estate programs had grinded to a halt. And all of this happened as a more terrible and dangerous threat dawned: the ecological crisis that could have an abysmal effect on the whole Anthropocene. Moreover, in 2010, for the first time in human history, the urban population has outgrown the rural population. Recent history proves that Western economies and cities can no longer sustain the extensive land occupancy, the expensive infrastructure nets, the energy inefficiency, the pollution, the wasteland of public spaces, the lack of diversity and the mono-functional approach of the existing housing settlements. Moreover, we are facing an indiscriminate conversion of the countryside into suburbs, a process which is radically changing the face of our cities and landscapes into a boring and polluted wilderness. The promise of a single-family home and green prairies has often turned into a nightmare of traffic congestion, lack of metropolitan facilities, in a suicidal betrayal of progressive Modernist values which were based on a more decent standard of housing and on a more efficient urban living.

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Нынешний кризис со всей ясностью показал, как дома, в которых мы живём, уже не способны более вместить наш современный образ жизни, если говорить о строительных концепциях, планировках, размерах и городских пространствах, которые они совместно определяют. В настоящей статье предпринята попытка определить основные проблемы современного дома и обратить внимание на отдельные темы, которые помогают прояснить концепцию Нового Дома: от обновления, модернизации и переоснащения существующего наследия общественного жилища, до новой концепции проживания, которая вырисовывается в результате продолжительных «локдаунов», от которых страдают многие нации вследствие пандемий, а также в связи с теми множественными вызовами, стоящими перед современной жизнью, с которыми следует справиться после тех драматических изменений, с которыми столкнулись общества за последние тридцать лет, включая: демографические проблемы, гендерное равенство, энергопотребление, экологическое сознание, изменения форм занятости и производственных отношений. Но, как ясно показывает история градостроительства, сдвиг архитектурной парадигмы в области жилища всегда означает радикальный выход в виде появления иных принципов градостроительства, и он приводит к появлению иной идеи города. Из всех вышеприведённых соображений проступают контуры нового типа жилищного комплекса, как многозначного градостроительного артефакта, достигающего критической массы по своим физическим и функциональным параметрам, строящегося как объединение различных жилых типологий и видов муниципально-го обслуживания, и задуманных, чтобы служить энергетическим «хабом» для целого соседства.

Ключевые слова: Социальное жилище, кризис, наследие, новая архитектура, Умный город, экология



Pic. 1.
b.e.ar (Luca Lanini
e Manuela Raitano),
Massimo Roncati,
Caterina La Cava
and Erika Giroladini,
Vertical Residential Unit,
Milan 2011

All the available data show an overall picture of communities that are methodically destroying natural resources and landscape by building houses that a vast part of its citizens cannot afford, and often unfit to host their current way of living. In the meantime, both rural and urban landscapes have been vilified by a constellation of lame satellite neighborhoods made by boring, ill designed, energy consuming housing blocks or by a swamp of detached houses often comically miming the features of rural architecture of the past.

Furthermore, the world famous social housing public heritage, built from the '30s to the '60s from Germany to Italy to France to Russia has been dilapidated, forgotten and neglected. This heritage, scattered all over Europe, has not only shown the mastership of modern architects in solving typological and morphological issues while creating several masterpieces of contemporary architecture on a low budget. Most of all, it proved that a precisely crafted urban neighborhood could exist within the core of many historic cities and provide a decent and exciting modern lifestyle.

Updating structural and energetic performance with adequate retrofitting, remodeled internal lay-out, architectural features and urban spaces, means to preserve a specific part of European architectural heritage as well as our struggling Modernity. But any chance of transforming the European residential heritage could be ineffective and pretentious

if we are not able to define a detailed picture of its current conditions. What is the contemporary house really like? What have we learnt the hard way by being closed in them for several months?

Our Homes — the public housing heritage as well as the private developer settlements of the last forty years — are expensive, inefficient, energy-consuming, too large, lacking a proper and/or updated lay-out and not designed for modern use and actual-sized families. In one word, they are *old*, they don't fit.

As a rebuke to the fascinating metaphor by Le Corbusier, the "house as a machine for living", we can say that, for several years, we have been made to purchase something akin to an American car of the '70s: so big it could not be parked anywhere, its fuel consumption amounted to a liter every 5 km, it was so ill designed that it had no appeal and was even difficult to drive. In addition, it was so expensive that one could not afford it in the long run...

The program for a *new house* should answer the many different questions coming from the many subgroups our society is currently divided in and from the radical change in the demographics of our society: mono-nuclear families, singles, dinkies (two people, two incomes, no children), extended families coming from different countries with different ethnic and cultural backgrounds. And it couldn't overlook the dramatic exit from the binary loop Rest-Work of the First Machine Age. To adopt such a program entails a radical change in the shared idea of the house as a living space.



Therefore, the question is: how can we architects, planners, building engineers and construction managers mend the dreadful effects derived from the collective housing programs of the '60s and '70s and the failures of the public spaces that have been designed for them? How can we manage to make collective housing affordable and worthwhile and — even fascinating and fashionable — in an age in which the price per square meter of an apartment is often higher than single-family house? In an age in which there is not apparent need for public facilities because everything having a social dimension seems to be erased or on the Internet, in a dreadful paradox of social distancing we have been immersed in, in cities where private transportation makes dispersion much easier? And then, how can we face and give form and sense to all of the main changes the contemporary European house has faced in the last forty years, that we try to summarize below?

- the general lack of funds from public investors and the end of public housing programs;
- the transformation of the family unit, with a predominance of couples without children or with few children as well as a growing number of singles and elderly couples;
- extended life expectancy, which means more elderly couples;
- the progressive substitution of the traditional notion of “coexistence” i.e. shared behavior for that of “cohabitation” merely as a spatial interpersonal contact;
- the growing marginal collectivity in our countries (a still relevant rate of unemployment, new forms of poverty, immigration, refugees);
- the constant fluctuation of the labor market and the connected feeling of job instability producing difficulty in long term economic planning and the end of automatic access to privately-owned housing. Many jobs had been relocated inside the house well before the pandemic (smart-working), bringing about the need for a radical redesign of apartment interiors;
- the gentrification of many European neighborhoods with the closure of facilities at the urban (and street) level, such as bars, restaurants, sports clubs, leisure centers, neighborhood shops;
- the increasing “joint participation” of active members within domestic economy and the consequent need for reduced domestic tasks, which would entail a new concept of those spaces.

Hence, we are led to consider the major set-backs of the houses in which we live, as they are no longer suitable for the following reasons:

- they are too big (designed for the '70s or for more remote types of families);
- they are detached (costs are too high for land, infrastructures, maintenance because they can't be divided up as in a housing blocks);
- they are designed for generic residents, with rigid and not updated spaces and typologies;
- they are built with traditional processes and materials;
- they are not energy self-efficient.

As a result, the urban sprawl and detached house neighborhoods, apart from being unsustainable, reflect a way of living which is no longer compelling and affordable as the whole working process is changing radically as well as the profile and the composition of families.

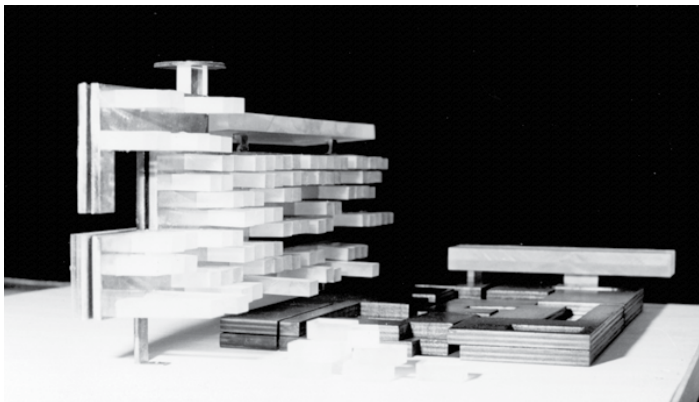
The unfitness, the decay and the backwardness of our residential heritage represents a huge international emergency. It will harm our economies, our urban and rural landscapes periodically, each and every time a natural disaster hits our countries finding virtually no resistance in the material and conceptual sturdiness of our buildings and in the maintenance of our territories. And it will cost even more in the long term: in costs of repair, in highest ratio of national energy supply consumed by residential compounds being energetically inefficient, in consequent pollution, in the increasing crime rate, in the global worsening of urban life and environment.

On one hand, to implement our residential heritages with low cost/high performance strategies is a crucial, gigantic task for western architects, engineers and urban planners. Could those buildings and neighborhoods, which were once conceived as advanced social and architectural experiments, be transformed in energy hubs and/or nodes for forthcoming “smart cities”? Could they be as relevant as they were in shaping forms of our living environment as they were fifty years ago or after the WWII?

On the other hand, what should be the main features of the New House? I guess we should outline those principles:

- a higher residential density compared to that used in their original settings. European low density suburbs are nightmarish entities of traffic, pollution, alienation, land and energy consumption and poor spatial qualities often translating in a very poor quality urban life. The compactness (i.e. one massive building instead many detached houses) could be one of the main feature of the future housing programs, making them economically, socially, politically and ecological affordable, at the same time designing outstanding

Pic. 2.
b.e.ar (Luca Lanini
e Manuela Raitano),
Massimo Roncati,
Caterina La Cava
and Erika Giroladini,
Horizontal Residential Unit,
Milan 2011



Pic. 3.
Luca Lanini e Francesco
Costanzo, Vertical
Residential Unit, Amposta
2004

architectural landmarks thus saving land, infrastructure and maintenance costs. It needs to reach a critical mass to include economies of scale in a noteworthy metaphor of the size attainable by the building. We are thinking about a sort of advanced urban artifact stacking layers of houses and public services, Le Corbusier would name it *Outil*, an *Architecture for the city* instead of an *Architecture of the city*, a building which can actually dissolve the stale difference between “monument” and “fabric”, becoming a real alternative to urban sprawl;

— energy self-efficiency. The trend, strictly regulated in the EU, is towards a “Class A” and a “Carbon Neutral” building, favoring buffer systems for insulation and solar systems for water and energy: the building is more and more conceived as an energy hub, as the radiant surface is clearly favored by its massive dimensions. High inertia architectural skin is often coupled with radiant floors and/or ceilings to make the overall systems of installations more energetically efficient. The architectural aftermath is that the façade is conceived as heavily layered, gaining a transitional width, filtered by sliding shutters, panels or blinds, loggias conceived for our weather as climate buffers. The building gets a new blurred and luminous aspect, in a process that is apparently deeply rooted in contemporary architectural sensibility and languages;

— residential flexibility. This happens to be the main point, attaining the general design strategy for the building: flexibility of typologies as well as of dimensions of the residential units to encounter the fluctuation of the survey and variations of the users; interior flexibility of the unit to modify it just-in-time and custom-made apartments; flexibility in the cost of the different units to assure a mixed class and cultural environment, resulting in groups of residents of different ages, origins, interests and resources. Flexibility should be attained from scratch, from the design process to promptly react to a new economic situation in the relatively long time which is necessary to develop a housing project. Flexibility rather than specialization, which means a new versatility of residential spaces. And it can be obtained with technical (great span structures, concentration of the technical modules and diffusion of the energetic and plants network) and conceptual strategies (great open isotropic spaces, ready for different plot uses and occupations). A more fluid and transformable residential space can be obtained with improved division systems based on industrial and serial elements, typical of the architecture of office interiors, a lay-out which improves

accessibility, visitability and adaptability for people affected by physical or psychological diseases, in a peculiar conceptual update of the *Plan Libre* concept. A good contemporary space is a big neutral space, with few fixed areas, the fewer, the better. As Atelier Kempe clearly stated: “Developers think that the job of an architect is to organize the floor plan according to the building rules and to design the facade. And they are right. Because of the global economy this is a very logical process. Labor is expensive in the western world and that is why it is reduced to a minimum. The next step will be that the interior as such, will completely disappear. Hence, the apartment becomes a single empty room without anything except a cable shaft and a meter. The inhabitants become self-builders who create their own living environment according to taste and budget. The Ikea concept is extended towards the complete interior. [...] The new typology of the 21st century is the loft. Sixty years after the shock of the Farnsworth house this became the most desired typology. This trend is emphasized by a flood of publications (Berlin, Amsterdam, London, New York-Loft) But what is it? We think the loft is more of an enclosed outside space than a classical room. It is a platonic internal landscape, a piece of emptiness in the city. Its success is on one hand a sign of a more personal and individualized way of living. On the other, it is a reaction to the decay of urban communities and public space. In the loft you can create your own paradise and cut all relations with the public sphere to a minimum, where the new media people are well connected and can find and receive almost anything they wish. The loft is a mix of public and private; it can be home, office or both. In former times, people went on the street now they prefer to stay at home” [Atelier Kempe Thill, 2021]. The contemporary house is not the “machine for living” imagined by Le Corbusier; it is a solid infrastructure built for different purposes and functions, a slab measured (and paid for) in square meters, available to all the fluctuations generated by markets and/or life;

— common areas and residential facilities: pool, gyms, kindergartens, workshops, wi-fi areas, 24 hour laundry facilities etc. to build a new sense of community and civic conscience. The desertification of urban roads, the high crime rate of many areas of our cities and the lack of facilities in many of the European suburbs lead towards the inclusion of some of those artifacts of contemporary life *inside* the building, actually attaining a semi-public status if part of those facilities are opened to the neighborhood, which become untamed areas of social and cultural hybridization in the attempt to lower the global phenomena of marginality and conflict affecting western cities: “the new qualities, the specific, can come out of the extra programs and spaces related to apartment buildings. Living hotels, the housing visions of the Russian constructivists come closer. [...] Service can mean on one hand persons that can eventually help like a porter; a cleaning service or a craftsman but also extra programs such as a bar, a swimming pool, a fitness club or a doctor’s practice. The potential of mass housing is that communally things/services? Which are not payable by the single individual are affordable for a larger group? The hotel can be a perfect model for a big collective housing project” [Atelier Kempe Thill, 2021];

— prefabricative systems and new, highly performant materials to cut construction and housing



expenses. A contemporary constructive system optimizes the value of repetition but does not deny the identity of the individual user, eliminating debris in the construction and reducing execution time, allowing more precision, versatility and rapidity in the construction process. "Light" prefab systems based on the tactic use of modules for plants and networks instead of "hard" prefab systems based on the repetition of complete cellular modules. Traditional "heavy" enclosures based on massive wall systems have been replaced by "light" ones based on "dry" materials, such as metal sandwich or multilayered wood derived panels as well as cement-based, and/or fiber-composite ones. The repercussions on construction costs have been calculated in about a 10% decrease, allowing an increase in the interior surface or higher quality finishings [Gausa, 2002]. Such cost-cutting and efficiency increasing program of the complete construction process could be heavily implemented by the extensive use of Building Information Modeling Technologies (B.I.M.).

This is a huge chance to rethink the fundamental goals and the theoretical tools of our professions. Architecture, housing and infrastructures have always been economy uplifting instruments in times of crisis and recession. Architects, engineers and urban planners have always been among the major actors in establishing new goals in urban development and in so doing they pulled our cities and our countries out of periodical economic crisis.

It happened before: such radical change of paradigm in urban housing is not a new issue for architecture and cities. Not at all. This is shown by the XX century experiences in Europe: *Die Rote Wein* and Ernst May in Frankfurt, Constructivist architects in the Soviet Union, Hilberseimer in Germany and in the U.S. and Le Corbusier in Europe and India. Complex urban programs transformed in radically dense innovative ideas of architecture and/or urban planning.

In the '50s a new generation of technicians led Italy out of misery, redesigned the national urban and rural landscape, the real estate market as the famous Italian Design propelled the great economic boom

Pic. 4.
Luca Lanini, Manuela Raitano, Raffaele Di Vaio and Alessandra D'Amico, Low Cost Residential Unit, Madrid 2011



Pic. 5.
b.e.ar (Luca Lanini e
Manuela Raltano), Loft
Residential Unit, Lima 2012

of the '60s. In Russia during the '30s several young enthusiastic architects and engineers amended the chronic backwardness of the nation, turning it in an industrial superpower and after the "great patriotic war" they rebuilt their Homeland from scratches. Will this ever happen again?

Architecture, engineering and urban planning are an expression of our primal need to reshape our environment, which takes many forms and serves many kinds of clients. It may seem a different picture from what is reflected in the media, which tend to focus on the extremes and exploits of star architecture and, perversely, on their epic fails. Nevertheless, a strong European tradition of community projects which are socially conscious and technically innovative does in fact exist, but seems to be overshadowed and forgotten. Architects, engineers and urban planners will save themselves as "creative, leading class" from ineffectiveness and uselessness if they are able to regain and update that cultural heritage. As our above mentioned masters did, we should face, solve and translate people's demands and society's challenges in new forms, prototypes and advanced technologies provided we work collectively for a new and more decent, environmentally sensitive way of living for the inhabitants of our houses and cities, here and in reasonable time.

Sixty years ago, at least, the aim seemed to be the same: integrating domestic and urban life within a social conscious and healthier environment. What has changed for housing since then is the "emancipation process from a mass oriented, mainly social and standard architecture to a customer orientated, flexible and individual architecture" [Atelier Kempe Thill, 2021]. Once Ernesto N. Rogers wrote: "A house is not a home

if it is not warm in winter, cool in the summer, calm in any season and with harmonious spaces which welcome the family. A house is not a home if it does not contain a corner to read poetry, a bedchamber, a bath, a kitchen. This is a man's house. I want a house which resembles me (the best of me): a house which resembles my humanity" [Rogers, 1958]. To build this kind of house for each and every one of us is what our collective task is about.

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