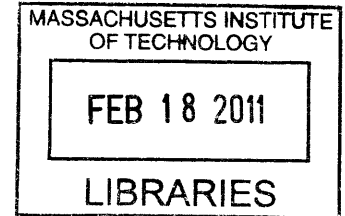


# FUTURE PERFECT : REINTEGRATING HOUSING AND PRODUCTION IN THE BERLIN BLOCK

by

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# Future Perfect: Reintegrating Housing and Production in the Berlin Block

by

Mark Oliver Wuttig

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on January 14, 2011.

## **Abstract:**

The beginning of the 21st century has been marked by an apparently ubiquitous state of crisis, which transcends national boundaries and is reshaping global relationships. Financial meltdowns, the lack of affordable housing, the decline of manufacturing, resource scarcity and global warming - we seem to be immersed in a state of constant emergency, which offers opportunity for design. Architecture has the ability to play a critical role in the re-imagination of an alternate future explored through the discourse of Utopia. Investigating mixed-use strategies of both, the past and present, this thesis proposes a new block typology that intrinsically links the production of goods with issues of resource scarcity and the need for affordable housing as a counter-proposition to the planned Media-Spree Development in Berlin. Reconsidering the history of the urban block in relation to the rise and fall of industrial manufacturing in Kreuzberg, Berlin the project excavates parts of its archaic typologies as a possible way to move forward in the future.

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# **FUTURE PERFECT : REINTEGRATING HOUSING AND PRODUCTION IN THE BERLIN BLOCK**



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# INTRODUCTION :



## Introduction:

The proposition of this thesis is to revisit the typology of the mixed-use building and its role in 21st century urbanism. The goal is to investigate new ways of integrating housing, production and consumption within the urban realm, on the scale of the Urban Block.

Over the past two decades cities across the United States and Europe have tried to revitalize struggling city centers through the insertion of mixed-use developments as a means to increase the density and revitalize failing neighborhoods. Largely this development has been geared towards activities of consumption and luxury apartments, in turn creating a public space largely subordinated to the restrictions of private developments. The development of housing has become a tradable commodity on the financial world market, banking on the future gains of increased property values as a major catalyst for capitalist growth. Simultaneously the model of large-scale industrial production has come to an end in an environment that favors high flexibility and adaptability to market demands or cheap labor in order to maximize profit margins, in turn prompting industries to downsize or leave the country in search for cheaper labor.

With the onset of the financial crisis in 2009 this boom cycle has come to an abrupt halt as the capital investments had turned from betting on the future gains of property investments to betting on its very failure in search for higher returns. The resulting sub-prime mortgage crisis, spurred by the desire of private home ownership resulted in an unprecedented number of foreclosures and shortage of future loans, spreading well beyond the housing sector.

The thesis proposes that the acknowledgement of a current state of crisis can be used as a means to question the reality of the existing system and through the design of an urban block propose an alternative mode of operation. What can be learned from a systems failure geared towards consumption and speculation? Is it possible to re-orient the focus of mixed-

use developments from consumption to production? The future of manufacturing in the western world is increasingly geared towards the production of research, new materials and manufacturing technologies for highly customized niche-products that require smaller and more flexible production processes with increased user-input. One of these new typologies is the development of micro-factories. Located within neighborhoods, small manufacturing and development facilities can become centers for learning and provide access to sophisticated manufacturing equipment to the local population in turn democratizing the production process as demonstrated through MIT's collective low-cost fab lab model, which has inspired similar offshoots across the globe.

The thesis will re-evaluate the role of the mixed-use development in the urban context drawing on the existing models of the hybrid and social condenser and reinvestigate the role of the utopian project of modernism in architecture and the belief that architecture has the latent ability to affect the way in which we live and work. The project will operate between the two extremes of the utopian ideal and financial pressures of affordability and market demands to produce a viable architectural project that can be critical of the current condition.

The traditional block structure of 19th century Kreuzberg integrated production and living in close proximity, resulting in complex social structures, but was largely demolished during the urban renewal phase. The aim of the thesis project is to achieve a similar density and mix, but address concerns of day lighting and ventilation that led to the destruction of the existing block structure.

The block offers a scale that through its size and ability of diverse program mixes and standardized units can provide a platform for testing new ideas in housing and production. The aim is to develop an architectural system that addresses the trends of demographic shifts in housing from the nuclear family to single occupancy households in order to promote the idea of collective living and working. Through investigating the

architectural production process, programmatic mixes and a reduction of square-meter costs in terms of finishes with the aim to leverage those savings and potential income to support local production and the development of collective, social and public spaces within the urban block. Rather than developing a rigid expressionistic conception of architectural space, the focus of the thesis is to develop a structure that can accommodate shifts of use in order to meet market demands, producing an architecture that can resist the problem of pre-mature obsolescence through flexibility and adaptation.

Modernism's focus on housing played an essential role in the establishment of new organizational models for the city based on its relationship of life to production. The post-modernist response to the salvation of the city is largely expressed in the development of mixed-use projects as a means to provide an active street life. Rem Koolhaas' proposition of "bigness" has served as model for ever larger developments with increasingly complex programs that at once proclaim the project's autonomous status in the metropolis as well as means to provide the necessary density. Before exploring the typological origins of the mixed-use building and contemporary iterations, I want to briefly address the notions of the potential of crisis and the importance of the utopian project. The second part of the research essay focuses on the example of the "Kreuzberger Block" as a pre-modernist typology of life and production, which initially instigated the interest in the mixed-use project. The third part of the essay tries to outline a potential project based on the questions raised by the research.

## **Crisis and Utopia**

The last two years produced some of the highest foreclosure rates for homeowners since the great depression and is largely seen as the result of the increased financial trading practice of sub-prime mortgages. As Saskia Sassen lays out in her essay "When Housing becomes an electronic instrument: The global circulation of mortgages", innovations in housing finance throughout the last two decades has contributed to the fact that housing and the associated mortgages assumed a major role in

the economy on a local, national and global level. According to the IMF, the losses associated with the sub-prime mortgage crisis in the United States and the European Union alone amounted to 267 billion USD, where in the case of the US the financial trade in housing made up 80% of the total GDP. Losses were especially high in countries that did not offer sufficient public housing and in turn were mostly financed by private developers. Underlying the crisis appears to be the still very much alive dream of the single home, both as financial leverage and status symbol. Yet given the recent developments and an increasing trend towards urban migration with more than half of the population living in cities today and a number projected to increase by 2030, is the romanticized dream of the single family house still a viable concept for the future city?

The appeal of the city has always been the perceived potential for social and economic betterment provided through a vast network of resources and liberties provided through city life. Yet this idealized picture based on the modernist conception of the city as a place of production and economic wealth is rapidly fading with the decline of manufacturing jobs in the western world and the removal of labor from city centers in an increasingly globalized and nomadic network of manufacturing that readily relocates in search for a cheaper workforce. In fact the number of manufacturing has declined continuously from the 1970's to today's all-time low, where manufacturing in some cases only makes up 10% of the labor market. The post-industrial city increasingly relies on the service-industries and what is commonly referred to as the creative industries as the future of production in the western world.

But what does it really mean to operate in a state of crisis? In his essay "Space in Crisis" Mark Wigley argues for the productive effects of crisis. In his definition crisis produces a state that lies beyond the remedial response to an emergency which ultimately tries to limit the extend of damage in order to reproduce the existing system. Referencing 19th century theorists, specifically Karl Marx, Wigley proposes that crisis and the radical destruction of a system can ultimately be seen as the prime agent for

progress and radical change. As he puts it: “To declare a crisis is to declare that design is needed.” In that sense “architecture is precisely the effect of crisis”, as it searches for a new form of architecture and stability. Where “emergencies” only lead to the modification of existing architecture, the outcome of a “crisis” has to be the production of entirely new architectures. Wigley goes on to argue that “The field of architecture is devoted to suppressing a sense of crisis but is propelled by the very thing it represses. As the art of limits, architecture is always in a dialectic with crisis.” If we assume that we are in a current state of crisis, both in the housing and manufacturing sector and are struggling with the definition of the value of immaterial goods, what could be the possible effects on architecture and urbanism for the 21st century?

The widely proclaimed state of crisis has also contributed to a renewed interest in the role of the Utopia in architecture. Typically a means to construct an alternative system to the inherent status quo, these visionary ideas of modernism as described by Reinhold Martin find their way back into contemporary architectural discourse as Utopia’s ghosts. As a response to the ongoing critical and post-critical debate Martin argues for the reconsideration of the Utopian project in his essay “Critical of what? Towards a utopian realism” as providing an alternate mode of operation. His definition of Utopia does not refer to its reading as a “perfect world”, but rather acts as a means to merge the perceived existing reality of the everyday with the possibilities of alternate realities. This reading allows for what he declares as a “double-agent” status for architects. One that allows for the adoption of the post-critical platform of realism, engaging the “real world” production of architecture, yet is able to instill criticality through the inclusion of what might be considered utopian values. Reinhold Martin bases his reading on the perception that the current reality of the dominant system is no more or less real than the proposed utopia, in the sense that both operate on the basis of belief. I would agree then that the crisis in this sense becomes operative as it reflects the instability of the existing system and offers an opening to revisit ideologies that did not get played out in the course of history.

## Housing anyone?

After a decade spent on the production of elaborate architectural artifacts for living and commercial conglomerates, the current financial crisis and an increased focus on local production might refocus the architectural project on housing across the globe as an important issue in architecture, especially in its relation to the surrounding city. Whereas the 60’s and 70’s approached housing in the form of autonomous developments that proposed an alternative way of living apart from the city, recent developments in housing attempt to work from within the urban condition at times by pairing up with secondary programmatic components in order to respond to the perceived socio-economic needs of the site.

Arjen Oosterman outlines the global need of housing and its inherent problematic in his essay “Blockbuster”. Referencing the National Housing Censuses and the ongoing urbanization, approximately 400 million new dwellings are required to be built worldwide based on the Dutch Housing standard of 2.4 members per household. Given the failed historic experiment with large-scale housing developments in regards to its inherent anonymity, which ultimately led to the investment into the individual housing unit, he proposes to reinvestigate the possibility of integrating lessons learned from “small-scale” developments and how they could be applied at a larger scale. He proposes that the future development of housing not only has to adhere to the economic principles of production, but also has to include factors of flexibility, as well as differentiation, diversity and user influence. The scale of the block here presents itself as the ultimate test-bed for new development strategies, as it is able to combine the efficiency of volume of construction in terms of housing units with the ability to offer resistance to homogeneity on an urban scale through differentiation and the idea of the collective: “It is at the block level that another organization of society begins, that resistance can be offered to values and norms imposed by government authorities and society as a whole, that the experiment gets a chance. It is the level at which personal choice can be effective.”

## Housing for whom?

Traditionally housing was based on the homogeneity of the nuclear family, which dictated the layout of housing types in accordance to perceived values of domesticity. Juan Herreros argues in his essay "Public Housing and Space: A Manifesto" for a reconsideration of that status quo in light of a changing demographic which has to include the young, the elderly, singles, single-parent families and couples without children. Based on the changing demographics he proposes an investigation into the possibilities of collective housing arrangements, which include the proposition of shared spaces for both the residential population as well as an extension of the program into the public realm as a major factor for the reorganization of the housing typology. Similar concerns are voiced by Dietmar Eberle in "Notes from a lecture on future Typologies". Based on the example of Europe where currently more than 60% of the residents live outside the nuclear family structure and the ongoing shift away from the separation of programmatic functions into different city sectors as proposed by 1936 CIAM congress, he argues for multi-functional spaces, the inclusion of public space as organizing principle and the ability to understand the economic future needs of society.

### **Mixed-Use Typologies: The Social Condenser and the Hybrid**

The problem of providing mass-housing based on pre-fabricated structures and modularity was one of the key concerns in modernist urbanism and led to a widely adopted tabula rasa approach where existing housing, no longer deemed to fulfill the modernist machine-dream of functionality coupled with a call for more light and air, was eradicated and supplanted with large-scale housing units. This approach effectively turned the typology of the urban block inside out and replaced it with a dense high-rise structure surrounded by open space. It thereby removed a large aspect of architecture's relationship to the street and ultimately to the notion of an existing public sphere within the

city. The public sphere here was instead to take place on elevated or interiorized roads and large open plazas, always allowing for the retreat into the privacy of the home. The criticism of the 1970's by Richard Sennett, William H. Whyte, J.B. Jackson, Jane Jacobs and others led to a renewed interest of mixed-use typologies in the post-modernist era to address the perceived problem of a lack of community and a public sphere within the city.

Revisiting the mixed-use strategy also brings up the question of what the underlying ideological themes of the proposal are. The idea of mixing different uses under the same roof finds its roots in both, capitalist and communist ideologies.

The idea of the "social condenser" originates from the utopian vision of constructivist architecture produced shortly after the revolution and found its ideological expression in the worker clubs of Konstantin Melnikov and the Narkomfin building by Moisei Ginzburg, which combined living with a library and gymnasium. The underlying idea here is one of communal use, extending the solidarity produced by working in the factory, into the domestic sphere. Through the addition of social clubs, communal kitchens and public space, combining housing and propaganda the goal was to produce the "new man". Its role was to transform the relationship of the occupant to the state and the factory and promoted the idea of collective housing, in order to address the need for mass housing. To this day, 70% of housing in Russia is based on the large scale, pre-fabricated concrete slab building typology of the "Dom-Kommuna". This communal living arrangement drastically reduced the domestic sphere of the private home in favor of larger communal spaces. Some of these spatial aspects find their way into the modernist project, such as the inclusion of an "interior corridor" which can be seen as an inspiration for Le Corbusier's use of the 'interior street' as employed in his L'Unites d'habitation.

Le Corbusier's version of the social condenser build from 1955 to 1965 also incorporates the tactic of elevating the building from the ground floor through pilotis to allow for continuous green space below. It also provides a roof garden as well as the

aforementioned split level of the “interior street”, which allocates space for small commercial shops. In addition to offering housing for 1600 inhabitants, the building includes a variety of services ranging from healthcare, cafeteria, kindergarten and a gym to a small section of units labeled as a hotel. The entire structure is based on prefabricated concrete elements.

Another reading of the social condenser is provided by Rem Koolhaas in his description of the Downtown Athletic Club in which the skyscraper acts as “a machine to generate and intensify desirable forms of human intercourse.” According to Koolhaas the Downtown Athletic Club succeeds at fulfilling the goal of “lifestyle modification” as desired but unattained by the modernist avant-garde.

Each floor provides an array of various activities, ranging from physical exercise, sleeping, beautification, socializing to playing golf, all randomly connected through the vertical circulation of the elevator cores, gradually transforming the user as he traverses through the levels. The experience here is one of instability that reflects and condenses the complexity of the exterior metropolis in the miniature version of the skyscraper. The juxtaposition of programs is summed up in his titling of the ninth floor plan as “eating oysters with boxing gloves, naked on the nth floor...”. What differentiates Koolhaas’ example from the traditional read of the social condenser through is its inherently capitalist ideology. The space here is one of exclusivity and although its ultimate goal according to Koolhaas is also to produce “a new man”, the result here is ultimately achieved through juxtaposition.

In her essay “Hybrid versus Social Condenser”, Aurora Fernandez Per argues that the Hybrid was not born out of ideological necessity, but rather out of the speculative practice of the developer, adopting the modernist style and bringing together multiple interests in order to benefit from an interchange of commercial and residential programs based on capital needs. The term hybrid is borrowed from biology and typically refers to the combination of two or more different entities. Today we see hybridization as a means to achieve a particular goal by

combining positive traits. In the terms of program in architecture it might suggest the possibility to generate new spatial typologies through the overlap of programmatic uses.

The most important difference between the capitalist and the communist approaches might be condensed into the treatment of the open space within the block. In the idea of communism, the ground, just like any other shared space belongs to everyone, as the state and theoretically the people own the land. Here use and access patterns are free to emerge without a clear delineation of public and private space. The city in a sense is able to extend into the interior of the block, whereas the capitalist approach is highly concerned with issues of ownership and access to private property. Here we typically find a clear separation of public and private space, which begins and ends at the perimeter of the block. A good example how public space works in a capitalist system might be found in the example of New York City, where the idea of trading excessive air rights in return for a partial designation of the parcel for public uses has found widespread approval. Although these spaces are intended for public use, a closer look reveals the inherent concern about who uses the space and what for, which finds itself expressed in the creation of barriers and controlled spaces.

### **The Kreuzberger Block: A pre-modernist model**

One way to start thinking about reintegration of industrial production facilities within the urban center is to reconsider a historic precedent. The problems we face today in terms of density, production, public space, as well as ideas of mixing uses are not really new ideas per se but have been partially explored during previous periods of history. The question then becomes, what can we learn from the limitations and possibilities explored in the past that might still be of value today? To illustrate a possible scenario I want to take a brief look at a mixed-use typology that developed out of the industrial revolution, primarily in the district of Kreuzberg in Berlin.

Kreuzberg has a long-standing history of immigration and production based around skilled-labor, which peaked in the early 20th century focusing around wood, textile and metal fabrication, working in close relation to small factories located within the same district, sometimes within the same block and producing a wide range of products for the European market. The typical block structure developed over a fifty-year span, peaking in density shortly before the First World War. While the block typically started out as a collection of double story buildings, with farmland in the block interior, the capitalist pressures of the impending industrial revolution and the incorporation of Kreuzberg into greater Berlin promoted a shift towards urbanization and parceling of the land for future development. The uniform block edge is a result of the increased value of land as well as an attempt to unify the Urban appearance based on the same principles as employed by George-Eugene Haussmann in his work to restructure Paris in 1852. Denser apartment buildings started to occur on the block edge, with views and direct street access as a result of for profit development. The structures are typically five stories high with an additional story tucked away under the roof, which was reserved for the servant staff. The apartments below were usually occupied by the middle-class bourgeoisie, while the farm houses and small manufacturing facilities migrated to the interior of the block. This change produced two types of manufacturing typologies, the "Gewerbehof" (an arrangement of manufacturing buildings around a larger open courtyard with direct access to the street through a ground floor opening in the building facing the street) and the "Fabrik" ( a single factory building connected to the housing block and build parallel to the street edge). Throughout the history of the block the use-categories were not necessarily fixed though and where the structure permitted, living and manufacturing uses would fluctuate, sometimes on a floor-by-floor basis within the same building based on the current demand. The ongoing densification of the block produced an intricate network of interior courtyards and roads that would give access to the buildings in the block interior, at times limited only by an open space concession of 60 m<sup>2</sup>. The result was a highly densified low-rise block giving rise to the increasing complaint of

insufficient day lighting and lack of air circulation. Living in these close quarters also demanded the treatment of the open interior spaces as public space and access roads, leading to a complex social construct of negotiation and arbitration that also produced a sense of community among the occupants of the block.

The density of the block and a shift in urban planning that began to align itself with the modernist dogma of right to light and air ultimately lead to the partial destruction of the interior blocks in 1960's and 1970's under the guise of Urban Renewal as witnessed in cities across the world. Where entire blocks were leveled, the block increasingly became supplanted by a freestanding housing typology, surrounded by open land, which only came to a halt after massive protests and rising takeover of buildings slated for destruction, preventing further structures from being torn down.

The most interesting aspects of the block typology and often referred to as the "Kreuzberger Mischung" (Kreuzberg Mixture), is the highly diverse social and cultural landscape it produced, which is still evident today and might offer an example of a working public sphere as already called for by Jane Jacob's in her writings about public space and the public sphere. It might also provide a point of departure to re-imagine what an intertwined network of production and living might look like in the 21st century. The complexity of the interior block produced a sequence of spaces that were in its truest sense multi-functional, from outdoor playgrounds, to the extension of manufacturing and assembly and small interior gardens. The fluctuation of living and manufacturing demands produced a building typology that allowed for multiple uses and a public façade towards the street, while maintaining the informal character of the block interior.

### **The next Industrial Revolution:**

The days for large-scale factories and touch-labor intensive production in the Western World are numbered. But apart from relocating jobs to the service sector and the proclaimed rise of the creative and knowledge industries what are alternate models for the future of production? One possible scenario laid

out by Chris Anderson in his article “Atoms are the new bits”, investigates the recent development of “Small Batch” micro-factories. Rather than directly competing with major manufacturers the idea is to satisfy niche-markets and provide highly customized products. Through limiting the size of the production runs and virtually no need for inventory due to an increasingly globalized network, of web-based suppliers able to fulfill small orders, these micro-factories are able to quickly adapt to market needs. Anderson likens the progress and potential for industrial production to the development of the software, publishing and broadcasting industries over the last 10 years, where the implementation of tools and lowering of entry barriers has led to a democratization of the field of production. The drastic decrease in the price of manufacturing equipment and the availability of ordering batches as small as a single unit provide a new playing field for the world of manufacturing. Just like open-source software, the first hardware components based on crowd-sourced designs are coming onto the market, providing complex 3D printing technologies and CNC machinery that only five years ago could not be purchased for less than \$125,000 are now in the \$1000 price-range as in the case of the MakerBot.

One example of the power of micro-factories is Local Motors, located in Wareham Massachusetts, which recently completed the development of their first car from sketch to prototype in 18 months. The project is a truly collaborative effort based on the effectiveness of crowd sourcing, combining expertise and taking advantage of a multitude of suppliers and manufactures, each providing specific customized parts.

Here the same trend of globalization that caused the decline of large scale manufacturing in the western world now provides the ability for small-scale production with limited spatial needs yet able to reach a global market.

With cleaner production processes, is it possible to reintegrate this approach to manufacturing within the residential the block as part of the hybrid? What are the possible spatial implications? What does a live-work housing unit look like, that is part

production facility, Lab and Living Space? How does the unit work in a larger networked structure across the city in which each block might produce specific parts? What are secondary programmatic spaces that could be coupled with the idea of open-source hardware production? Are the production shops communally owned on a block-level and how does the public figure into to production process? If customization is the future of production, how does it affect the architectural project?

### **On collectivity and political architecture:**

If one believes in the idea that architecture affect the way we live together, one has to revisit the notion of the social, more specifically collectivity and how we manage to live together. Questions of power, politics and the formation of a society have been at the heart of the philosophical project since the conception of the “polis” or city-state of ancient Greece. A collective governed through political acts, which found its architectural expression in the agora. The idea to put forward the notion of an ideal society, based on western principles of democracy was first formulated in Plato’s “Republic” which argued for the governance of its citizens through a class of “Philosopher Kings” ruling on behalf of the masses.

Becoming part of a society has to be considered a political act in which the individual transfers their individual autonomy and egoism to the well being of society as a whole. This idea is captured within Jean-Jacques Rousseau’s idea of the “Social contract”. It formulates the public as a collective of individuals, granting equality and political rights and responsibilities to those subscribing to the social contract. It further extends the notion of the family to that of the larger collective and places it under the governance of the people. The division between private and public life is an important issue, generated by the assumption that only in public, mankind can assume political rights and become a social entity.

In search for true collectivity, Karl Marx examined the political structure implied in the 19th century capitalism. Based on

the notion, that mankind is essentially a social being; it posits further that true emancipation as an individual can only develop within an egalitarian society. In "Das Kapital", Marx defines the social relationship among citizens based on their ability to control the surplus value created through production. The idea of surplus labor posits that the value of the commodity product produced is always greater than the labor power used in its production. It is only through the idea of surplus value that trade and exchange are enabled and it poses the question who should be in control of and benefit from the surplus value produced.

"It is always the direct relationship of the owners of the conditions of production to the direct producers — a relation always naturally corresponding to a definite stage in the development of the methods of labour and thereby its social productivity — which reveals the innermost secret, the hidden basis of the entire social structure and with it the political form of the relation of sovereignty and dependence, in short, the corresponding specific form of the state."<sup>1</sup>

By establishing a trinity of categories, Marx distinguishes between the proletariat, those who produce the initial value and form the basis of capitalism. The proletariat is synonymous with the masses and exchange physical labor for wages. The second category is comprised of those who own the means of production, the capitalists, which in the 19th century formulated the class of the bourgeoisie. The members of the third category are the landlords, those who control the land and are able to collect a "rent" from the capitalist production process due private ownership. Marx and Engels argued for a reversal of the exploitative means of capitalist production and called for the emancipation and rule of the collective by the proletariat. The basis of their theories resulted in the experiments of communism and socialism during the 20th century. Whereas socialism can exist within capitalist society and could be regarded as an

1 Marx, Karl, 1818-1883. Capital, a critical analysis of capitalist production. Translated from the 3rd German ed. by Samuel Moore and Edward Aveling and edited by Frederick Engels. Moscow, Foreign Languages Pub. House, 1959-1961. Part VI, Ch. 47, 'Labour Rent'

advanced state of capitalism in which the benefits of surplus value are according to an individual's effort. The allocation of resources is regulated through the system of the state, hence maintaining the idea of social classes. In contrast, communism demands complete public ownership of the production process and political control by the collective in order to promote a classless society. Only by overthrowing this relationship to the production process can mankind assume the role of a free social being in relation to the collective. Given this definition, the communist project in the soviet union never achieved the final stage of a true Marxist communism, as the control of the state merely was shifted from one socio-economic group to another and the idea of the participatory collective was never achieved. Marx saw within the capitalist production system a drive to continually renew itself in its strive towards universality and greater profits. Within this attempt, the system produces contradictions, ultimately leading to its self-destruction.

According to Slavoj Žižek's analysis of Marxism, the evidently embedded traits of crisis and destruction, which have played itself out in the reality of political class struggle, the formation of so called boom and bust cycles as witnessed in the recent case of stock market and housing bubbles and following "market corrections", can ultimately open up a space for "radical action" in terms of alternatives to the existing status quo.<sup>2</sup>

It is in this space of crisis and the idea of the existence of a multiplicity stemming from the globalization of the capitalist production system, that Antonio Negri and Michael Hardt propose the notion of "Empire". Though capitalist production had in the past worked on a global scale, the argument posits that we have entered a stage of globalization which transcends the nation state and through the globalization of the production process attempts to "envelop all power relations within its world order."<sup>3</sup> The result is a supra-national, limitless system without

2 Žižek, Slavoj. Living in the end times / Slavoj Žižek. London ; New York : Verso, 2010. P.199

3 Hardt, Michael, 1960- Empire / Michael Hardt, Antonio Negri. Cambridge, Mass. : Harvard University Press, 2000. P.20



fixed borders and centrality. The idea of the multiple within the notion of Empire is that it produces a heterogeneous society, which is at once the source of Empire as well as the possible force behind the conception of a counter Empire. The idea of the multitude here also negates the existence of the masses”, which were an integral part in Marx’s formulation of the revolution of the proletariat. The masses today have been split into those who perform intellectual labor or work in the service industries, those who perform manual labor and those with no income, each group with following their own motivations. Negri and Hardt describe Empire as a “horizon of activities, resistances, wills and desires that refuse the hegemonic order.”<sup>1</sup> Rather than attempting to overthrow the ruling power, they see the transformative power of a nomadic labor force in the possibility to refuse their participation and instead re-collectivize within alternate models of co-operation, inside Empire itself. Rather than merely resisting Empire, the productive solution as described by Negri and Hardt is the establishment of local, participatory collectivities within the system itself, allowing for the formation of mankind as a social being. Negri and Hardt argue that globalization and the principle of the multitude could be regarded as progress in the possibility to formulate a more social capitalism.

A more critical stance towards contemporary capitalism is offered by Slavoj Žižek. Contrary to Marx’s initial perception that capitalism is a step towards socialism, Žižek warns of the increasingly totalitarian nature required by capitalism to flourish. Through the examples of contemporary China, he disassembles the commonly held notion that free market policies are able to foster democratization. On the contrary, globalization has led to capitalism’s emancipation from the attachment to specific ideological systems and finds the best conditions for its own reproduction under oppressive regimes. To preserve the ideals of the social and democratic principles for the future, a new system of the collective, outside of free market capitalism based on the notions of Marxist communism and the idea of a citizen income has to be formulated.

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<sup>1</sup> Hardt, Michael, 1960- Empire / Michael Hardt, Antonio Negri. Cambridge, Mass. : Harvard University Press, 2000. P.48

But how do these notions of collectivity affect architecture? If one subscribes to the idea that architecture has the ability to affect the social and political relations within human society, then the formation of the floor plan, section and building envelope become crucial to the architectural project. Inscribed within are formal and representational notions of hierarchies and boundaries that can either reflect, enforce or subvert the system which produced them. Given the tremendous resources needed, in terms of labor, material and financial resources, large-scale building projects in architecture can be seen as the demonstration of power by those who are able to build them. The Pyramids, cathedrals, aristocratic palaces and landscapes, civic structures, monuments and workers palaces as well as the coinciding formal arrangements of the city can be seen as representations of the dominant power structures. Architecture can reinforce these structures power structures and the arrival of revolutionary political change is often expressed through the symbolic destruction and following restructuring of the built environment.

On a political level, the constitution of the modern skyscraper could be read as the monumental expression of globalized market capitalism. Autonomous of its environment it reflects land speculation and scarcity within the urban environment, forcing its verticality in order to maximize surplus value in terms of rental income. Similarly its hybridization in the form of mixed-use office and commercial space in lieu of housing echoes the market pressures exerted on urban centers in its ability to secure higher per square meter rents. The skyscraper, as already described by Rem Koolhaas is transformed into an automonument and has been adopted as a signifier of economic progress and prosperity by varying political regimes. Developed during the urbanization of Chicago and New York City, it has been adopted as the architectural typology of choice for metropolises like Dubai, Shanghai, Moscow and London. Given the tremendous resources required, both financially and logistically, the proposal of a new skyscraper can only be leveraged against the future gain and increase in market value, along with the ready availability

of financial means in terms of credit, underlining its speculative nature.

In opposition to the privatizing nature of capitalist economies stand the city planning and housing practices employed by socialist and communist regimes. The best example for the transformation from one political structure to another in Berlin can best be seen in the plans and partial construction of the Karl-Marx-Allee in Friedrichshain- Kreuzberg. The large boulevard is lined with large civic structures and assembly halls called "Workers Palaces", which were dedicated to proletariat. The formal space itself, large boulevards, public squares and halls propositions the existence of the "masses" expressed through public demonstrations of solidarity, mandated by the state. The mass construction of housing and offices, through standardized prefabricated concrete structures or "Plattenbauten" became a cornerstone of the political program of the socialist party and included participation of the public in order to evoke a sense of solidarity and equality. Though the extend of "free" participation of the public has to be questioned as civic participation was largely surveyed by members of the party. But the construction of affordable, modern housing was largely seen as a benefit of living under socialist rule. Here architecture could be regarded also as an expression of progressive ideals on a social and political level. At first glance the socialist "Plattenbau" appears to deviate only to a small degree from its western counterpart, also based on pre-fabrication and high functionality. Where the two implementations differ though is in the public space that is created on an urban level. Although both structures were typically arrayed in multiples within the block, the private nature of property in the west typically resulted in the formation of physical boundaries in the form of fences, steps and hedges, to highlight property boundaries and separate them from public space. The result was largely a dysfunctional due to a lack of ownership. In opposition, the structures on the eastern side of the city formally enclosed functioning public space, which was continuous and open as the land was collectively owned and operated, through the buildings themselves without the need for boundaries.

Robin Evans maybe best expresses the social aspects of the formation of the architectural plan in his essay "Figures, Doors and Passages". Through analysis of the pre-enlightenment architectural plans of Raphael and Andrea Palladio in contrast to the architecture of John Webb and following transformation of the functionalist plans through modernism, Evans traces the inscription of human social relations inscribed within the architectural plan. Raphael's plans for the Villa Madama show that despite the seemingly symmetrical composure of the plan, each room was uniquely composed and through the interconnected circulation defied the notion of a clear distinction between enclosed and open spaces and therefore a lack of the distinction between private and public spaces. The inclusion of multiples doors leading to and from each room, in which the room itself becomes the circulation space, stemmed from the ideals of public architecture and had also been translated into the domestic space. Evans describes this architecture as "carnal", which he links to the conception of the body as the actual social being. In turn it promotes the idea of man as social being, part of the larger collective of the household. Similarly Palladio's Palazzo Udine employs multiple doorways in which circulation space and private space are undistinguished. This perception of the social stands in stark contrast to the English architecture of the 19th century, as in John Webb's Amesbury house. Here the notion of privacy requires a complete transformation of the floor plan in order to control access to bodily exposure and privacy in order to preserve the self. Rooms were no longer means of thoroughfare, but accessed through single doors from a centrally located corridor separating "commodity from delight, utility from beauty, and function from form." "Social and functional relationships were clearly categorized, distinguishing between "route and destination", ultimately leading to a planned separation between servants and served which also extended to the familiar relationships. This separation of bodies and space was further explored in the conceptions of the modernist plan which despite the radical architectural transformation of the exterior and the proclamation of the new man, still appears

1 Evans, Robin. "Figures, Doors and Passages" in *Translations from drawings to building and other essays*. Cambridge : MIT Press, 1997. P.74

to function on the same principles as the 19th century house. It can rather be read as an exemplification of the underlying principles already at work, further streamlining the circulation spaces in order to limit any possibilities of accidental encounters as visualized in Alexander Klein's "Floor plan for frictionless living". Here the privacy of domestic space stands in diametric opposition to the utopian visions of a collectivized exterior found in public space. Evans sees in this transformation of the floor plan "a general lobotomy performed on society at large, obliterating vast areas of social experience." Evans best summarizes the social potential of the plan in the ending paragraph of his epilogue where the floorplan is

[...] "employed more and more as a preventative measure, an agency for peace, security and segregation which, by its very nature, limits the horizon of experience – reducing noise-transmission, differentiating movement patterns, suppressing smells, stemming vandalism, cutting down the accumulation of dirt, impeding the spread of disease, veiling embarrassment, closeting indecency and abolishing the unnecessary; incidentally reducing life to a private shadow-play. But on the other side of this definition, there is surely another kind of architecture that would seek to give full play to the things that have been so carefully masked by its anti-type; an architecture arising out of the deep fascination that draws people towards others, an architecture that recognizes passion, carnality and sociality. The matrix of connected rooms might well be an integral feature of such a building."<sup>1</sup>

Another attempt in repoliticizing the building process is offered by Alejandro Zaera Polo in his essay "The politics of the envelope", in which he tries to reconcile the theoretical aspects of ideology through representation with the material and real aspects of building. He bases his theory on Bruno Latour's concept of "Ding-Politik", which describes the encompassing relationship of humans, non-humans, politics and nature in which architecture can reassume the role of the mediator.

<sup>1</sup> Evans, Robin. "Figures, Doors and Passages" in *Translations from drawings to building and other essays*. Cambridge : MIT Press, 1997. P.89

The realm of action is placed here within the framework of the existing real market capitalism, which according to Gilles Deleuze and Peter Sloterdijk is characterized by the complex dynamics of a networked, nomadic multitude produced and fed by the globalized world of late-capitalism. The result is a deterritorialization, previously addressed within architecture through the concept of field conditions, which led to the dissolving of the envelope in order to promote a space of flows. Zaera Polo claims that this condition has changed within the new millennium, which is dominated by security concerns and matters of sustainability, promoting instead the encapsulation of space. Referencing the ideas put forward by Peter Sloterdijk in his "Sphären" trilogy, describing the new territory as "a foamy space filled with bubbles and balloons of different sizes and qualities. This capsular society and its inherent phenomena of "global provincialism", "the politics of climatization" and "social uteri", describe as Zaera Polo puts it, "a new paradigm that requires not just a reconsideration of the technologies and economics of the building envelope, but of its political, social and psychological implications." Only by engaging reality can architecture become a tool of viable political transformation, able to resist the stasis of a purely representational, ideological or utopian architecture, which ultimately depends on the centralization of power. As he describes it:

"The envelope has become the last realm of architectural power, despite the discipline's inability to articulate a theoretical framework capable of structuring its renewed importance. Mobilizing a political critique of the envelope capable of addressing its multiple attachments and complexities may enable us to frame architecture not merely as a representation of the interest of a client, of a certain political ideology or an image of utopia, but as an all-too-real, concrete, and effective political agency able to reassemble and mediate the interests of the multiplicities that converge on the architectural project."<sup>2</sup>

<sup>2</sup> Zaera Polo, Alejandro. *The politics of the envelope: a political critique of materialism*. Volume (Amsterdam, Netherlands), 2008, n.17, P.79

The preference for the envelope instead of the plan or section is based on his perception that the envelope is the fundamental source of architecture, as it has the power to control space. The surface becomes the mediator between the public world of the exterior and the private assembly of the interior. In its attempt to mediate these two spheres, the formation of the envelope is the result of "an act of violence on both spheres". Unlike the plan or section, which he sees as largely determined by the program and functional aspects, the envelope represents a sphere of autonomy and has therefore the greatest possibility to be shaped through architecture in order to "articulate the relationships between humans and nonhumans in a common world." By proposing an initial "taxonomy" of envelope typologies, Zaera Polo aims to establish a field of political action within the specific type in order to develop alternate strategies and affects, which could destabilize or redistribute the existing power structures. This taxonomy is categorized into four categories: "flat horizontal", "flat vertical", "vertical" and "spherical/cubic", each of which has specific functional and representational capabilities, which are explored through architectural precedents. In order to be able to produce politically active architecture that can function within the constraints of increasingly complex market structures, Zaera Polo proposes the abandonment of the abstract concepts of power and ideology as formulated through the philosophical framework and instead argues for the manifestation of political practices as they relate to the concept of the envelope and its material construction based on Sloterdijk's definition of explicitation. Rather than positing an overarching political framework, the future is defined through micro-politics based on Latour's concept of Ding-Politik, which closer resembles the artificial intelligence model of control of increasingly smaller, concrete components from which the whole is reassembled, but remains open to adaptation and change. Therefore a localized, materialist approach to specific building elements can contribute to a larger transformation on a social level.

In the following passages I will try to attempt to lay out how the previously described theoretical framework of collectivity and its inherent socio-political meaning can be addressed through the

example of the thesis project in terms of built form.

The thesis is conceived in opposition to the planned development of the Media-Spree-devekopment and its inscribed political and social content. To facilitate the planned construction, which foresees the construction of a media oriented industry along the waterfront of Friedrichshain-Kreuzberg, the city has set out to sell publicly owned land to private corporations and developers. It is seen as one of the possibilities to address the city's increasing debt and attract new industries, as well as a means to renew the social demographics in order to secure a higher income tax base. The main critique and concerns by its current residents is the increasing privatization of public land, barring access to the waterfront and fear of an ongoing gentrification of the district. Paired with the removal of rent control and rising land prices, it could lead to the displacement of its economically less mobile population. Throughout history, Friedrichshain-Kreuzberg has acted as a transitional district at the center of Berlin, fulfilling a vital function, which has enabled new citizens to secure a foothold within the city, due to low rents and eventually move on to other districts. Rather than being marginalized at the perimeter of the city, its citizens were able to take advantage of the existing infrastructure and were part of the city, providing a socially mixed demographic which has contributed to the city's urbanity. Within this urbanity and due to the availability of low rents, the population had the possibility to explore alternative living situations in the past, from communes, squats and community operated childcare centers. The planned proposal of the 1.8 square kilometer big Media-Spree Project includes luxury residential high-rises and will be home to globalized media corporations like MTV networks, Universal Music and O2, one of the leading cell phone providers. Eventually the development will be providing office spaces for 40,000 workers, primarily associated with the media industries. Through the demolition and reappropriation of large swaths of industrial complexes on the eastern side of the river, which used to be state-operated and did not survive the privatization process after reunification, and the resettlement of manufacturing industries on its western side, the first building proposals have been completed, with the large

O2 Arena, the BASF headquarters and Treptowers, a luxury high-rise.

The assumption is that the ongoing privatization of public land will lead to the displacement of the base for a vital urbanism, increase homogenization and further the marginalization of cultural projects and lower income citizens, as the focus shifts from cultural to economic production with the progression of gentrification. The project had largely been planned in the times of economic boom and rapid development of the city. Given the recent developments and global crisis of the financial system and its subsequent rescue attempt through public funds, is it possible to imagine an alternative future, which recognizes the values of a social collective, not based on the maximization of future profits?

In this sense, the project is indebted to the utopian ideals of modernism and the late 60's, which envisioned the possibility of radical change through architecture. Although critics will argue that architecture alone is not able to change the inherent political and economic structure of an entire city or country, it still has the inherent possibility to critique, propose and demonstrate through the build environment an alternative to the existing status quo. Acknowledging the concept of multiplicities that exist within late-capitalism, the thesis attempts to envision a possible alternate future and work backwards from that utopian vision to engage the current realism of construction and market forces.

Based on this observation, the project attempts to define a counter-proposal to the planned Media-Spree extension on the scale of a city block. The scale of the block could be seen as the minimum space required to propose change on an urban scale, having the ability to include multiple programs and with the economy of scale and feasibility of employing standardized units, is able to propose affordable solutions for housing.

The promotion of high-rise structures which form the basis of the Media-Spree plans, underline the speculative tendencies of land-ownership and autonomy from the surrounding urban fabric, therefore the proposal focuses instead on the possibility to develop a low-rise, high density block structure which will

remain open to direct interaction with the surrounding city. If public space is considered synonymous with the possibility to act politically, its preservation and inclusion within the built structure should lie at the heart of the project. The chosen site is located at the edge of the proposed development and is currently located on public land, which can become the foundation of a project, working against land speculation and recognizing the right for the existence of a mixed demographic. By maintaining the public ownership of land, true public space, devoid of the internal emphasis of property lines through built elements, could remain open to the temporary appropriation by public, cultural projects and residents alike. The recent trend in Friedrichshain after the fall of the wall has been towards the development of commercial interests and an economy supported by increasing consumption of commodity items. While it appeared to be a successful strategy during times of optimistic consumer spending and the availability of low-priced goods based on an abundance of cheap labor and natural resources, it now warrants a critical reassessment. Given the economic downturn and an increasing focus on the Asian market as the future of consumption, it becomes questionable if an economy based purely on spending is sustainable for the future of the city, both in terms of natural resources and the subsequent abolishment of local labor and production. Furthermore, the city has abandoned the construction process of social housing in response to budget shortfalls and is considering the sale of existing public land and housing in order to battle the debt. To fill this gap, the project proposes the formation of a collaborative collective, based around housing and small-scale manufacturing, rather than the expected mix of office and retail space. The underlying common vision is the provision of affordable housing and a built-in resistance to future economic and sustainability crisis. Here the project relies on the assumption of the existence of a participatory public, which believes in the social responsibility that comes with being part of a collective. In response to the ongoing extinction of large scale manufacturing within Berlin, as industries shift production abroad in search for cheaper labor and tax benefits, the project envisions the future of manufacturing within Europe to be in the establishment of micro-factories, which can cover product demand on a local

scale. A bottom-up approach to manufacturing is becoming a possibility as the cost barrier for technologically advanced manufacturing processes is lowered and a trend towards cleaner technologies is opening up the possibility again to incorporate these processes within the urban center. A return to the localization of manufacturing is based on the assumption, that the collective production of goods promotes sociability within the block, as well as the return to an understanding of the processes, resources and human capital involved in the production process in order to reestablish a concept of value for the otherwise easily discarded mass-produced consumer good. The collective ownership also reconfigures the distribution of surplus value inherent in the finished product. Based on the idea of an open-source production process and collective ownership and participation, surplus value in terms of profits would benefit the collective as a whole. Allocated towards the financing and maintaining of collectively owned spaces, as well as the provision of a basic rental income for the residents of the block in order to keep housing affordable. Another aspect of the reintroduction of manufacturing is the possibility to supply a work and learning environment that promotes deinstitutionalized transmission of knowledge in order to address the high rate of youth unemployment within Friedrichshain-Kreuzberg by transferring technological skills of fabrication, product development and media knowledge within the collective alongside the social promise of open-source networks.

One aspect in which the socialist housing policies succeeded is in having demonstrated the possibility to provide cheap, affordable housing to its citizens based on standardization and prefabrication. The major critique today of the resulting architecture is the apparent lack of differentiation and ubiquity of mid-rise housing blocks leading to a bland urban environment. The building practice underlined the egalitarian nature of the system, but today a higher degree of customization and individualization is desired. The question here is if it is possible to develop a pre-fabricated structural system based on smaller modules, which could be reconfigured in a wider range of formal assemblies. Another aspect of cost, which can be controlled

through architecture, is the proposition of material systems. Is it possible to conceive the building block as an architectural infrastructure, which provides a platform for housing units and manufacturing spaces and limits the degree of finishes? With the ongoing destruction of "Plattenbauten" within former East Berlin, is it possible to propose the reappropriation of discarded concrete building elements in order to recycle and drive down the cost? The idea here is that potential savings in the initial finishing could contribute to the development of collective spaces within the block. The availability of onsite manufacturing processes could then be used to gradually fill in and customize individual housing units according to need.

Among other options, Zaera Polo stresses the possibility to adopt the discourse of sustainability as a political act, which can find its materialistic expression in the form of the envelope. Given that architecture both throughout its construction process and during the following operation is a main consumer of natural resources and energy, architecture has the imperative to promote sustainability. Sustainability here can refer to both, the life span of a building and its ability to adapt to changing market forces, as well as the ecological component and resource consumption. The goal therefore is to conceive of a project that drastically limits its resource consumption through sustainable façade strategies and employ flexibility within the plan and structure to accommodate a wide variety of programmatic functions.

The project therefore has to evaluate possible sources of renewable energy and climate control measures, which reduce resource consumption to a minimum and at its best could provide energy autonomy for the block. These strategies will involve the initial massing of the block as well as the inclusion of technical strategies to retain and produce energy. The city is largely invested into the promotion of solar photovoltaics and has provided a taxonomy of building types and possible solar gains in order to cut down fossil fuel usage, but due to the private investment required to retrofit existing structures, it has been largely underused. The proposed project therefore argues for the initial investment and incorporation of renewable

energy sources for future benefits. The global level of resource consumption at a level the industrialized world has enjoyed over the past five decades is no longer feasibility for the future. With over 80% of the resources being consumed in urban centers and a trend towards future urbanization, the city has to become the primary field for action. Based on the impeding resource crisis, the extraction of embedded energy and resources within discarded products has to become a vital aspect in cutting down this consumption. Therefore the project proposes the localized integration of recycling methods. The collection of waste and recyclable materials could provide a source of free material for the manufacturing process within the block and address one of the main critiques of why a new industrial revolution through micro-factories cannot rival the software revolution of the 90's, free material. This process is enabled through the development of smaller and cleaner recycling units in which discarded products could be processed within the block itself. The extraction of energy from waste products is another viable alternative energy approach, but plant size currently prevents its inclusion within urban areas. Here the construction of the envelope could be used as the materialization of sustainable politics, in the sense that the recycling process could become an integral part of the façade strategy, transparently portraying the process of waste collection and recycling.

On the social level of architecture the block attempts to address Robin Evans' proposition of the anti-type of the modernist plan. The socially complex living conditions found in the original block structures of Friedrichshain-Kreuzberg serves here as a starting point. Though already employing the concept of the corridor, the inherent arrangement of apartments on opposite sides of the corridor, transformed the interior circulation into a publicly shared zone. In some cases it was impossible to access the interior residential structures of the block, without first proceeding through adjacent manufacturing spaces, which doubled as places for political and religious assemblies. This complex social structure was inherently destroyed through modernization efforts and the decoring of the interior block structure and I would argue that it took away a vital aspect of the human, social relations that

were produced though the inherent friction. The goal therefore is reinstate spaces within the plan, which have the ability to reintroduce friction and the concept of bodies in space. The introduction of collective spaces, which could double as the main circulation space, would physically reconnect the processes of living, working and leisure, increasing the possibility of chance encounters by maximizing possible routes. By mixing housing, manufacturing and collective spaces within, the project attempts to create zones of possible overlap that could be reappropriated for alternate uses. In section it becomes important to relate and reintegrate these diverse processes and it should deviate from the still inherent separation of functions within current mixed-use projects, which still imposes a hierarchy of spaces through the section exemplified in the common practice of allocating the ground floors to strictly commercial uses, while housing functions are restricted to the upper levels.

If one follows Zaera Polo's argument, the envelope and its configuration becomes the ultimate interface between the privatized interiority and the exteriority of public space, raising concerns of territorialization, appropriation and security. Therefore the material and spatial conception of the envelope assumes a vital role in the representation of the project. The structure of the project privileges the form of the urban block, which extends the public zone within the interiority of the block while maintaining a semi-private nature of the interior spaces, without the need of physical borders. The envelope should also allow for the future extension, reduction and transformation of programmatic spaces within, depending on need. Based on an initial programmatic distribution, the structure should offer the possibility of expanding the housing, manufacturing or collective components with their composition evident on the exteriority of the envelope.



# **FUTURE PERFECT : REINTEGRATING HOUSING AND PRODUCTION IN THE BERLIN BLOCK**







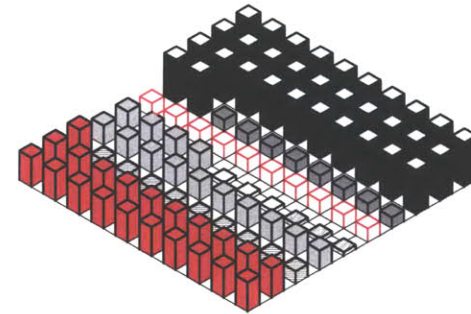
**A CASE FOR A NEW BLOCK TYPOLOGY :**

The Berlin district of Friedrichshain-Kreuzberg had traditionally been the center of manufacturing and production at the heart of Berlin, resulting in a socially diverse demographic and producing close-knit relationships between working and living. Availability of jobs in the manufacturing sector and affordable housing also contributed to the district's ability to act as a transition point for new arrivals. After the fall of the wall and the opening up of the eastern block, along with an ongoing trend towards globalization, resulted in a drastic change in the production sector, with many of the larger companies relocating their production facilities

east in search for cheaper labor and tax breaks. Especially hard hit was the former eastern part of the city, as the state-run production facilities were closed down and the land sold off to developers, resulting in high unemployment rates and changing the social demographics of the district in its wake. If the days of large scale production of mass produced items in western Europe are numbered, what might be possible alternatives to replace the lost jobs?



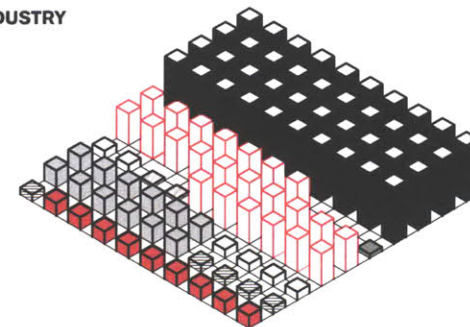
# INDUSTRY



**87,5**  
BILLIÓN €  
GDP BERLIN

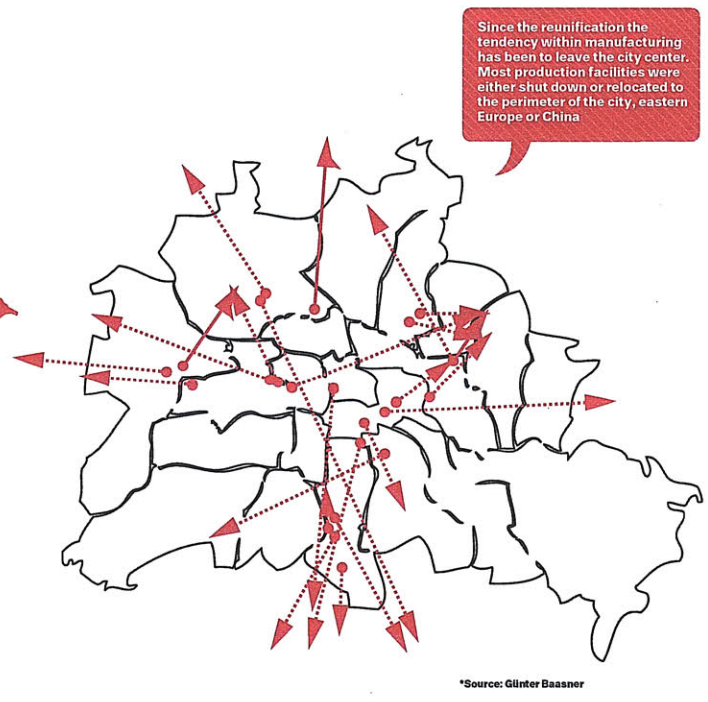
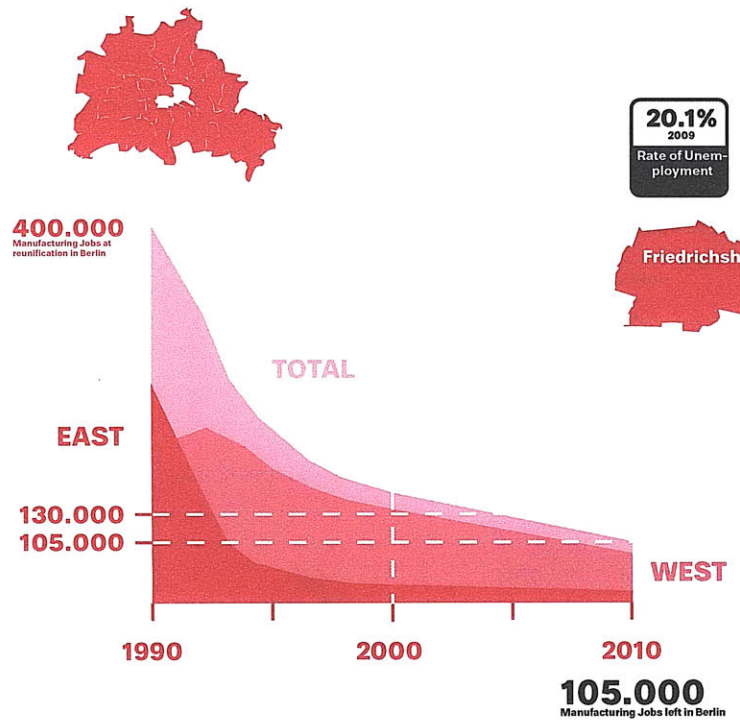
**1991**

- PRODUCTION / INDUSTRY
- ▨ INFRASTRUCTURE / TRAFFIC / TRANSPORT
- COMMERCE
- HOSPITALITY
- ▨ CREDIT / INSURANCE INDUSTRY
- PROPERTY MANAGEMENT / PRIVATE HOUSING MARKET
- BUILDING INDUSTRY
- SERVICE INDUSTRY

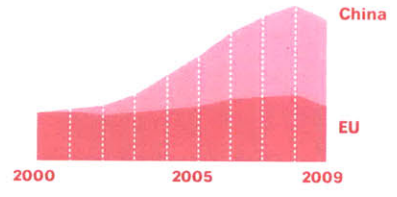


**16,6**  
BILLIÓN €  
19 % OF  
GDP BERLIN

**2008**



Over the last decade China has become a major trade partner for Germany, dwarfing imports from other EU countries. Especially electronic goods and Textiles are primarily imported from China since import limits, regulating the quantities were lifted in 2005.



**RISING IMPORTS FROM CHINA**



**6.53 €**

Labor : 0.68 €  
 Material / Overhead : 4.48 €  
 Customs Tax : 0.94 €  
 Shipping : 0.43 €

**PRICE FOR A HIGH QUALITY SHIRT FROM CHINA**

**% RELOCATION OF PRODUCTION TO GERMANY :**

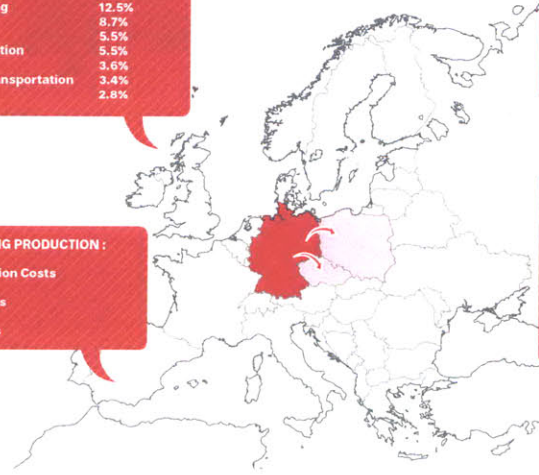
1. Textiles / Clothing	12.5%
2. Electronics	8.7%
3. Metalworking	5.5%
4. Machine Production	5.5%
5. Plastics	3.6%
6. Automotive / Transportation	3.4%
7. Chemistry	2.8%

- FACTORS FOR RELOCATING PRODUCTION :**
1. Flexibility / Transportation Costs
  2. Lack of Quality
  3. High Coordination Costs
  4. Lack of Infrastructure
  5. Lack of Skilled Workers

- FACTORS FOR OUTSOURCING PRODUCTION :**
1. Labor Costs
  2. New Markets
  3. Lack of Capacity
  4. Near Customers
  5. Taxes / Subsidization
  6. Access to Knowledge Clusters

**LABOR COSTS / PREFERRED COUNTRIES 2007 :**

1. Czech Republic	7.39 €/h
2. Poland	5.90 €/h
3. China	8.00 €/h
4. Hungary	6.43 €/h
5. Slovakia	6.30 €/h
6. Rumania	3.23 €/h
7. Bulgaria	1.80 €/h
* Germany	30.19 €/h



**238,000**  
1993  
Jobs located in Germany

**153,000**  
1993  
Jobs located in Abroad

**SIEMENS**  
AN EXAMPLE OF GLOBALIZED PRODUCTION

Founded 1852 in Berlin. Whereas Production was largely located in Germany for the first 140 years, since 1994 the company has sought to relocate its production facilities primarily to Eastern Europe and China in order to cut production costs.

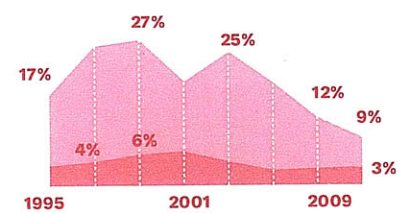
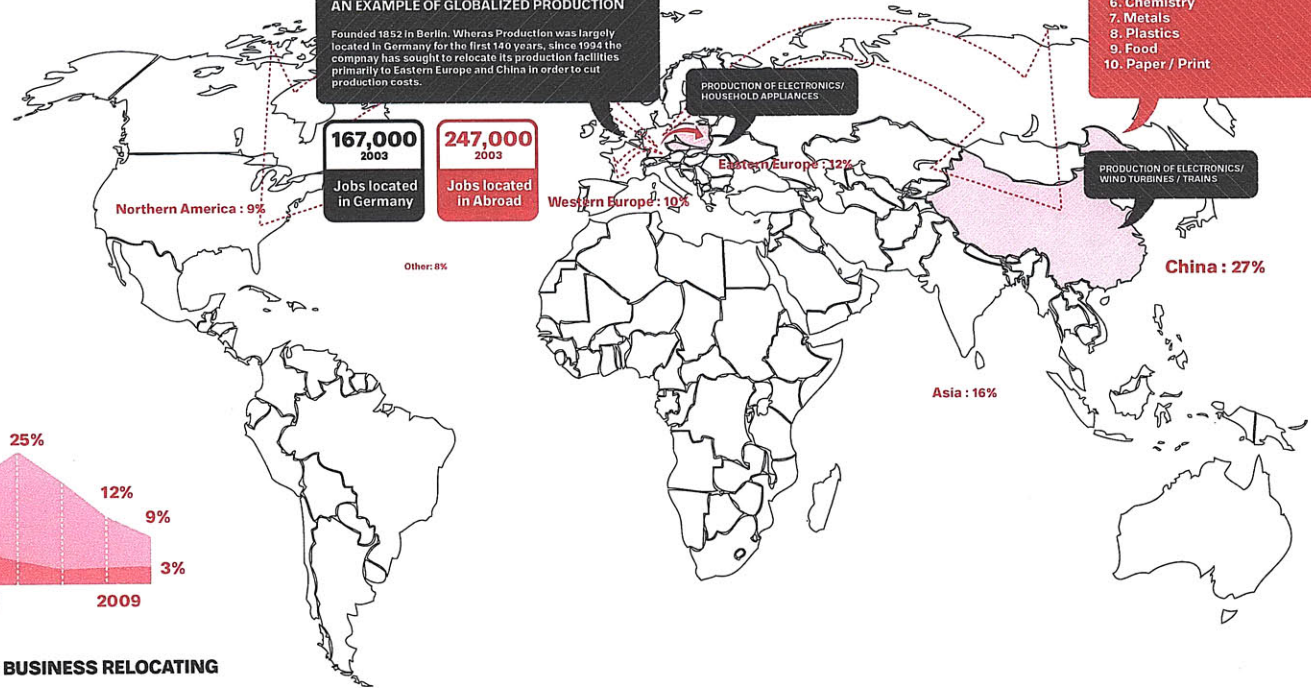
**167,000**  
2003  
Jobs located in Germany

**247,000**  
2003  
Jobs located in Abroad

**Czech Republic / Poland : 40%**

**TOP OUTSOURCED PRODUCTION 2009 :**

1. Electronics	23%
2. Automotive	20%
3. Textile / Clothing	16%
4. Machine Production	11%
5. Automation	10%
6. Chemistry	9%
7. Metals	8%
8. Plastics	8%
9. Food	3%
10. Paper / Print	1%



**% OF MANUFACTURING BUSINESS RELOCATING**

LARGE SCALE INDUSTRIAL PRODUCTION IN  
WESTERN EUROPE IS OVER.

**...Can we bring some of those jobs back?**

The trend in Consumer Culture today has shifted towards an increasingly personalized products. Given the recent technological developments in Rapid Manufacturing and a decrease in the initial start-up costs, small scale manufacturing could experience a renaissance. Whereas concerns about air quality and noise had prevented the inclusion of manufacturing within Urban Centers for the last 50 years, the idea here is the potential to reintegrate these Micro-Factories within the Housing Block, given the technological advances. Paired with the on-site recycling, it may be possible to address one of the main critiques

of the next industrial revolution, mainly the availability of cheap materials. The idea here is one of mutual benefits, where the Micro-Factories could create jobs for the Block's Residents, while taking advantages of the amenities provided through Housing.





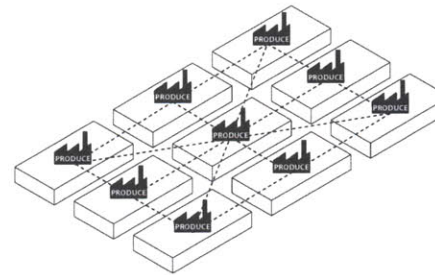
# MASSPRODUCTION



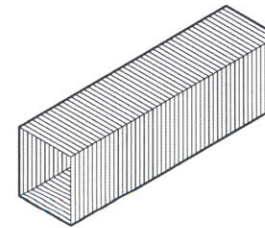
# ...MICRO FACTORIES



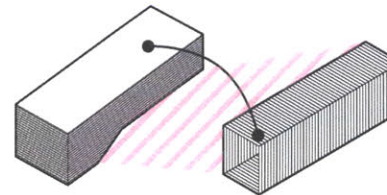
# MASS CUSTOMIZATION



NETWORKED PRODUCTION FACILITIES AT THE SCALE OF THE BLOCK?



COMPACT ASSEMBLY LINES

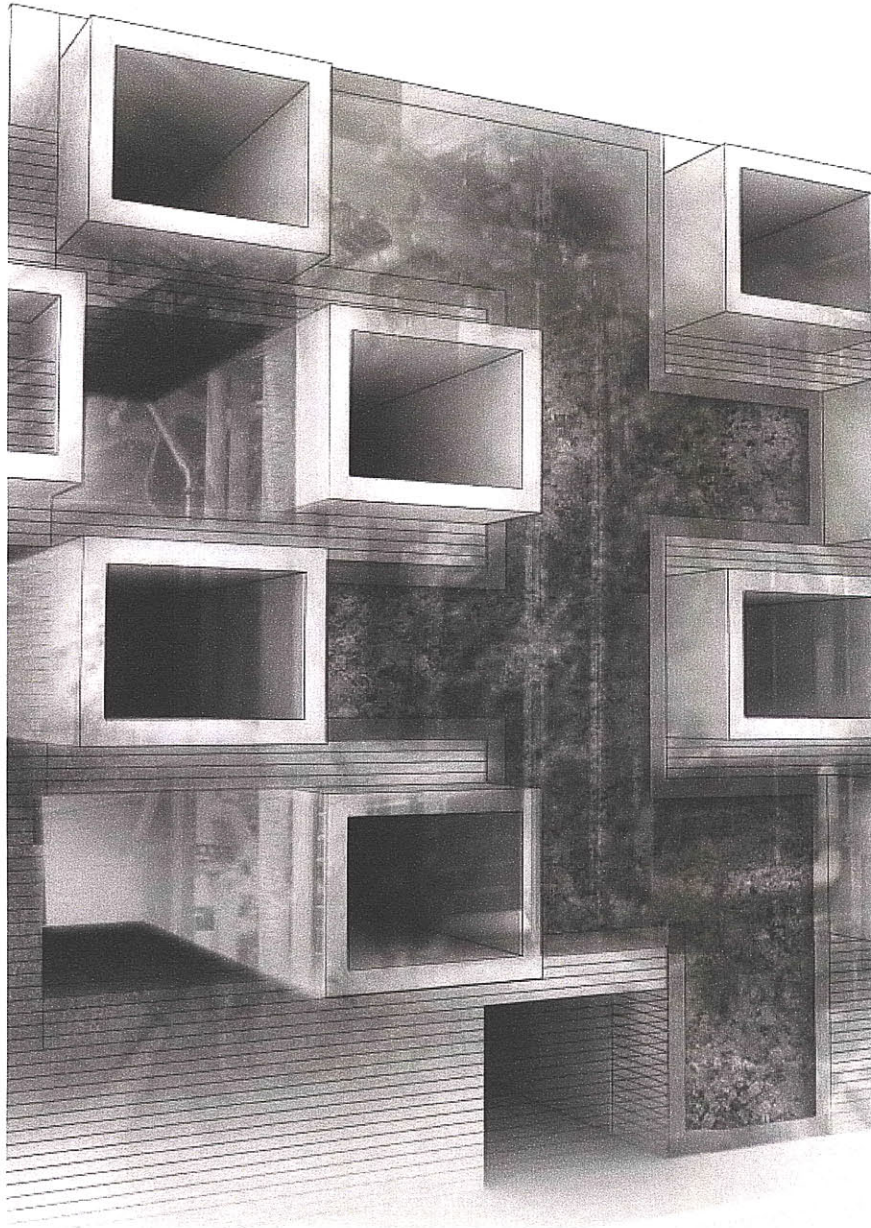


HOUSING + PRODUCTION + COLLECTIVE SPACES + SHOWROOMS

**LIMITED RUN PRODUCTIONS**  
ABILITY TO QUICKLY CHANGE ASSEMBLY LINES

**R&D, FASHION, PRODUCT DESIGN**  
HIGHLY CUSTOMIZED PRODUCTS

**EFFICIENCY / COST**  
75% FLOORSPACE REDUCTION, SMALL OVERHEAD/ STARTUP COST



## MICRO FACTORY

SHARE STORAGE AND LOGISTICS

SHARE CIRCULATION

### PROCESSES

#### CLEAN

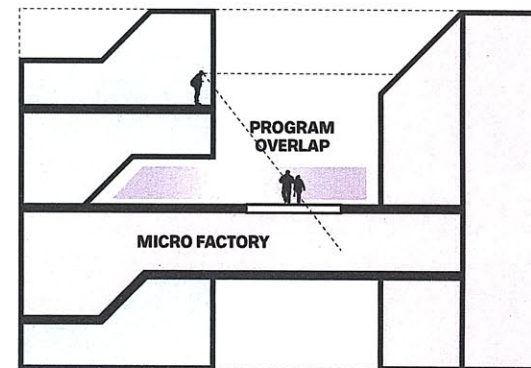
LIGHT  
 VENTILATION  
 TEMPORARY  
 PERMANENT  
 ACCESS TO LOGISTICS  
 VISUAL ACCESS  
 ENCLOSED  
 OPEN

COULD BE  
 COMBINED WITH  
 CIRCULATION /  
 HOUSING / OPEN  
 SPACE USES

#### DIRTY

LIGHT  
 VENTILATION  
 TEMPORARY  
 PERMANENT  
 ACCESS TO LOGISTICS  
 VISUAL ACCESS  
 ENCLOSED  
 OPEN

### BREAK DOWN WORK ENVIRONMENTS





Following the housing shortage after the second world war, both sides of Berlin put forward ambitious programs to develop affordable housing, which peaked in the 1960's and 70's. In both cases the main construction method involved concrete slab buildings, the so-called "Plattenbau" in order to produce cheap, affordable housing. Whereas most of the social housing produced in West Berlin was driven by tax incentives and government subsidization, the socialist Government in East-Berlin developed a series of Building Types, which could accommodate various uses with minimal differentiation, allowing

for most building elements to be pre-fabricated. Following the fall of the wall the city has sought to sell off a large proportion of its social housing units in order to cut costs on maintenance and has shifted from the subsidization of property to providing a rent assistance based on a fixed cost. The cut-back on rental limits though has drastically increased the square-meter price of rental property, driving out long time residents as the rent increases, leading to a rapid gentrification of the affected neighborhoods, in turn destroying the complex social demographics.



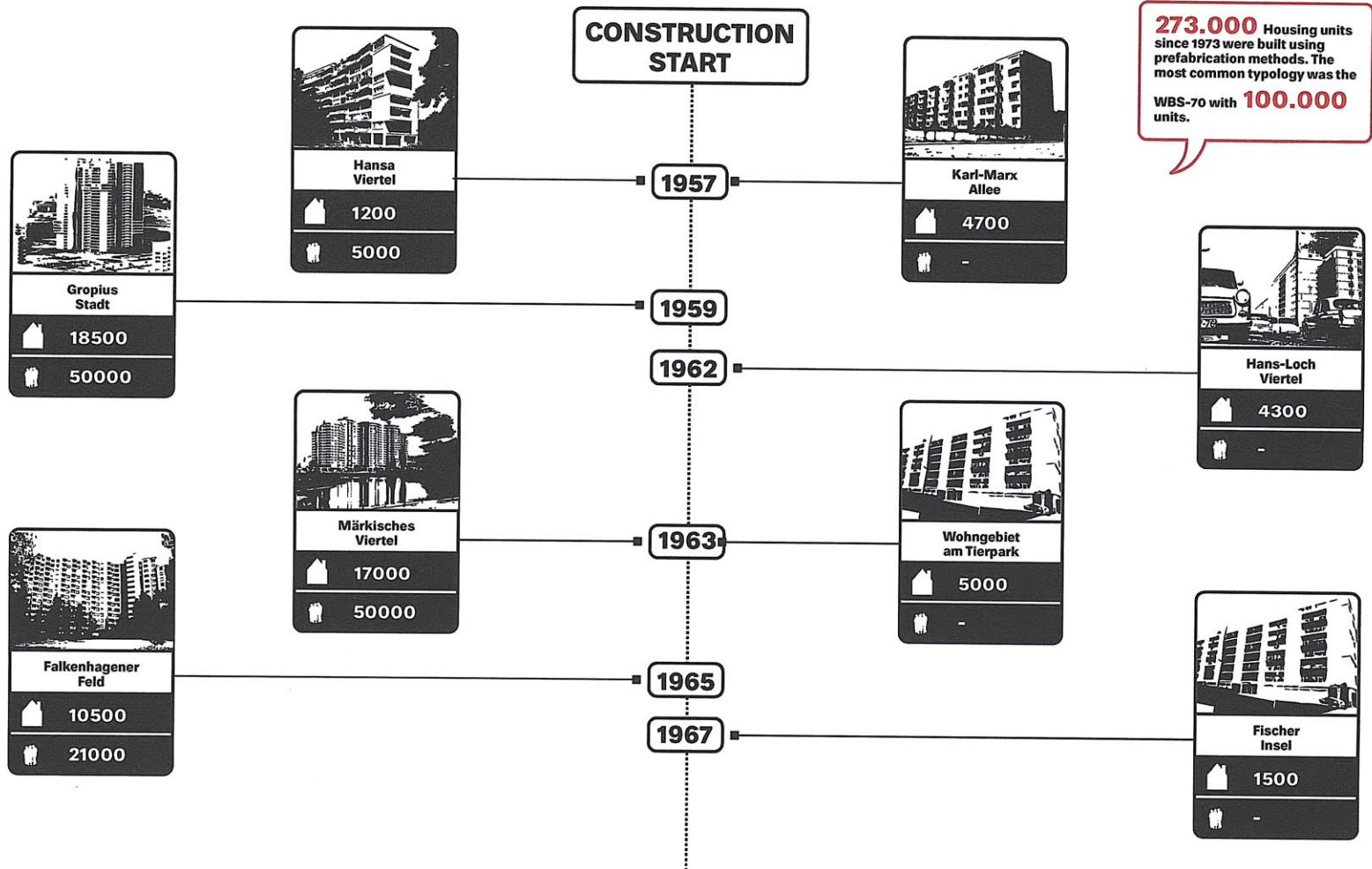
**SOCIAL HOUSING**

**EAST**

PREFAB QUOTA : 93% OF ALL  
NEW CONSTRUCTION

**WEST**

PREFAB QUOTA : 15% OF ALL  
NEW CONSTRUCTION



The following upheaval in protest against the city's urban renewal practices led to an increased approach towards modernization of existing building stock and ended the city's active involvement in constructing social housing.



1968

1970



1977

The immense building program of the GDR had resulted in a surplus of housing units. In the years following the reunification, this is the last Social Housing Project, backed by the city.



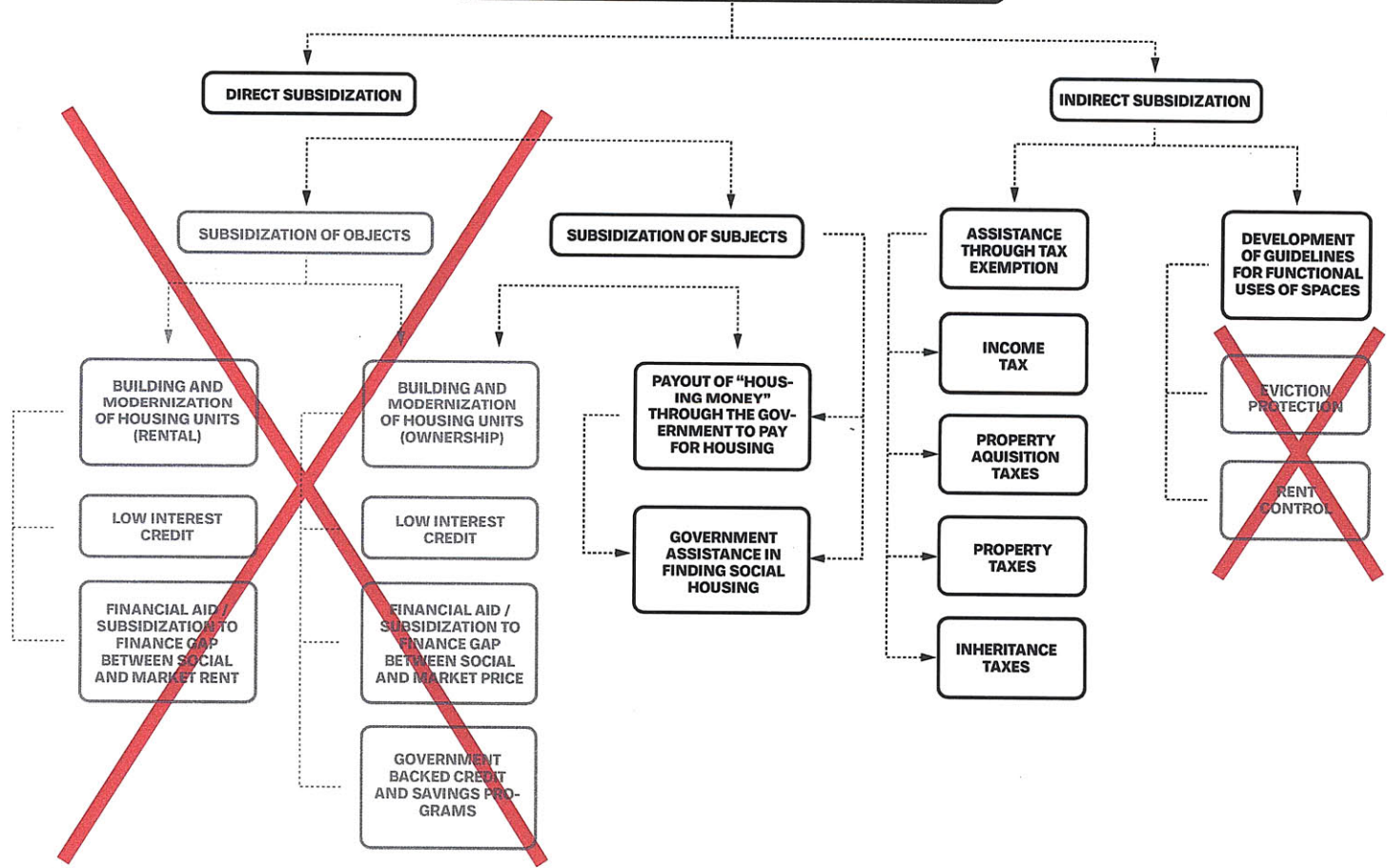
1979

1995

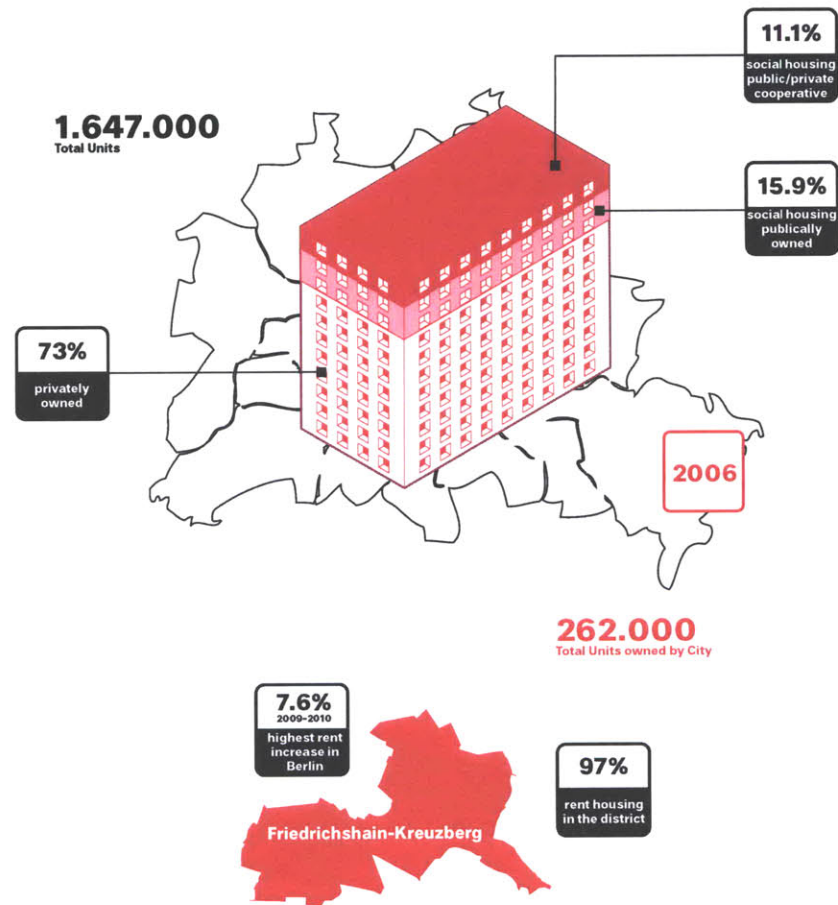
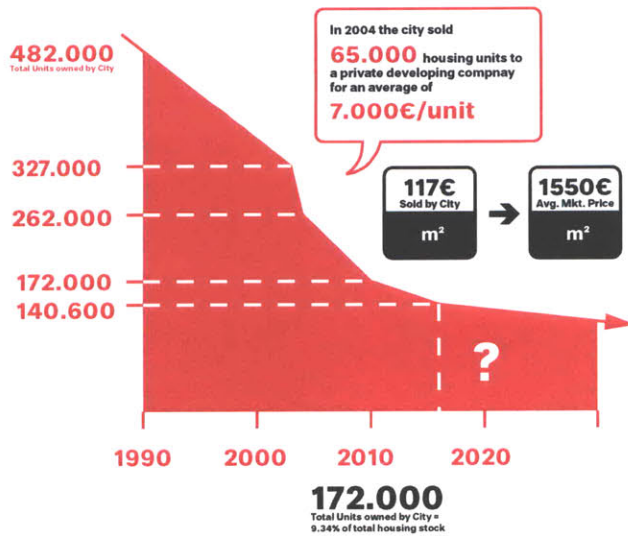
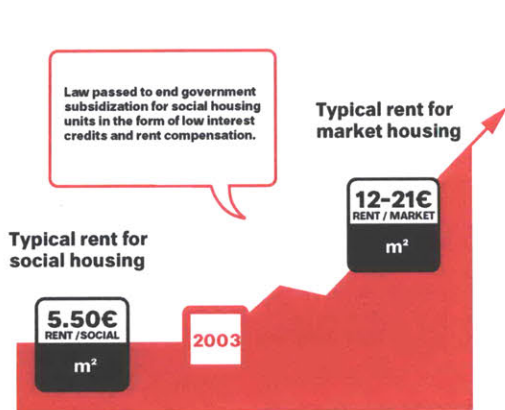


Combined these projects account for **70%** of all newly constructed housing units, providing living space for **410.000** people, 1/3 of East Berlin's population

**SUBSIDIZED SOCIAL HOUSING TOOLS : GOVERNMENT**







SOCIAL HOUSING IS DEAD.

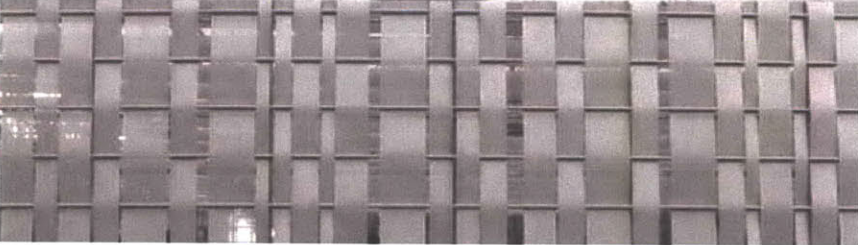
**...What is Architecture's role in addressing affordable housing for the future?**



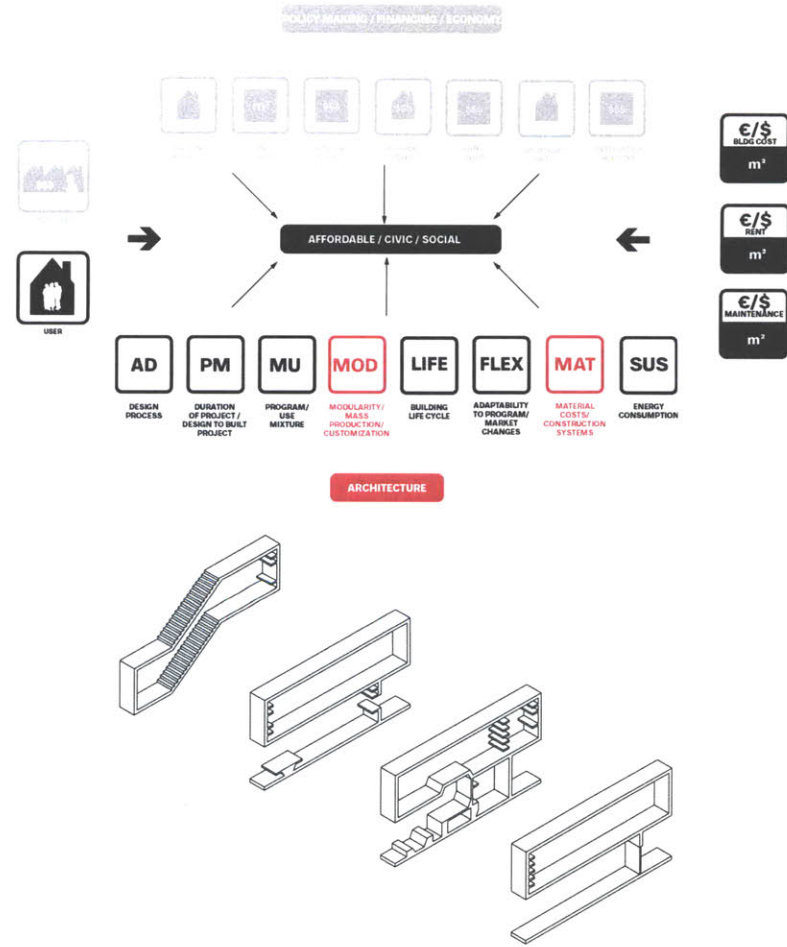
Most social housing projects depend on Government subsidies in order to be able provide affordable housing units, based on mortgage rates, tax breaks, land value and the scarcity of housing. While it might be difficult to challenge the social housing politics set up by the government, architecture can address the issues of affordability through minimizing cost during the planning and execution stages of the project by employing means of pre-fabrication, limiting the initial material finishes and furnishings of the apartment in order to reduce material costs per square-meter. The idea here is that each apartment would

be furnished with the minimal requirements for living, a pre-fabricated kitchen and bathroom unit, which can double as room dividing element. Given the on-site manufacturing capabilities, the apartments could be built out and finished over time by the residents, allowing for individualization. Apart from the idea of producing affordability through cost reduction in material finishes is the idea to provide a programmatic mix with the inclusion of the Micro-Factories and the ability to earn a living wage in order to produce affordability.

# MINIMIZE MATERIAL COSTS



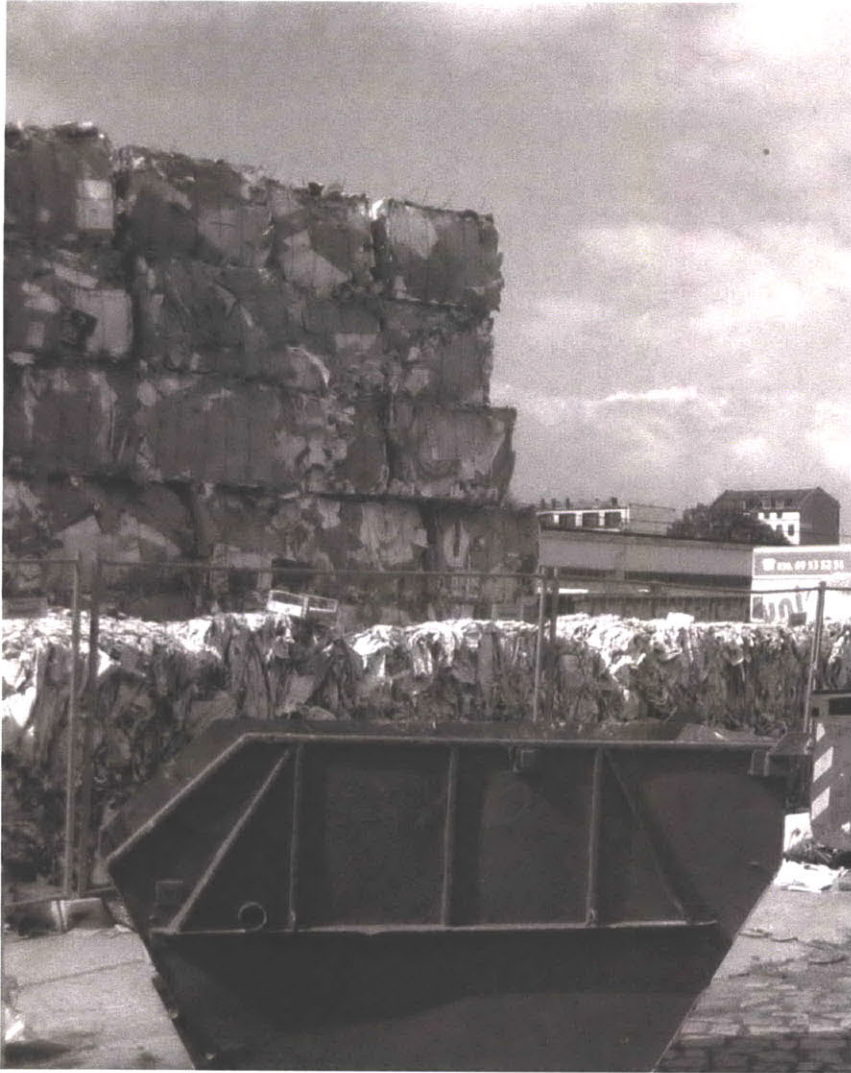
# PRE-FABRICATION SYSTEMS



PRE-FABRICATION / SERIALIZATION METHODS

The production of architecture typically is one of the main consumers of energy and requires large amounts of raw materials for its completion. Currently the site is occupied by a recycling facility which is slated to be demolished in order to provide luxury lofts and office spaces. Given the ongoing shortage of resources and increase in price of raw materials to scarcity, fierce global competition and increased shipping costs, is it possible to make the recycling process an integral part of the project? The rise of raw material costs have also driven up the value of recycled materials. Aside from providing employment and income for the

residents it could also provide access to cheap materials for the on-site production facilities and bring down the cost for interior furnishings by working with recycled goods and the display of the process could become an integral part of the facade.



## RESOURCES



**LANDFILL = 36 €/ TON**  
**INCINERATE = 54 €/ TON**  
**RECYCLE= 21 €/ TON**



**580kg**  
 / PERSON / YEAR  
 CURRENTLY  
 46% OF WASTE  
 IS RECYCLED.



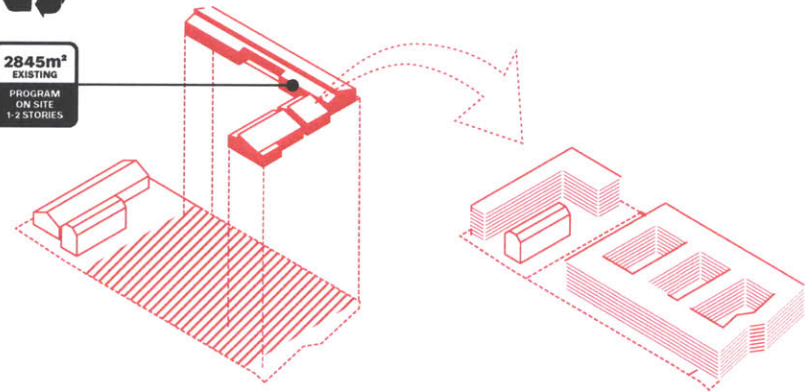
WASTE PRODUCED

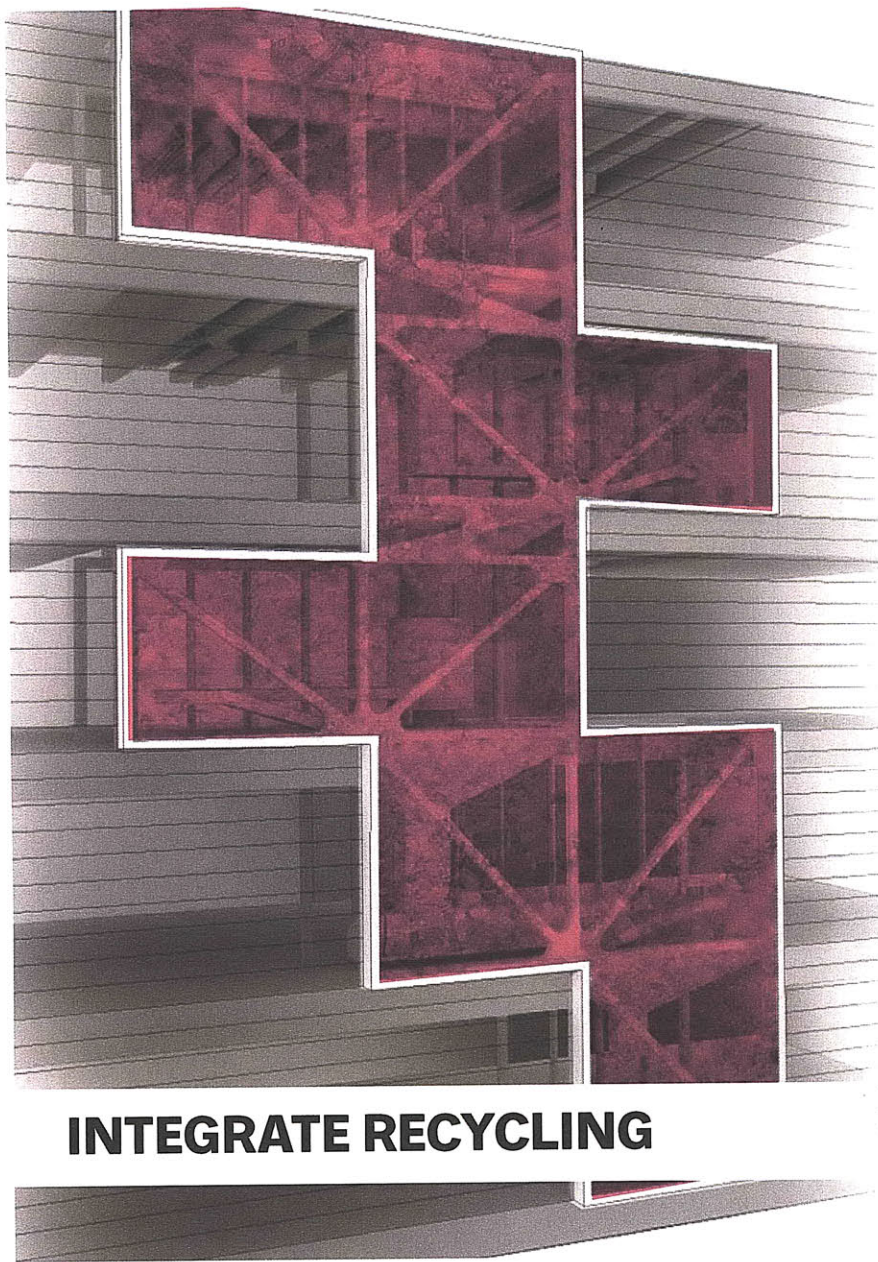
## RESOURCE € / TON

ALUMINUM	1440 €/ TON
COPPER	7265 €/ TON
STEEL	432 €/ TON
GLASS	28.8 €/ TON
PET	345 €/ TON
HDPE	333 €/ TON
PS	403 €/ TON
PAPER	100 €/ TON
CARDBOARD	75 €/ TON



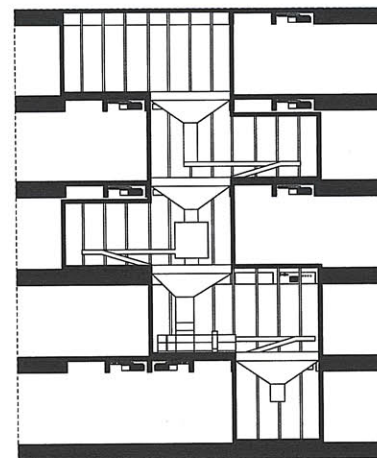
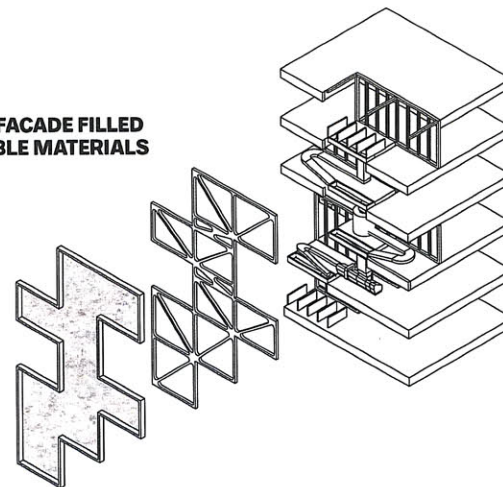
**2845m<sup>2</sup>**  
 EXISTING  
 PROGRAM  
 ON SITE  
 1-2 STORIES





**INTEGRATE RECYCLING**

**DOUBLE SKIN FACADE FILLED  
WITH RECYCABLE MATERIALS**





OVERCONSUMPTION WILL  
DEplete OUR RESOURCES.

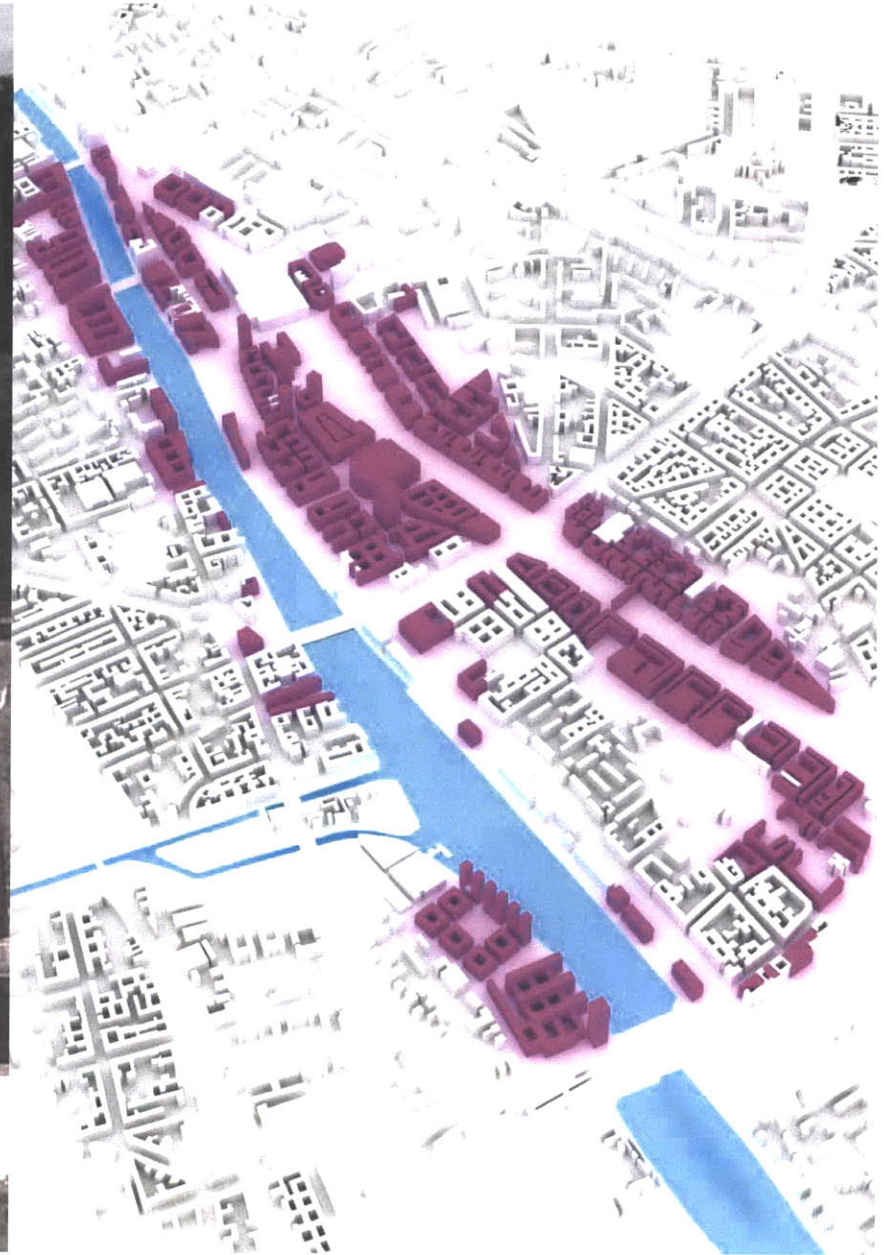
**...The Building Industry is one of the main consumer  
of energy and raw materials. How does this affect  
Architecture?**

The Media-Spree Project is currently the largest project on the planning boards in Friedrichshain-Kreuzberg. Initiated during the boom phase of the 1990's the city saw it as a viable proposal to attract new creative industries to the area, as well as a means to reduce upkeep costs of the land adjoining the river, which was largely owned by the city and the government owned Behala Shipping Company. Most of the existing building stock which is currently used by artists and small design firms is slated for demolition in order to make room for large media conglomerates like MTV and Universal Music. The plan has come under intense

public scrutiny due to fears of gentrification and the privatization of the river front through developers plans to build luxury lofts and office towers, separating the river from the adjacent urban fabric. With the economic crisis and ongoing protests, the project has largely come to a halt and offers the chance for a more inclusive counter-proposition to the existing development plans, which takes into consideration the demand for public space and affordable housing.



**MEDIA SPREE DEVELOPMENT**





**2010**



**2020**

SCALE = 1:10000

- Existing Buildings
- City Planning Guidelines
- Project Proposals

THE DEVELOPER PLAN  
PRIVATIZES THE RIVER FRONT AND LIMITS ACCESS  
TO THOSE WHO CAN AFFORD IT...

**...What could a more inclusive Architecture look  
like?**

One of the ways in which the project could be positioned within the context of the planned developments is as an anomaly within its context in order to provide a critical counter-proposition. Rather than furthering the ongoing privatization, the project takes clues from the ideas of the social condenser, by providing collective spaces and programs within the interior of the block, which allow for a continuous public circulation on the ground floor and preserve the public aspect of the riverfront by providing spaces for temporary uses. Currently the sides of the river are occupied by small non-profit “beach”-cafes and bars which

provide an alternate public space, preserving this aspect could be an integral part of the project.



**CONTINUOUS PUBLIC SPACE**

**AFFORDABLE HOUSING**

Following the modernist credo for more light and air, the district of Friedrichshain-Kreuzberg underwent a traumatic transition during the 1960's and 1970's in the phase of urban renewal. Large portions of the dense block structure, which had previously been occupied by small manufacturing facilities were de-cored, separating production, housing and commercial spaces according through zoning implementations. Whereas traditionally residents were able to find work in close proximity to their home, providing a socially diverse urban fabric, most of the industries were moved to the perimeter of the city. Where possible, the

existing block structures were torn down and substituted through concrete slab buildings in order to accommodate the need for housing. This phase of Urban renewal came to an end after intense protests by the public and was highlighted through the IBA exhibition of 1984 which provided alternative solutions to preserve the existing fabric were possible.

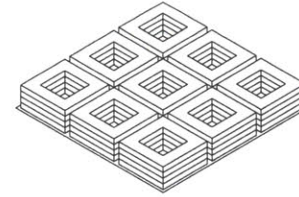




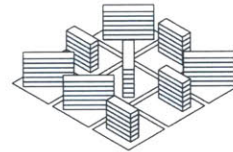
# URBAN RENEWAL



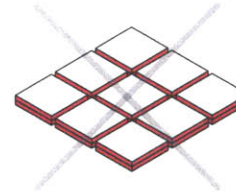
DEMOLISH EXISTING BLOCKS



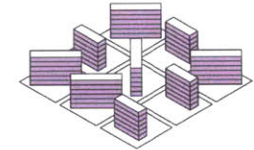
RESIDENTIAL



INDUSTRIAL



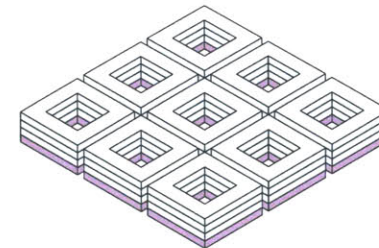
COMMERCIAL



INCREASE DENSITY

OVERLAP PROGRAMS

REACTIVATE THE STREET



RE-INTEGRATE COMMERCIAL AND RESIDENTIAL SPACES

Over the last two decades the idea of the mixed-use development has been regarded as a vital planning tool to address the problems associated with failing urban centers. These projects are typically based on the architectural typology of the hybrid, mixing commercial spaces on the ground floor with office spaces and lofts, increasing the speed of gentrification. Currently the city has a large surplus of unused office spaces for rent, which were planned during the boom phase of the 1990's. Given the need for affordable housing and the need for public space, the ideas promoted by the social condenser could offer a viable alternative

to the current trends in development in order to produce a vibrant urban fabric. Rather than limiting the definition of Live/Work space to the inclusion of office spaces, the reintegration of Micro-Factories within the block could provide employment for the local population as well and tie the production back to the surrounding urban fabric.



## MIXED-USE



Product of speculative system, based on maximizing financial gain.

Maximize Use of Land

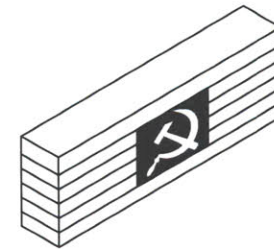
Developer driven

Private Ownership and Control of Plot and Activities

Luxury Lofts and Commercial/ Office Functions

Concessional Public Space

Ability to adjust to varying markets



Post-Revolutionary typology proposed by Russian Constructivists.

Redefine the relationship of citizen to state, work and social system.

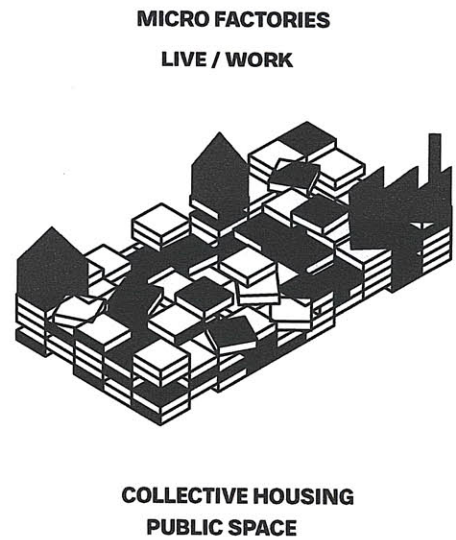
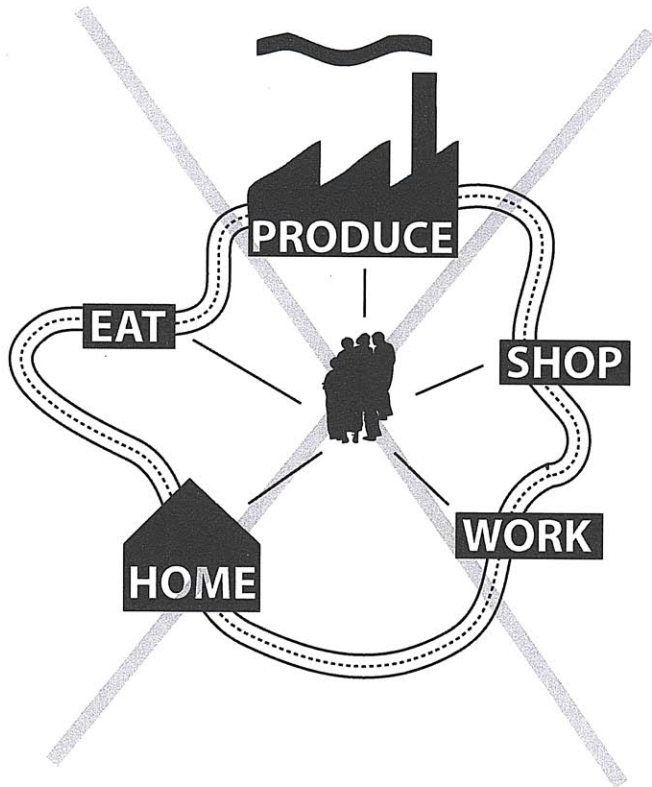
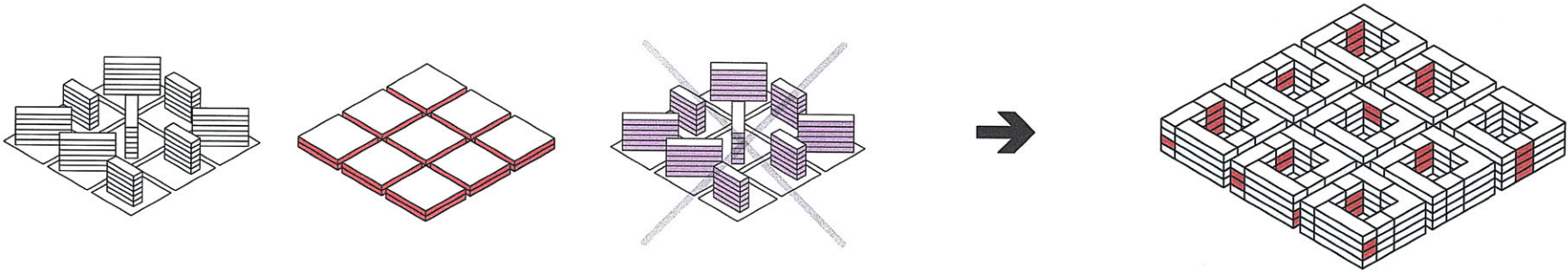
Collective Housing Ideas

Goal to form a new community through shared experiences.

Interiorized collective Space, public grounds

Minimizes Private Space

## HYBRID VS SOCIAL CONDENSER



THESE IDEAS ARE NOT NEW.

**Can the excavation of past typologies provide an approach to move forward in the future?**

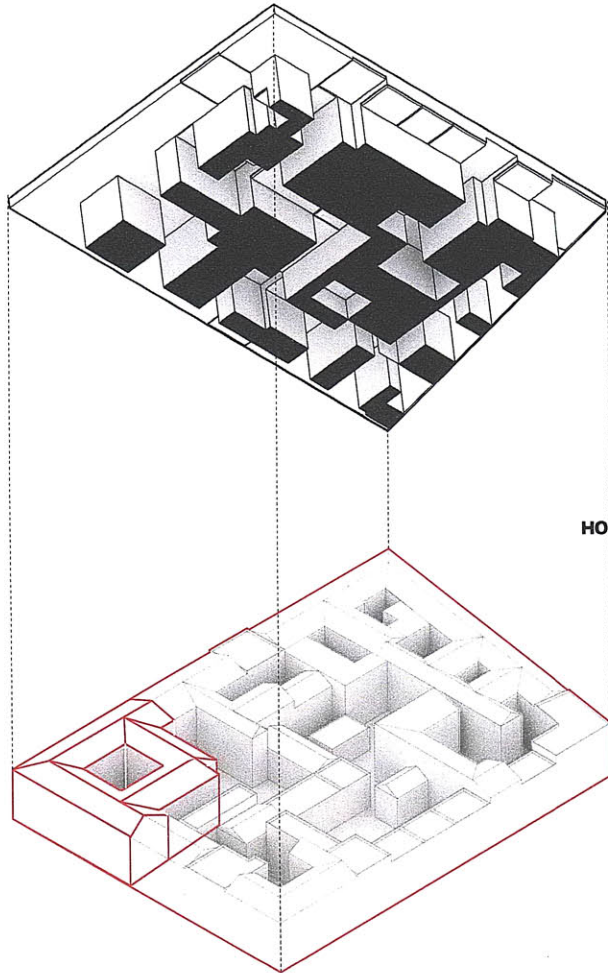
The idea of mixed-use developments and the close proximity of living and working are no new ideas. During the industrial revolution, the necessity of close proximity of various production processes and the need for skilled labor produced a complex interior block structure and use mixture within the city of Kreuzberg, typically referred to as the “Kreuzberger Mischung”. The block was typically built out over time with rental properties and housing located on the exterior perimeter of the block. Within the core of the block was typically a dense network of interior courts, at times three to four layers deep, connecting the

various manufacturing buildings, reminiscent of the architectural typology of the mat building. Although the living conditions were dismal at times, due to the highly polluting manufacturing processes, the multi-use function of the interior courts, which had to double as logistic corridors, assembly space and playgrounds, set up an interesting overlay of varying programmatic components. As we search for alternative methods to re-instill a sense of urbanity within our city centers, the model of the Kreuzberger Block might offer valuable lessons.



## KREUZBERGER BLOCK





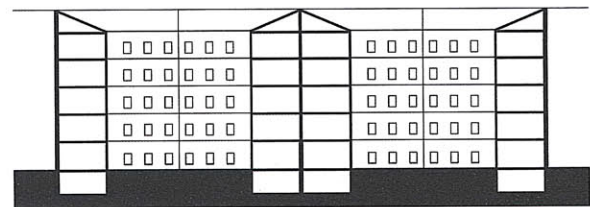
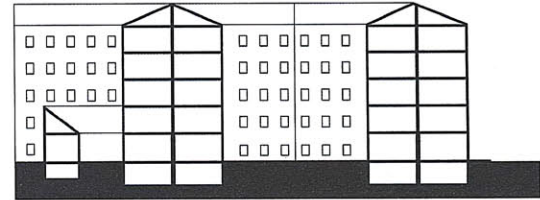
INTERIOR COURT / VOID



HOUSING



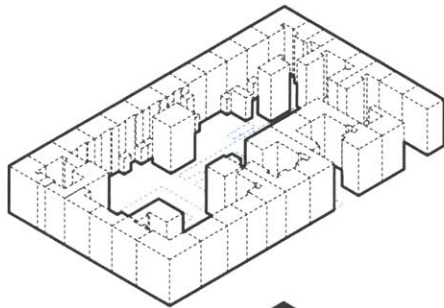
MANUFACTURING



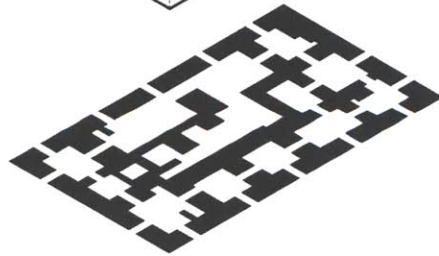




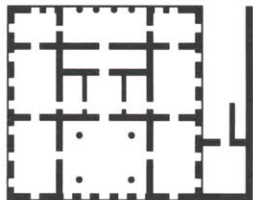
**LIVE / WORK ENVIRONMENT**



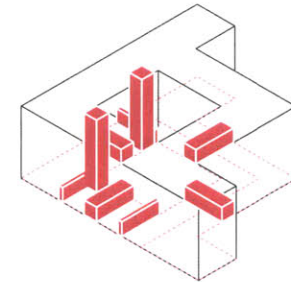
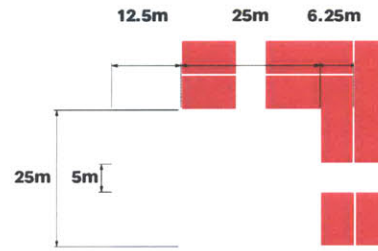
**DENSITY**



**MULTI-USE SPACES  
THE UNPROGRAMMED VOID**



**PRE-MODERN CONCEPT OF LIVING**



**UNITS ARE ACCESSED  
FROM AN INTERIOR STAIRWAY  
3-4 UNITS PER LANDING**



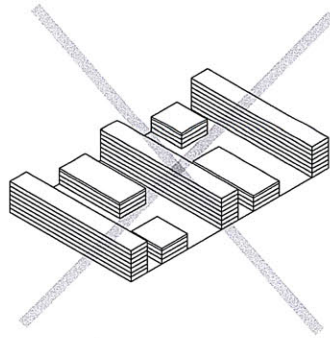
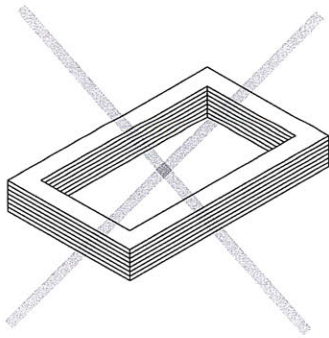
**INTERIOR COURTYARD = MULTIFUNCTIONAL SPACE**

**WASTE STORAGE / RECYCLING**

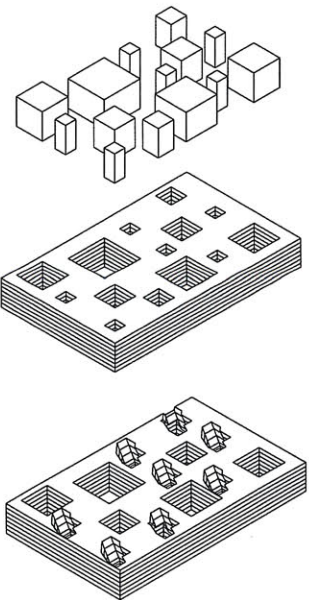
**ACCESS TO MANUFACTURING / STORAGE / TRUCK DELIVERY / WORK AREA**

**RESIDENTIAL / CIRCULATION / WORK AREA / BICYCLE STORAGE**

**OTHER PROGRAM / PLAYGROUND / CAFE**



**CONTINUOUS FLOORPLATES**  
**SERIES OF INTERIOR COURTYARDS**  
**ADJUSTED FOR DAYLIGHTING**  
**CONTINUOUS CIRCULATION PATTERNS**  
**AS INTERIOR STREETS**





Most of the social housing produced in the 1960's and 1970's had in mind the spatial and programmatic requirements of the nuclear family. As in most other western cities, the trend over the last decades has been towards the single-user household, as the age of home ownership, marriage and parenting has steadily risen. This change in the overall demographics offers new possibilities in developing collective housing projects, in which certain programmatic areas can be shared by the residents. In order to address this change the project proposes a mix of family units with increased privacy located on the perimeter of the

block and collective housing cores at the center of the project, which allow for live-work spaces. By providing flexible wall elements, the size of the apartment can be changed over time according to the needs of the resident though the negotiation of an unprogrammed space adjacent to each unit, shared by two neighbors, which can double as storage, circulation or workspace.



## HOUSING FOR WHO?



### MASSES AND CLASSES



### COLLECTIVE OF INDIVIDUALS



**DISTRIBUTION**

**50.2%**



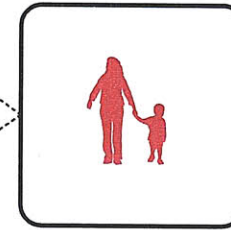
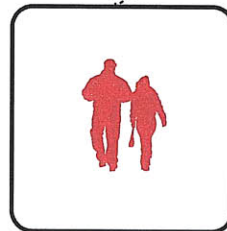
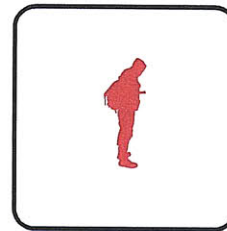
**31.1%**



**10.6%**



**8.1%**



**80%**

**NUCLEAR FAMILY**

**SINGLE PERSON HOUSEHOLD**

CURRENT HOUSING DOES NOT ALLOW FOR NEW  
LIVING ARRANGEMENTS.

**...What are the Architectural devices that regulate our interaction with each other and express the formation of a new approach to collective housing?**

Dealing with Housing in architectural terms demands the question on how to express the underlying organization of the housing project. Le Corbusier's Unite d'Habitation, provides a compelling case study in registering ideas of collectivity within the build project. Based on the idea of the social condenser, the ground floor provides a continuous public space and collective programs are organized along a raised interior street within the core of the building. The maisonette units are interlocked in section and although color accents on the exterior facade express a certain amount of individuality, the overall facade

strategy unifies the various unit types, expressing the idea of the collective. The key architectural elements in expressing the level of individuality, privacy and collectivity within the project can be located on the level of the block through the facade and interior organization of units in plan and on the level of the individual through the location of doors, circulation corridors and wall elements that can increase or decrease the level of privacy.

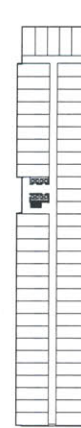




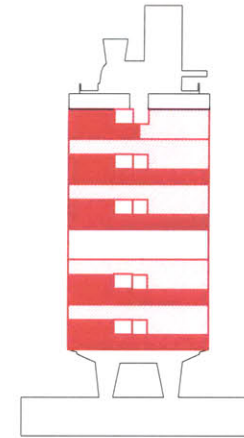
# EXPRESSING HOUSING



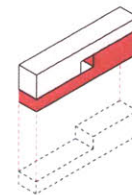
**UNIT TYPE AND ORGANIZATION IN THE PLAN**



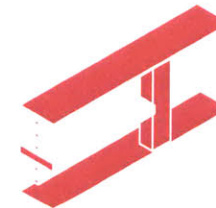
**PROGRAMMATIC RELATIONSHIP IN SECTION**



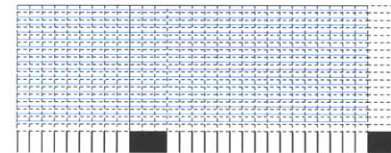
**RELATIONSHIP BETWEEN TWO ADJACENT UNITS**



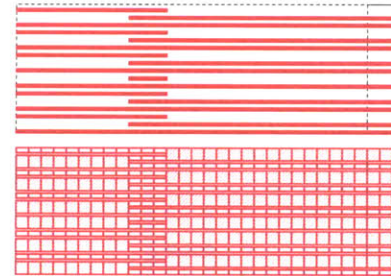
**INTERIOR CIRCULATION**



**RELATIONSHIP TO THE GROUND**

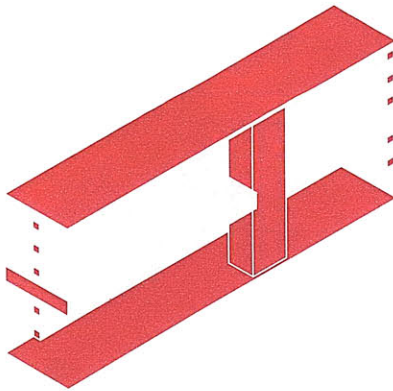
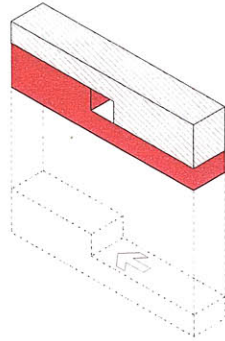


**THE FACADE AS AN EXPRESSION OF THE ORGANIZATION AND MEDIATOR BETWEEN THE PRIVATE AND PUBLIC**



**CORBUSIER - UNITE D'HABITATION**

INTERLOCKING MAISONNETTE

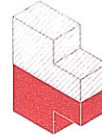


BUILDING LIFTED OFF GROUND WITH PILOTIS. CONTINUOUS PUBLIC SPACE. REMOVES BUILDING FROM SURROUNDING CONTEXT

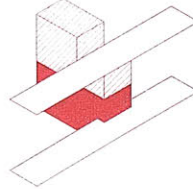


**PETER AND ALLISON SMITHSON - GOLDEN LANE**

STACKED MAISONNETTE TO CREATE INTERIOR STREET.



SHIFTS CORBUSIER'S INTERIOR STREET TO THE EXTERIOR OF THE BUILDING. PLACE FOR SHOPS/ MIXED USED PROGRAM

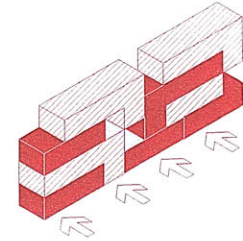
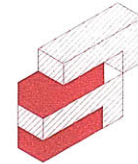


INTERIOR STREET ON GROUND-FLOOR. BUILDING RESTS ON GROUND ENCLOSING SPACE

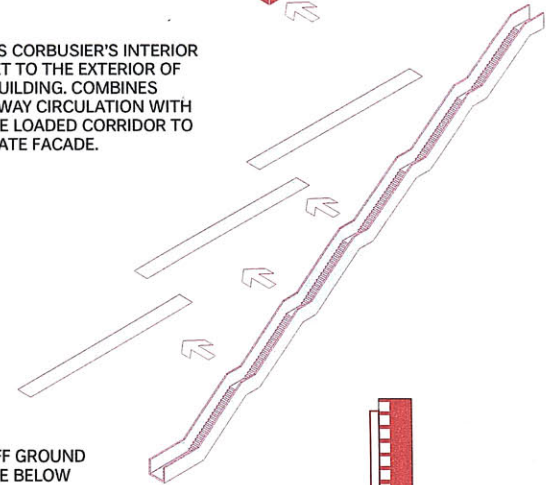


**SANAA - GIFU**

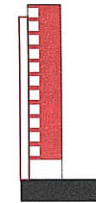
TAKES CORBUSIER'S INTERLOCKING MAISONNETTE AND EXPRESSES RELATION IN LONGITUDINAL SECTION. INTERIOR STREET BECOMES COMMON SPACES / LOGGIAS FOR USERS



SHIFTS CORBUSIER'S INTERIOR STREET TO THE EXTERIOR OF THE BUILDING. COMBINES STAIRWAY CIRCULATION WITH SINGLE LOADED CORRIDOR TO ACTIVATE FACADE.

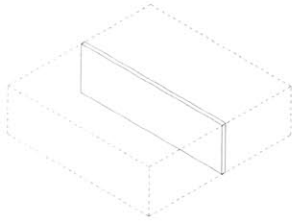


BUILDING LIFTED OFF GROUND WITH PILOTIS. SPACE BELOW USED FOR PARKING

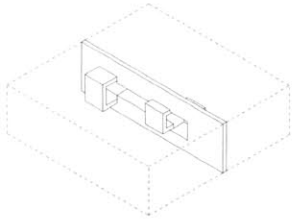


**SCALE OF THE INDIVIDUAL - EXPRESSING THE RELATIONSHIP BETWEEN TWO INDIVIDUALS**

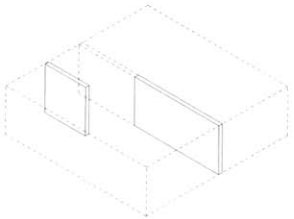
**WALL DELINEATES SPACE AND PROPERTY**



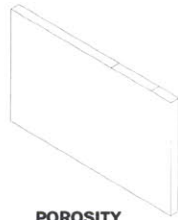
**SPACE IN BETWEEN**



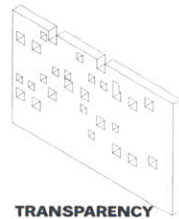
**FLEXIBLE WALLS**



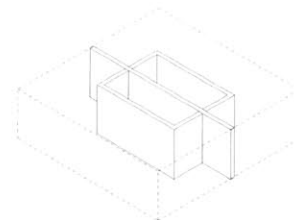
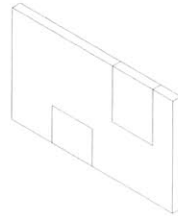
**SOLIDITY**



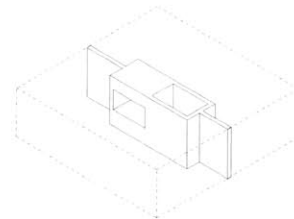
**POROSITY**



**TRANSPARENCY**



**SHARE SERVICES**



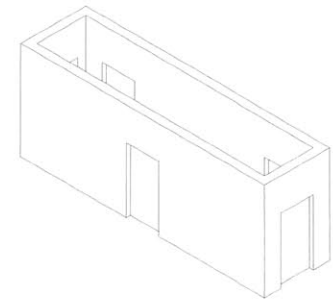
**SOLIDITY**



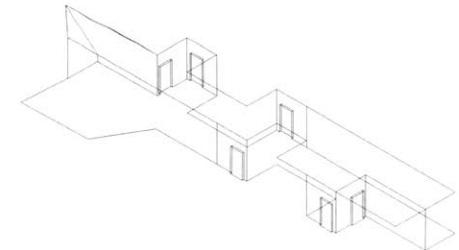
**FREE CIRCULATION**



**SEPERATE CIRCULATION PATTERNS**



**OVERLAP CIRCULATION PATTERNS**



**WALLS**

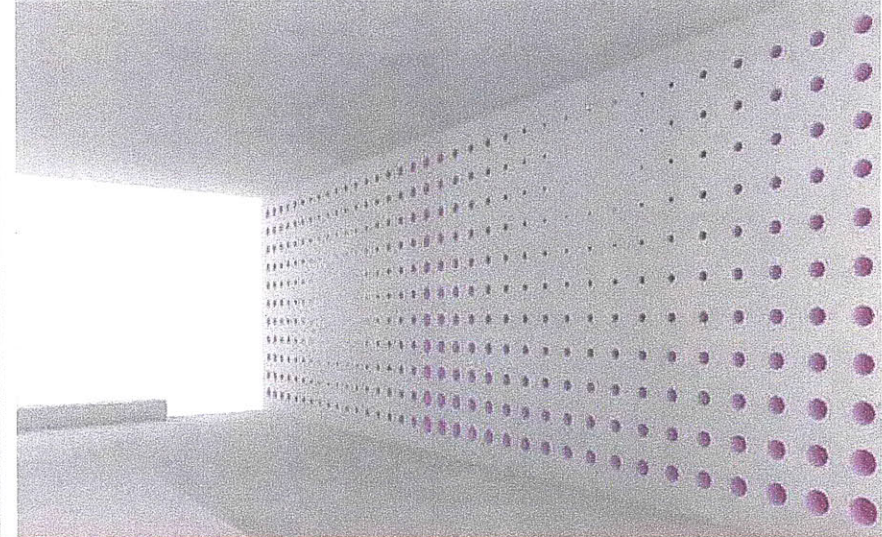
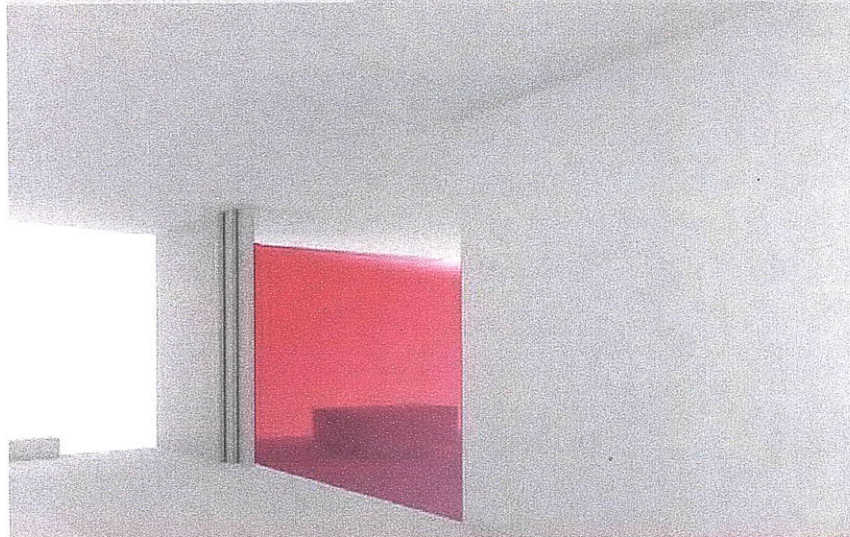
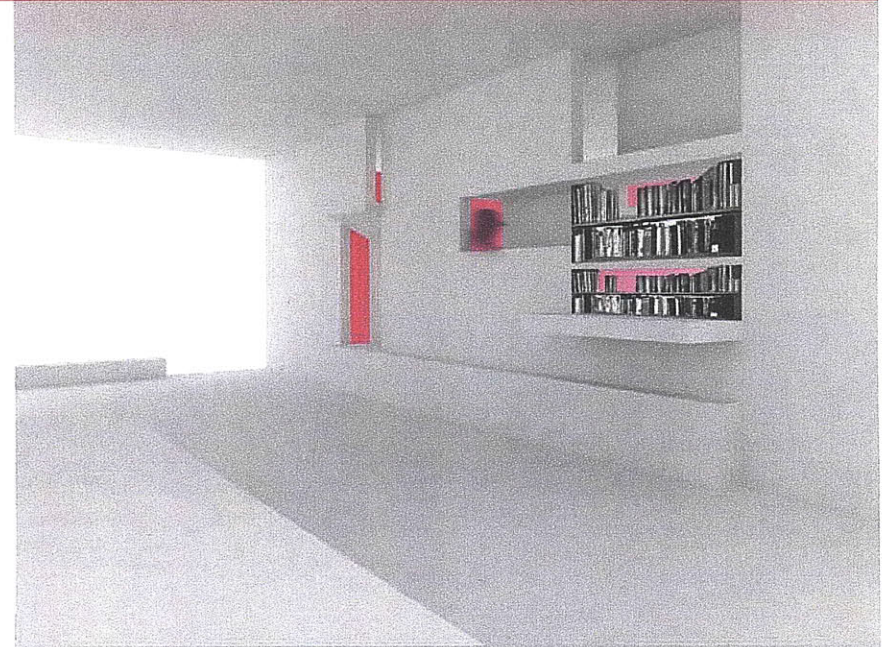
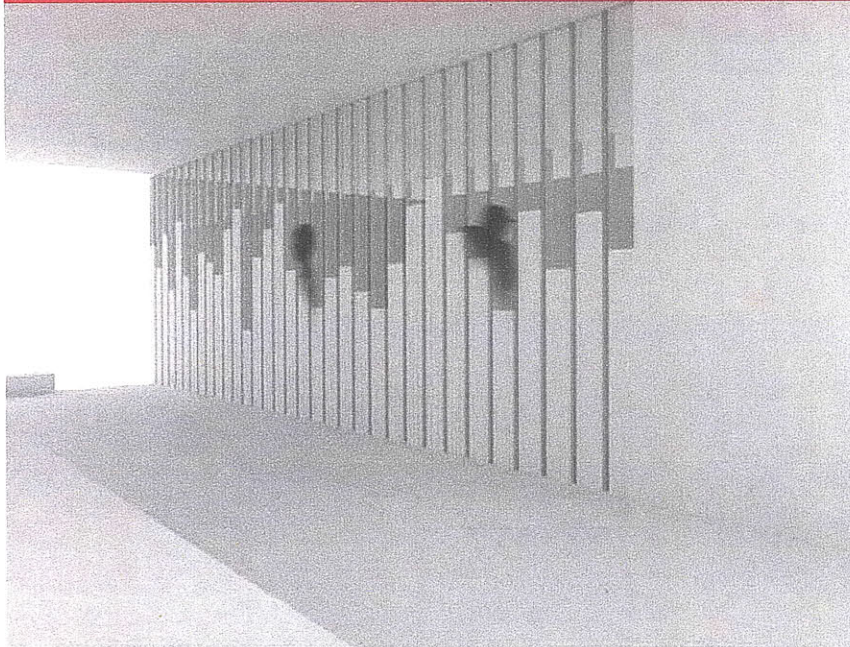
**SERVICE CORES**

**DOORS**

**PASSAGES**

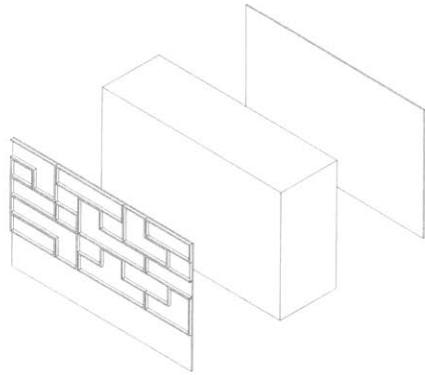
**WALLS, DOORS, CORRIDORS AS REGULATORS OF PRIVACY**

**SCALE OF THE INDIVIDUAL - EXPRESSING THE RELATIONSHIP BETWEEN TWO INDIVIDUALS**

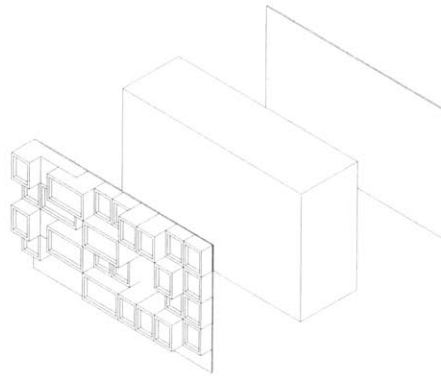


**WALLS, DOORS, CORRIDORS AS REGULATORS OF PRIVACY**

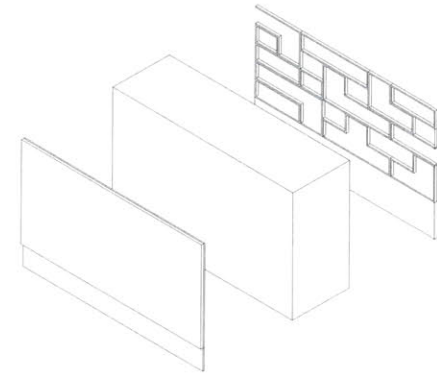
**SCALE OF THE BLOCK - EXPRESSION OF THE INTERIOR ORGANIZATION IN RELATION TO THE CITY**



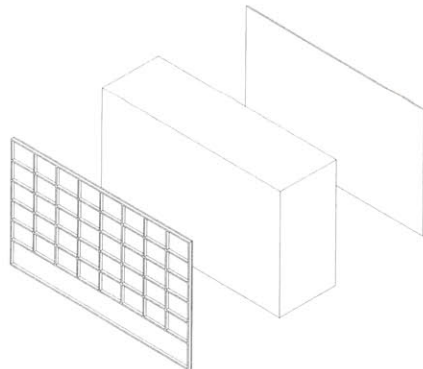
**UNIQUE, YET PART OF A LARGER WHOLE**  
SECTIONAL INTERLOCK IS EXPRESSED  
THROUGH THE STRUCTURE, SAME MATERIALITY



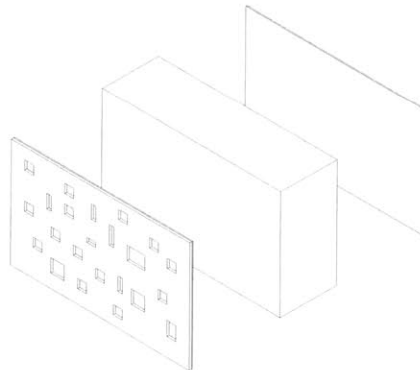
**AGGREGATED INDIVIDUALITY**  
EXPRESSED THROUGH MASSING,  
COLOR, DIFFERENCES IN MATERIALS



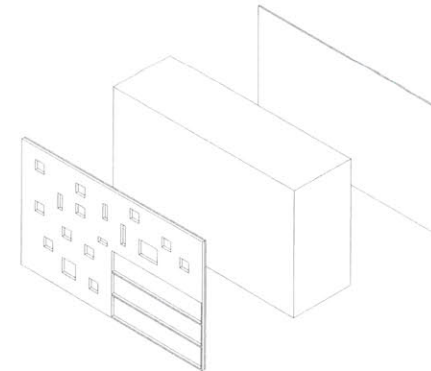
**A BLOCK APART**  
FOCUS ON THE INTERIORITY OF THE PROJECT,  
SETTING IT APART FROM THE SURROUNDING CITY



**ALL ARE EQUAL**  
EACH UNIT HAS THE SAME SIZE,  
MATERIALITY, FENESTRATION



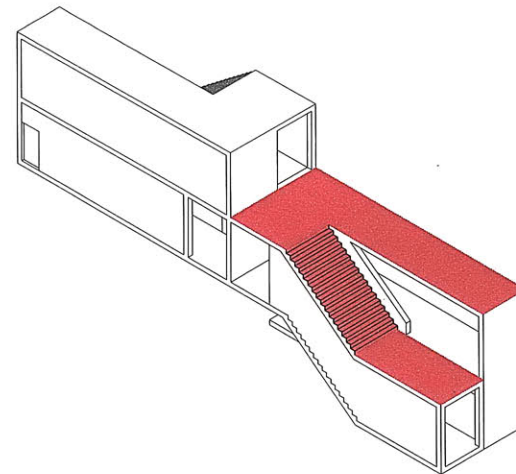
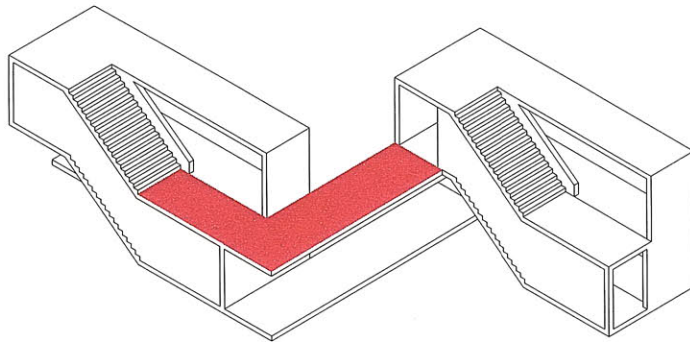
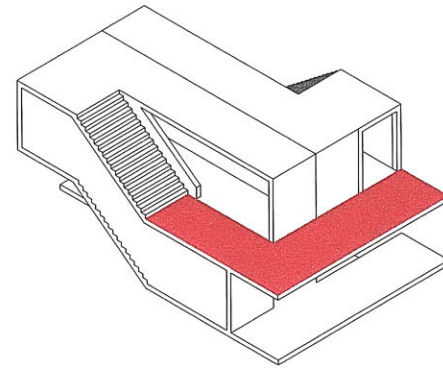
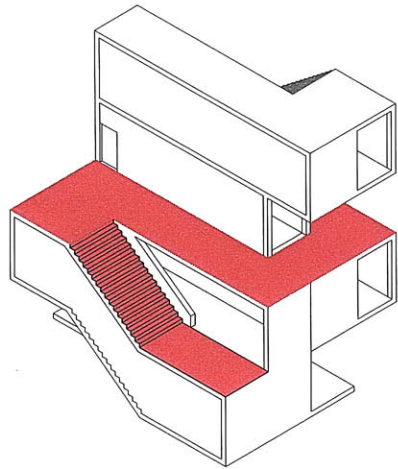
**CAMOUFLAGED**  
CAN EXPRESS BOTH THE INDIVIDUALITY OF EACH  
UNIT OR HIDE THE EQUALITY OF EACH UNIT



**PROGRAM VS PROGRAM**  
DIVISION OF THE FACADE  
ACCORDING TO PROGRAMS

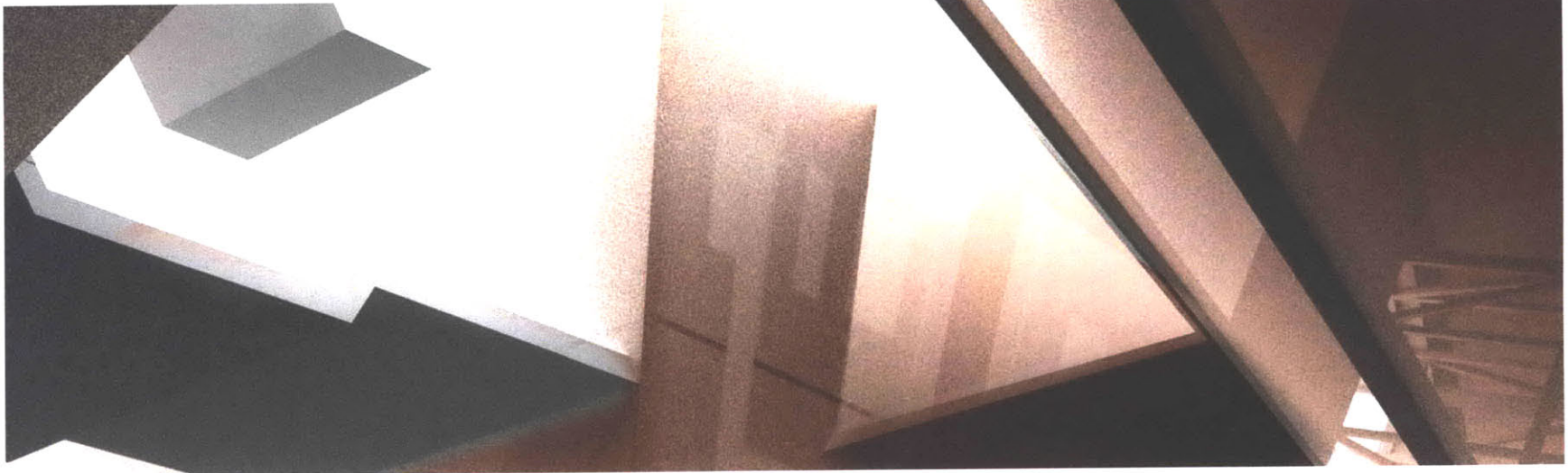
**THE FACADE / MASSING AS REPRESENTATIONAL DEVICE OF THE COLLECTIVE**

SCALE OF THE UNIT - EXPRESSING THE RELATIONSHIP BETWEEN TWO UNITS

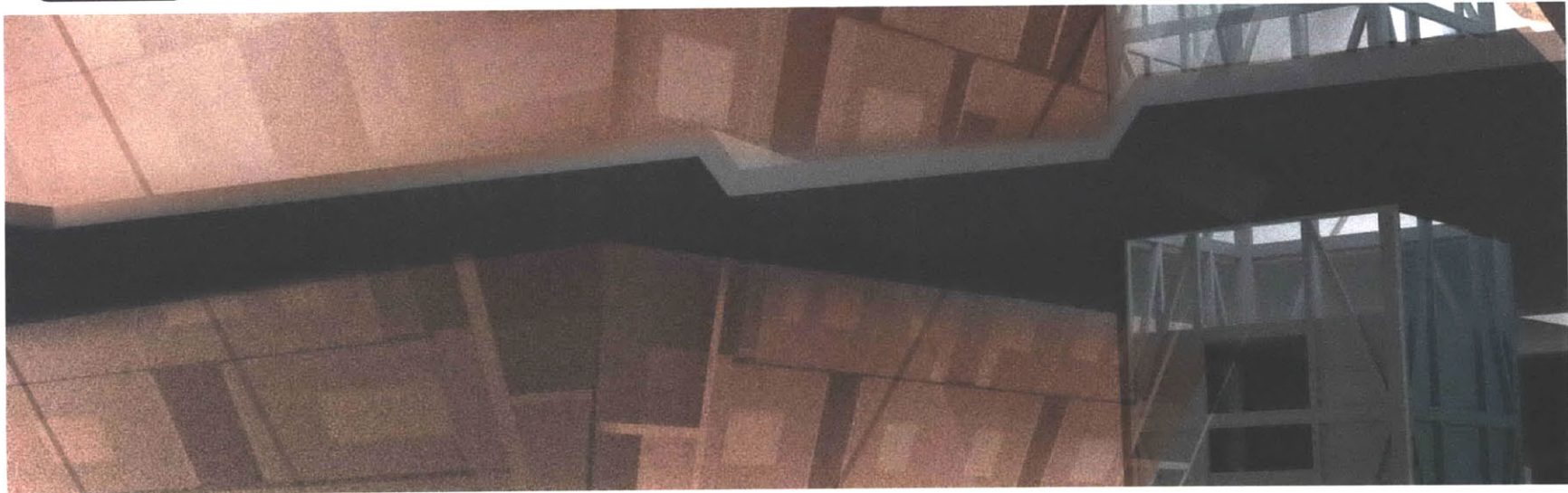


SECTIONAL RELATIONSHIPS, PLAN CONFIGURATION





# **FUTURE PERFECT** : REINTEGRATING HOUSING AND PRODUCTION IN THE BERLIN BLOCK



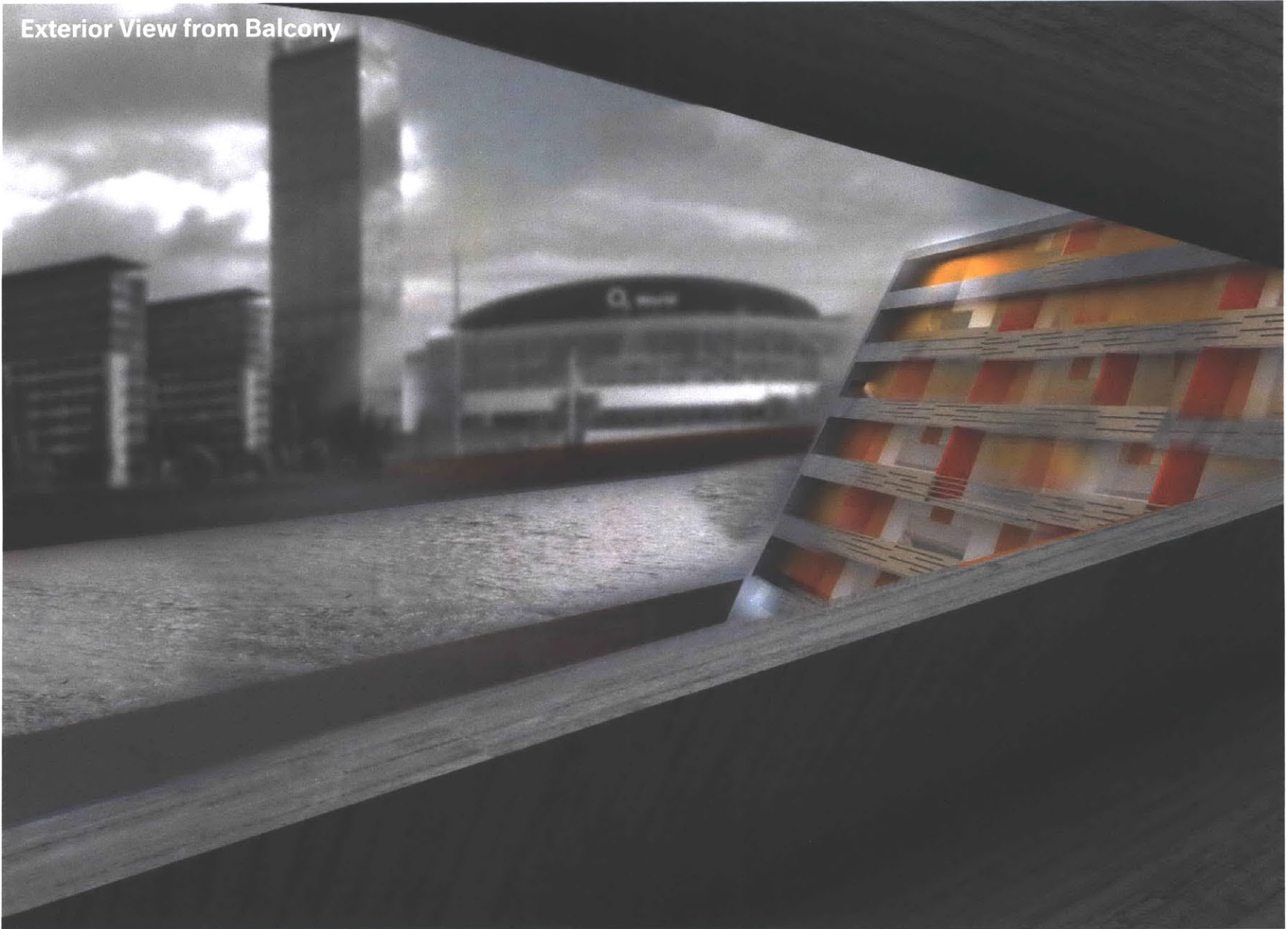




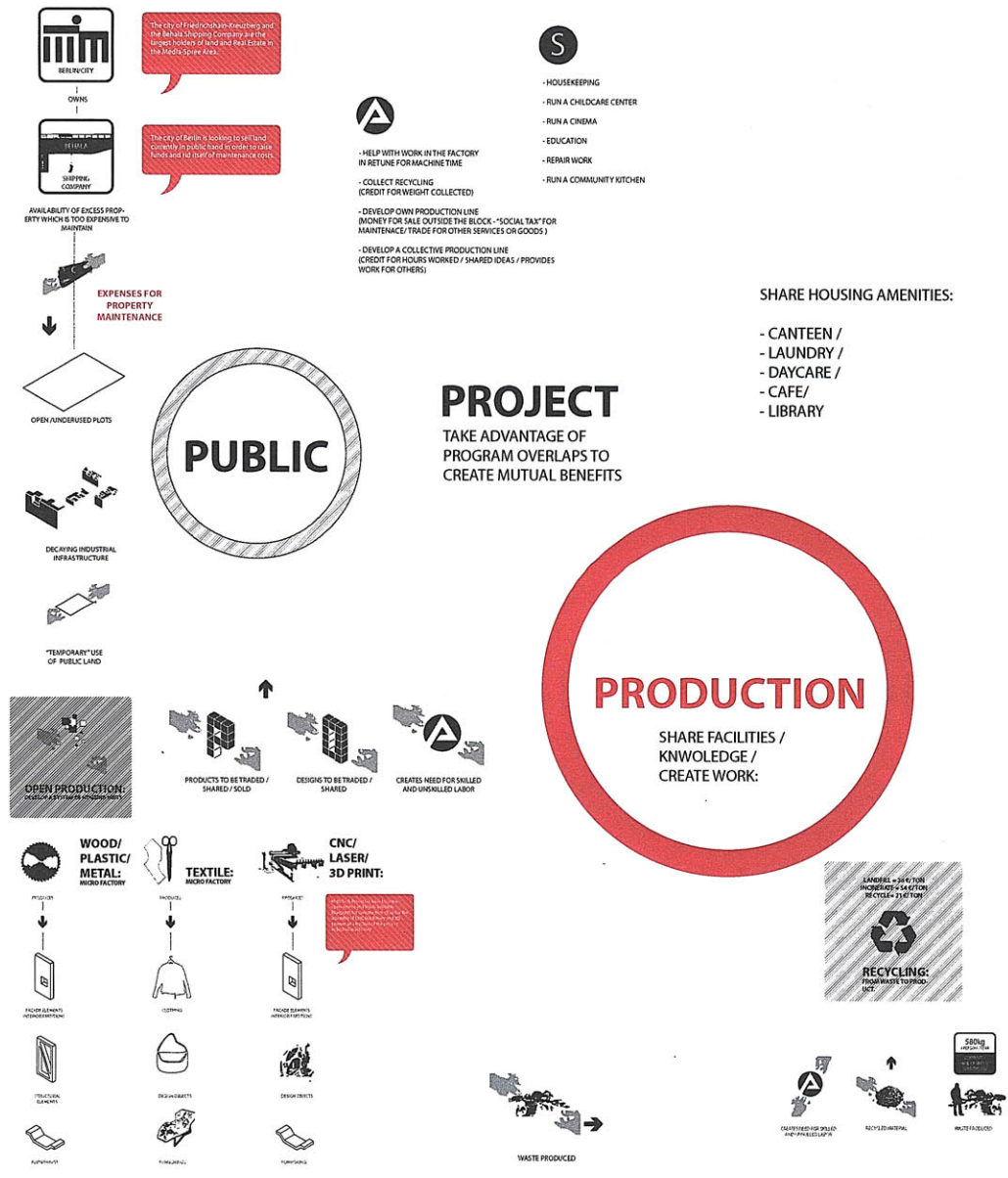
**THE PROJECT :**

....As he stood on the balcony and looked out over the river, he took a deep breath. A lot had changed in the city over the last few decades and sometimes he wondered if he still recognized the city he had grown up in. After the wall came down, the borough of Kreuzberg had suddenly found itself at the center of the reunited Berlin again. Most of the state owned property, which once had attempted to sustain the socialist experiment, had been quickly taken over by the "Treuhand" and sold off to investment brokers that seemed to have appeared over night at the promise of cheap land. True, the factories had been outdated even then and the government was in dire need to finance the radical restructuring of the city as it was to assume the role as capital of the reunited country, but it had also meant a radical restructuring of the economic basis for its citizens. The city had benefited from the dense settlements of industries in the past, but with the ongoing globalization, the market competition had fostered a trend towards relocating many of the manufacturing facilities in search for cheaper labor....

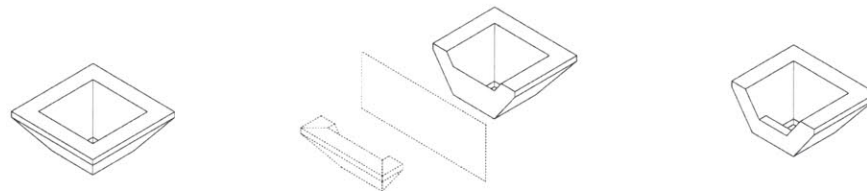
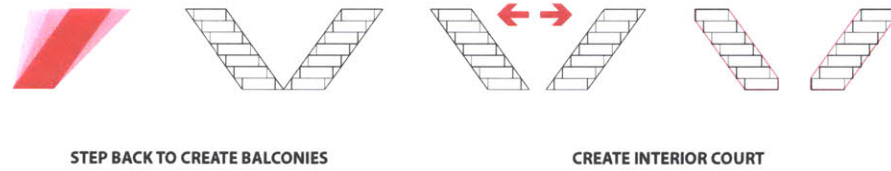
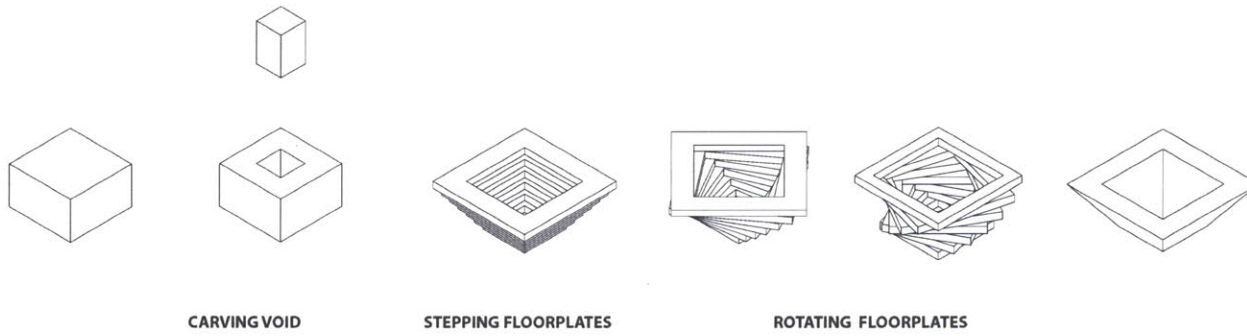
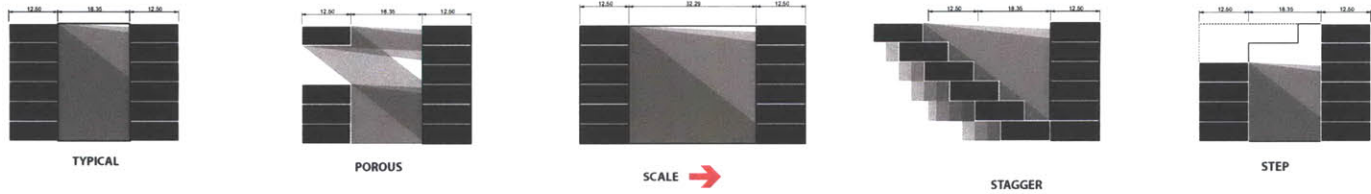
Exterior View from Balcony



# Relationships between Program Components :



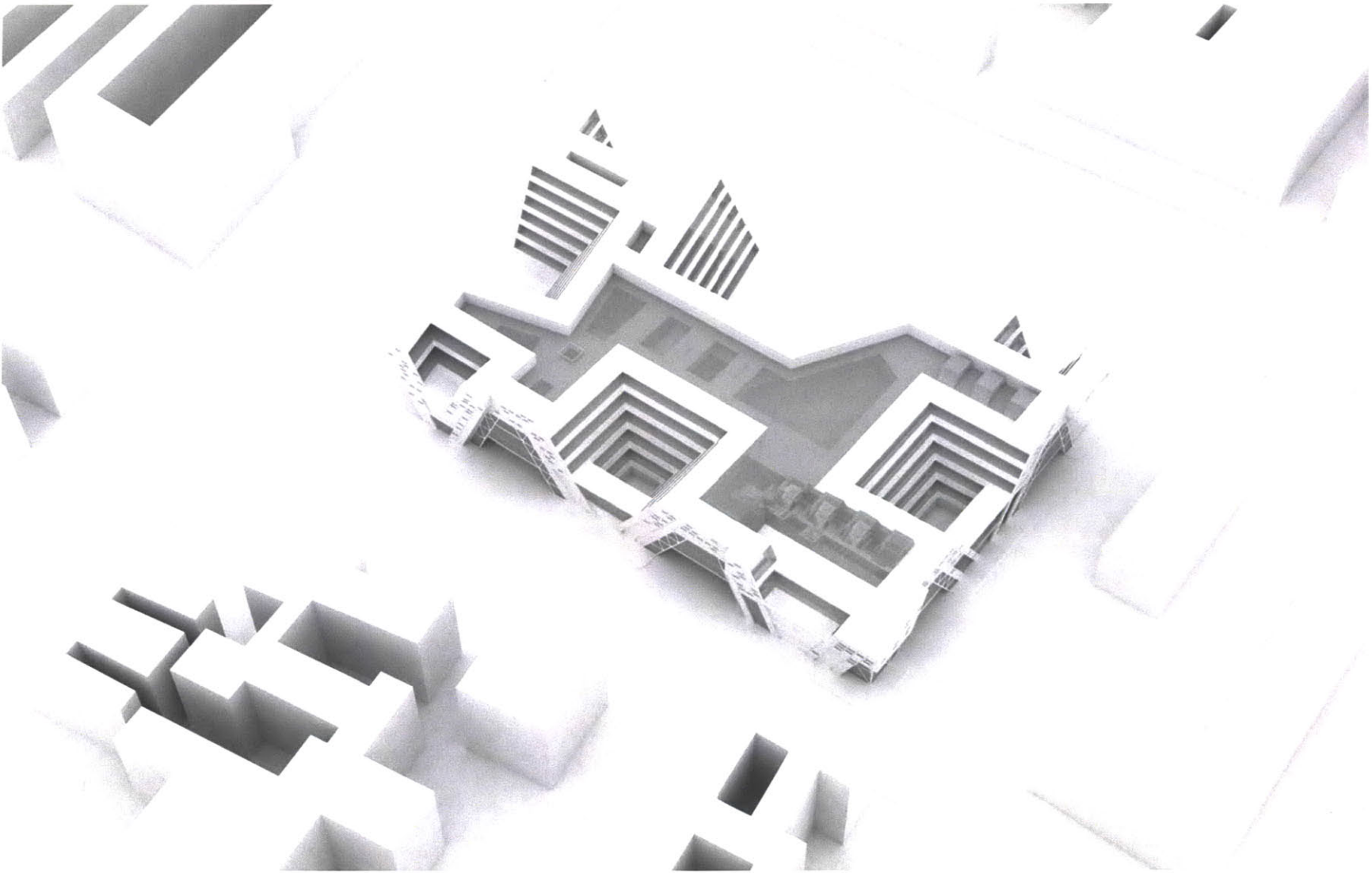
# Massing and Geometry of the Collective Housing Blocks : Creating Balconies and increasing Solar Exposure



**Figure Ground : Proposed Block and surrounding context**



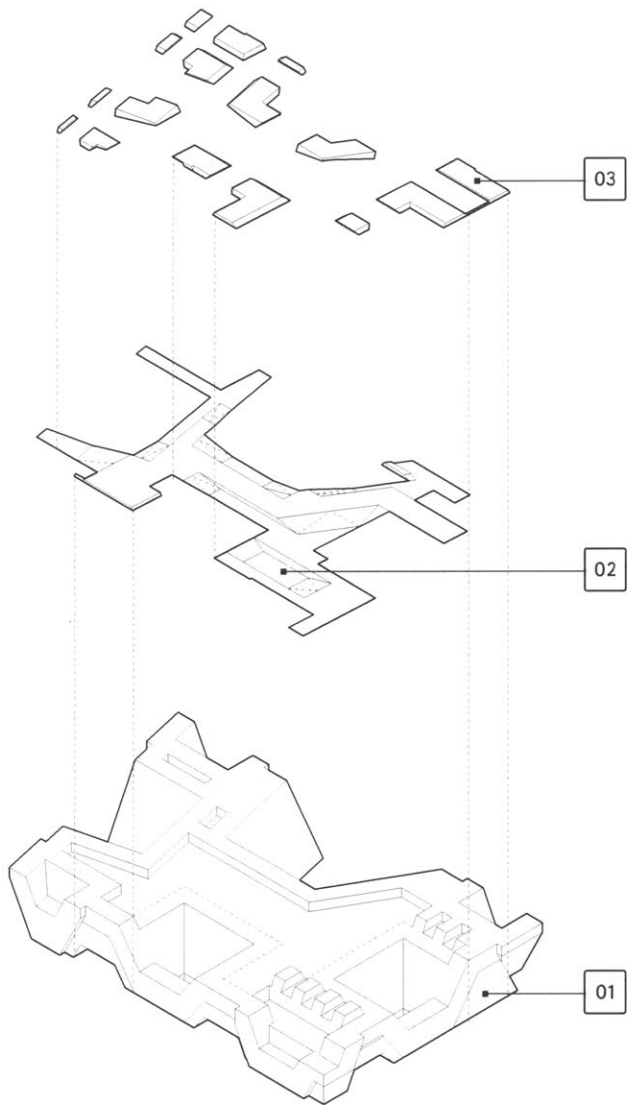
**Site Model : Proposed Block**



## **Programmatic Organization of Proposed Block : Housing and Production**

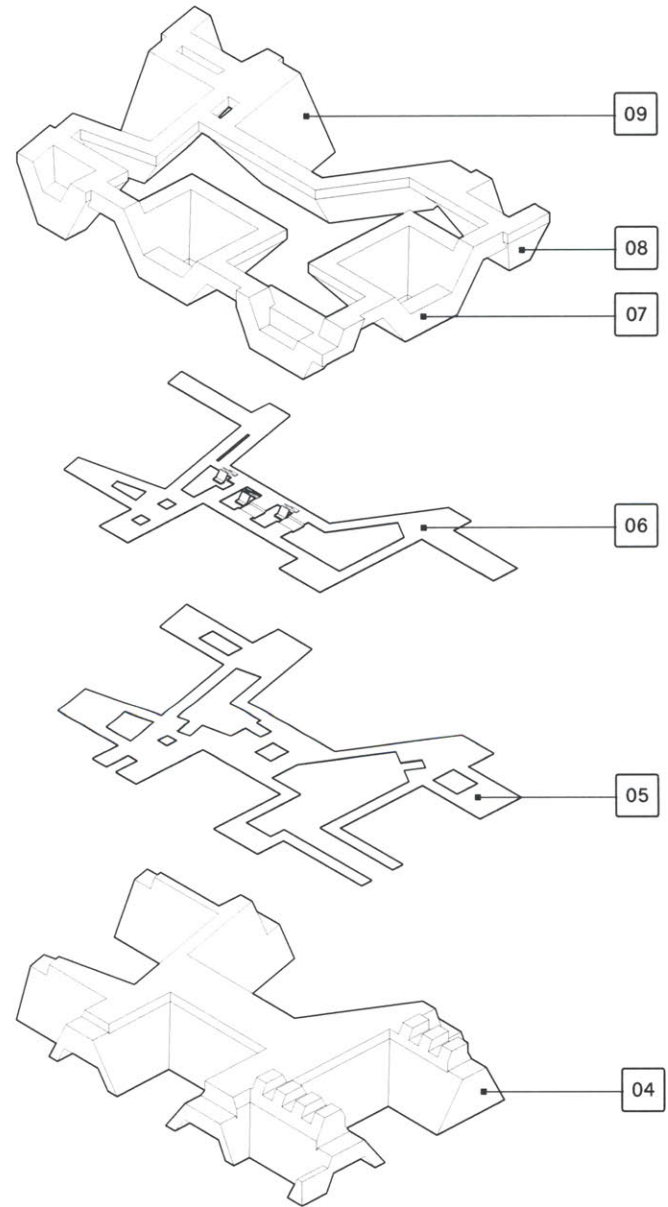
- 01**            Massing of proposed Block
- 02**            Continuous Ground Floor Circulation /  
Raised Logistics Corridor / Shared Loading  
Dock / Assembly Area for Production  
Spaces
- 03**            Service Spaces / Storage
- 04**            Massing of Production Spaces
- 05**            Micro-Factory Floor Slab
- 06**            Live / Work Floor Slab
- 07**            Typical Collective Housing Block, located  
on interior of the block and supported by  
the Production Spaces
- 08**            Typical Private / Family Housing Block,  
located on interior of the block and  
supported by the Production Spaces
- 09**            Collective Housing Block, Massing opens  
up to Public Park and Waterfront





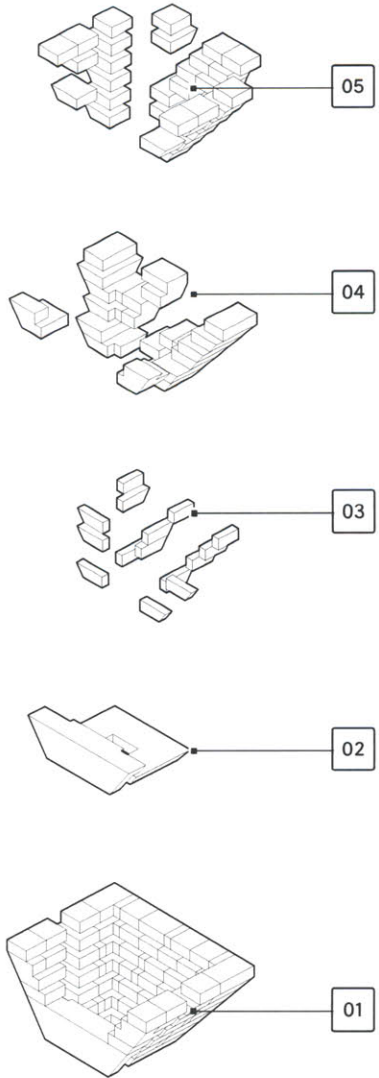
Typical Sectional  
Relationship between  
Production and

This central box contains the text 'Typical Sectional Relationship between Production and' and a red trapezoidal shape. The shape is wider at the top and tapers towards the bottom, representing a specific architectural or structural relationship.

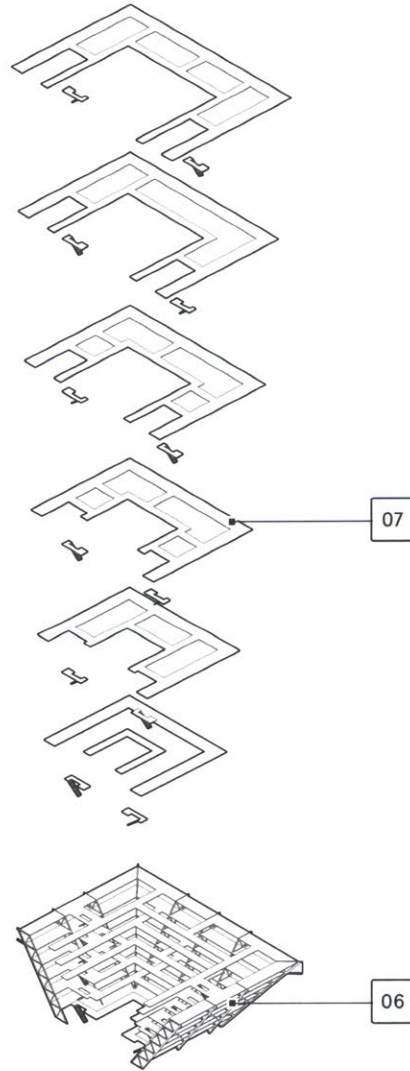
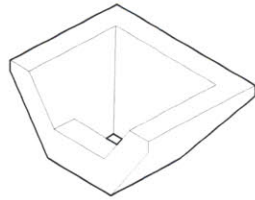


## **Organization of Housing Blocks : Private and Collective**

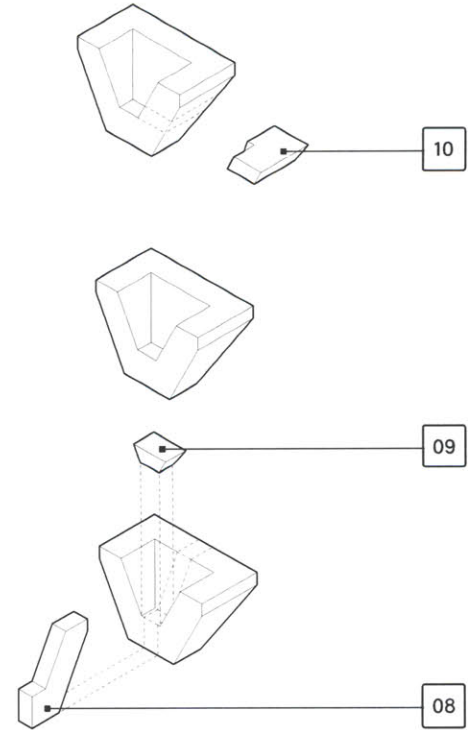
- 01** Typical Collective Housing Block
- 02** Shared Program Space
- 03** Shared Negotiated Space to allow for temporary increase of Floor Area / Doubles as secondary Circulation
- 04** Housing Unit Type B
- 05** Housing Unit Type A / C
- 06** Shelving Structure for Housing Units, allowing for the shift of temporary walls on a 2.5m grid.
- 07** Collective Housing Block Circulation / Access from interior of the Block
- 08** Private Access and Circulation for Private Housing Block / Direct Access from Street
- 09** Housing Unit Type D



Collective Housing Block



Private Housing Block



Exterior View : Waterfront

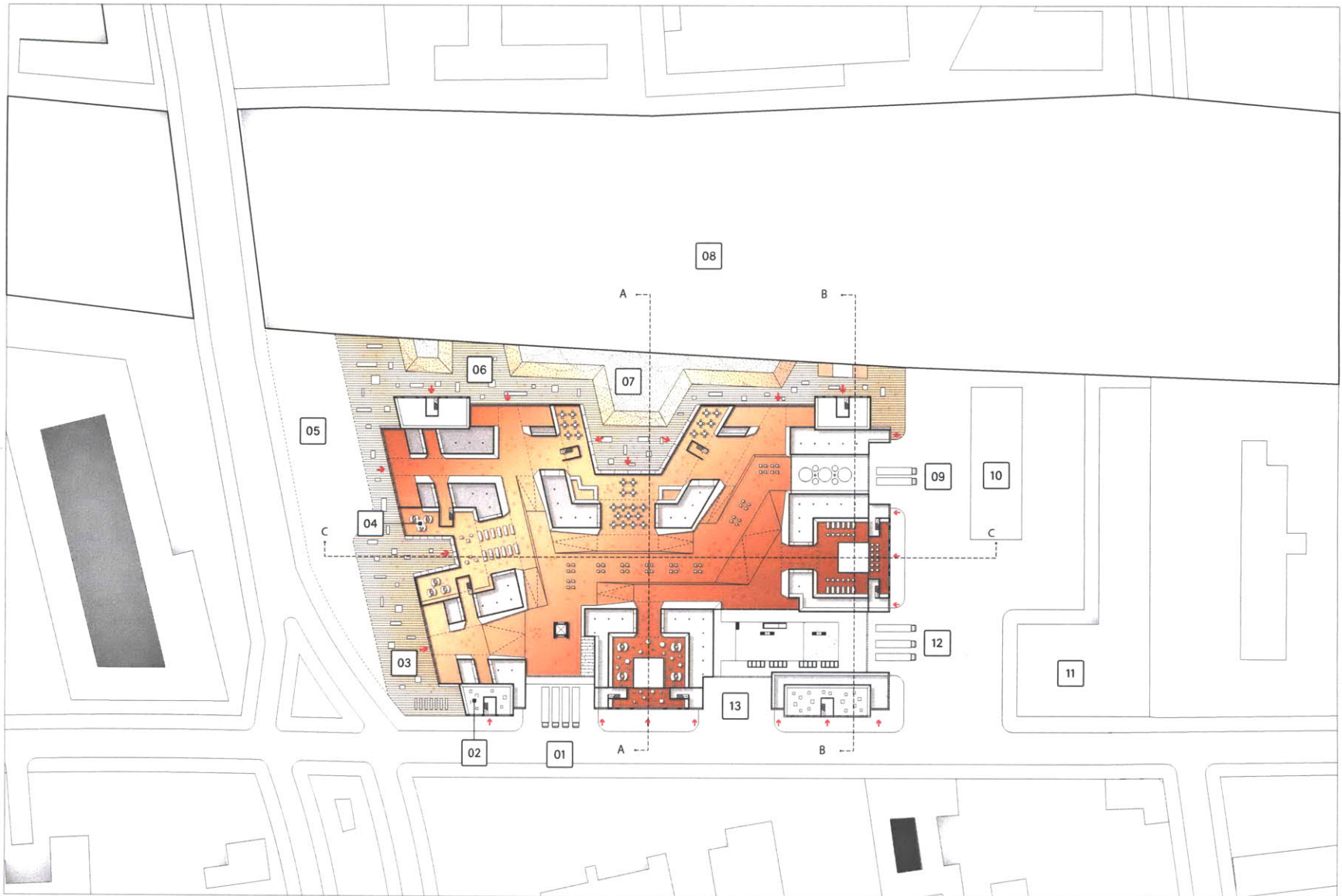


Exterior View : Recycling Plant



## **Plan -Level 00 : Groundfloor and Site Context**

- 01** Shared Loading Dock
- 02** Ground Floor Private Housing Unit
- 03** Public Park
- 04** Ground Floor Collective Housing Unit
- 05** Green Space
- 06** Open Public space / Temporary Use Space
- 07** Public Beach
- 08** Spree River
- 09** Plastics Manufacturing Loading Dock
- 10** Viktoria Speicher / Existing Building
- 11** Storage / Existing Building
- 12** Recycling Facility Loading Dock
- 13** Recycling Facility Parking Spaces



## Plan - Level 00 : Groundfloor

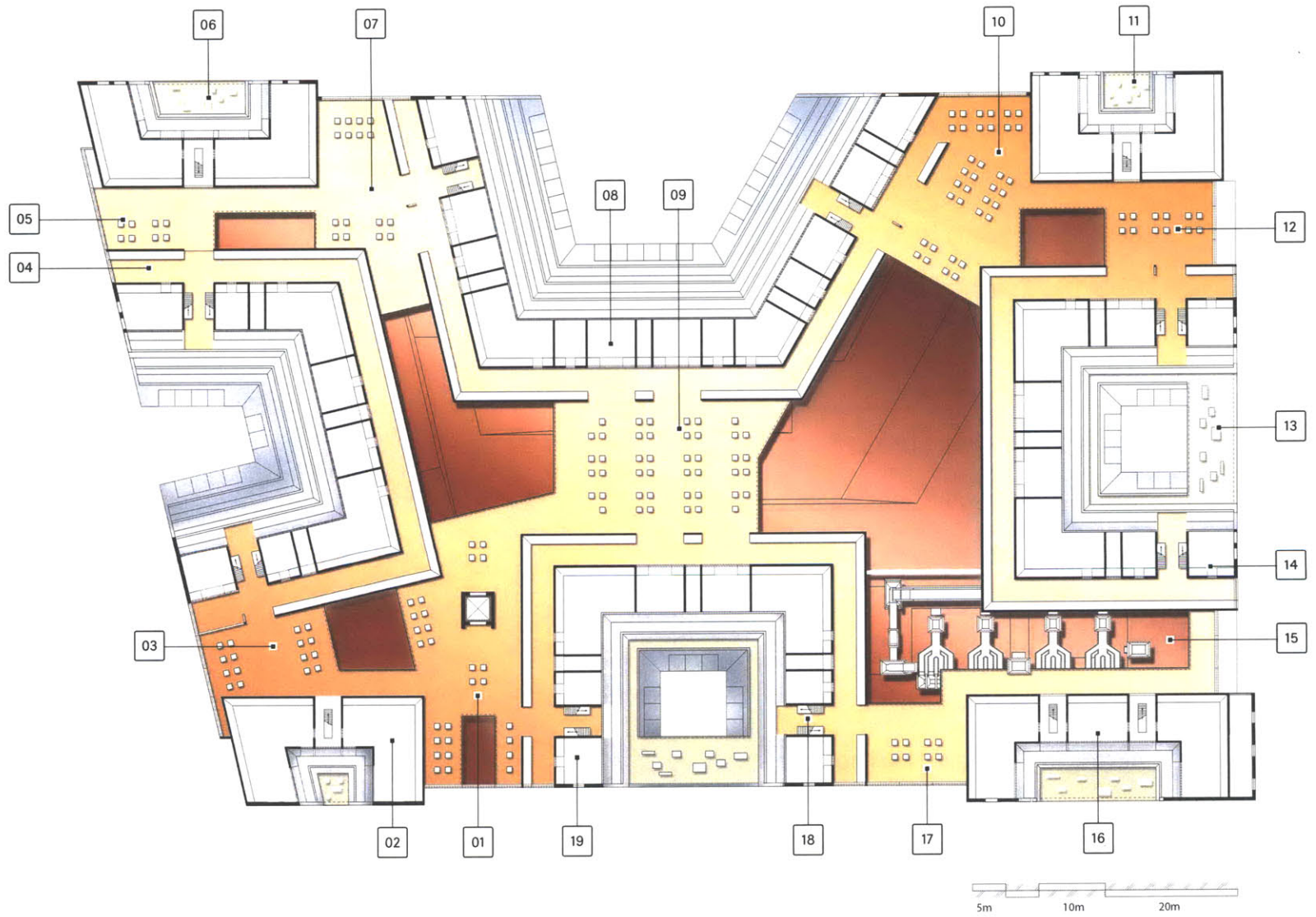
<b>01</b>	Shared Loading Dock	<b>18</b>	Local Business Commercial Space
<b>02</b>	Corner Store	<b>19</b>	Recycling Facility
<b>03</b>	Storage	<b>20</b>	Showroom Storage
<b>04</b>	Shared Library	<b>21</b>	Public Circulation
<b>05</b>	Access to Collective Housing Units	<b>22</b>	Showroom for Products designed and manufactured within the Block
<b>06</b>	Storage Private Housing Units	<b>23</b>	Access to Collective Housing Units
<b>07</b>	Access to Private Housing Units	<b>24</b>	Storage Collective Housing Units
<b>08</b>	Lobby Private Housing Units	<b>25</b>	Raised Logistics Corridor / Assembly Area for Production
<b>09</b>	Storage / Kitchen Canteen		
<b>10</b>	Canteen		
<b>11</b>	Storage / Kitchen Cafe		
<b>12</b>	Cafe		
<b>13</b>	Storage Private Housing Units		
<b>14</b>	Plastics Manufacturing Facility		
<b>15</b>	Office Spaces		
<b>16</b>	Interior Courtyard		
<b>17</b>	Recycling Materials Shop		





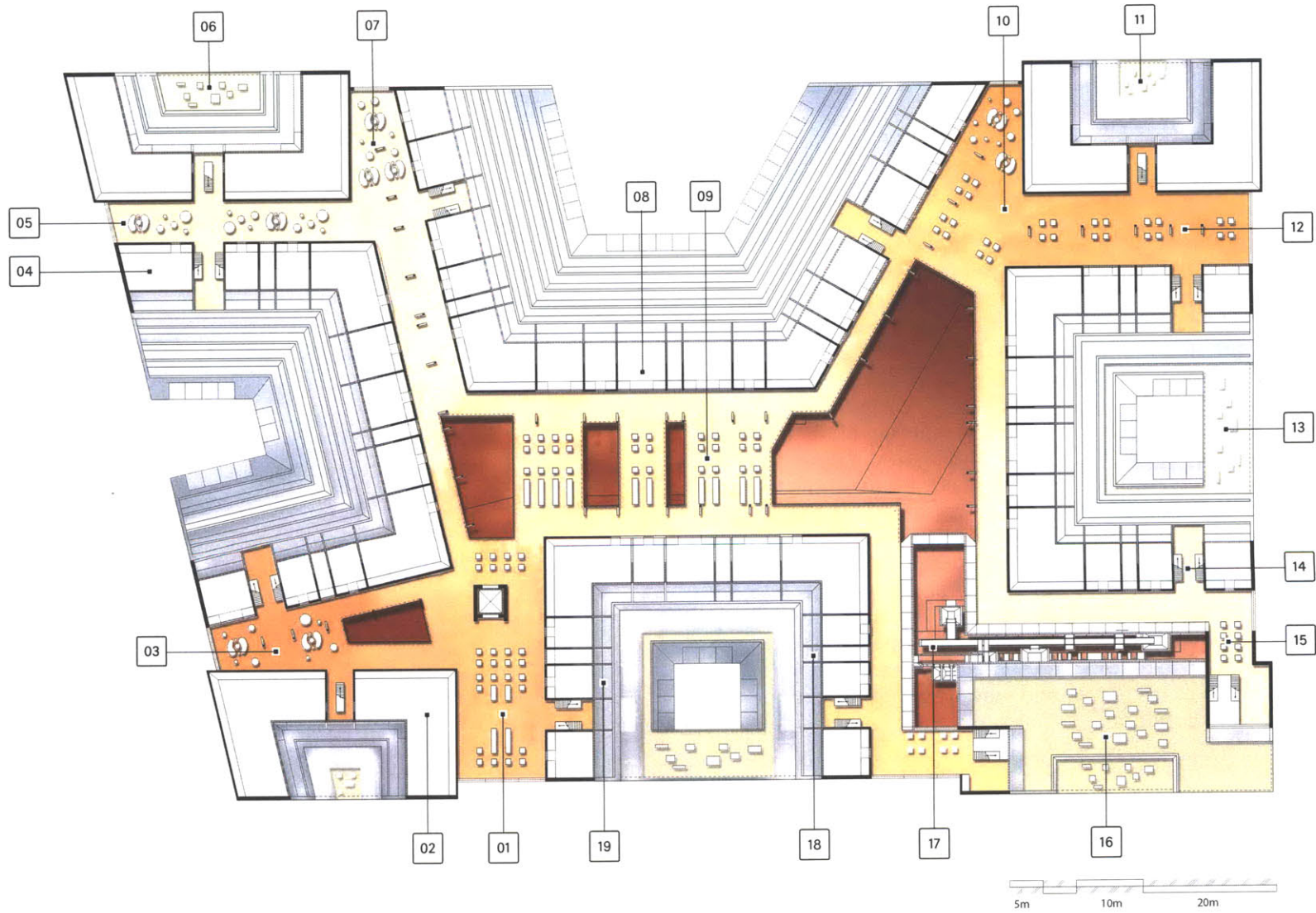
**Plan - Level 02 : Micro Factory Production Spaces and Housing**

<b>01</b>	Micro Factory Production Spaces	<b>18</b>	Access to Collective Housing Units
<b>02</b>	Private Housing Units	<b>19</b>	Collective Housing Units
<b>03</b>	Multi-Use Common Area		
<b>04</b>	Circulation / Storage Space		
<b>05</b>	Micro Factory Production Spaces		
<b>06</b>	Private Housing Units Playground		
<b>07</b>	Micro Factory Production Spaces		
<b>08</b>	Live / Work Housing Units		
<b>09</b>	Micro Factory Production Spaces		
<b>10</b>	Collective Office Spaces		
<b>11</b>	Private Roof Terrace		
<b>12</b>	Live / Work Office Spaces		
<b>13</b>	Collective Roof Terrace		
<b>14</b>	Collective Housing Units		
<b>15</b>	Recycling Facility below		
<b>16</b>	Private Housing Units		
<b>17</b>	Multi-Use Common Area		



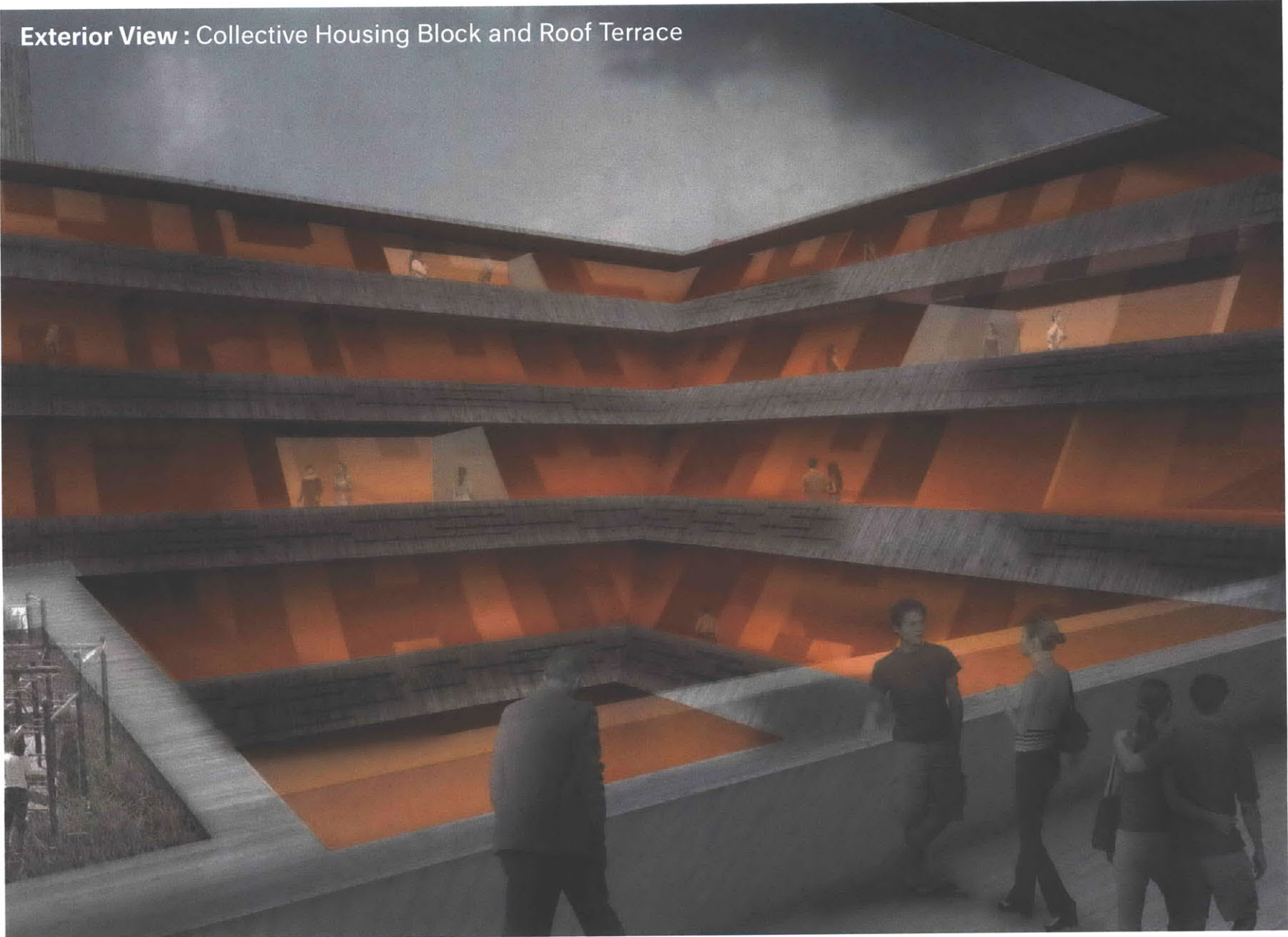
## Plan - Level 04 : Micro Factory Production Spaces and Housing

<b>01</b>	Micro Factory Production Spaces	<b>18</b>	Shared Space between Housing Units
<b>02</b>	Private Housing Units	<b>19</b>	Collective Balcony / Circulation
<b>03</b>	Multi-Use Common Area		
<b>04</b>	Collective Housing Units		
<b>05</b>	Multi-Use Common Area		
<b>06</b>	Private Housing Units Playground		
<b>07</b>	Multi-Use Common Area		
<b>08</b>	Live / Work Housing Units		
<b>09</b>	Micro Factory Production Spaces		
<b>10</b>	Multi-Use Common Area		
<b>11</b>	Private Roof Terrace		
<b>12</b>	Live / Work Office Spaces		
<b>13</b>	Collective Roof Terrace		
<b>14</b>	Access to Collective Housing Units		
<b>15</b>	Connecting Corridor		
<b>16</b>	Collective Roof Terrace		
<b>17</b>	Recycling Facility below		



....The demographic make-up of renters had changed drastically over the years and he now found himself in the typical bracket of single user occupant. For a while he had shared one of the maisonettes two floors up, but his relationship had come and gone and he had decided to move back down into a single. The types of housing and the makeup of units had always been an attempt to mirror the demographics of the occupants. The collective housing units, which made up the majority of the project were set along the edges of the block and shared a common interior court to which most of the units opened up and gave access to a shared roof garden on top of the storefronts below. The inward facing organization of the units had taken him some time getting accustomed to but now were strangely fascinating as the daily routines of his neighbors were played out, perfectly framed by the horizontal datum of the floor and ceiling slabs. He usually appreciated his privacy, but having lived by himself for the majority of his life, the sense of knowing that someone else who most likely shared some of his ideals and views was right next door, provided a certain comfort....

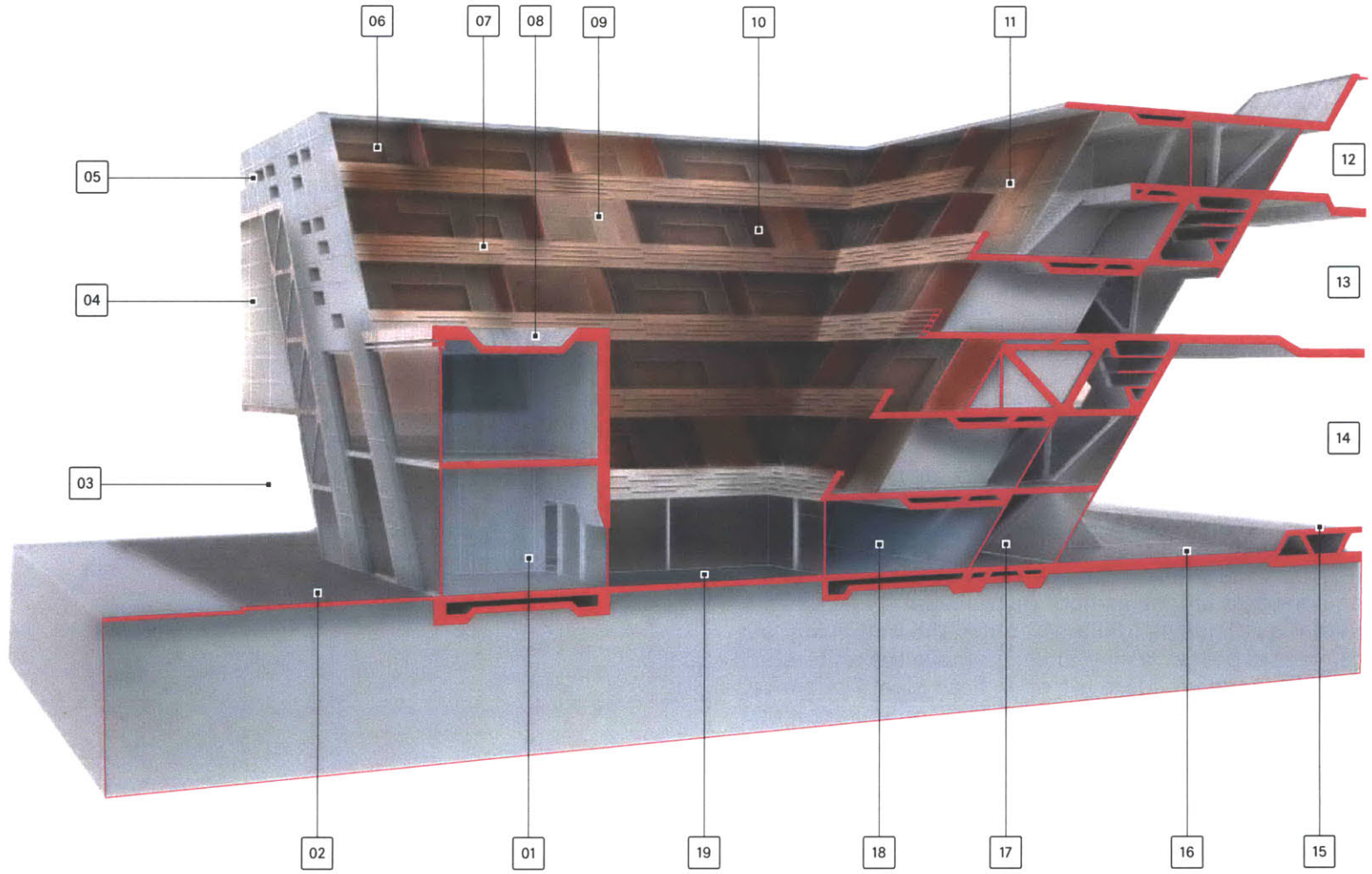
Exterior View : Collective Housing Block and Roof Terrace



## Section Detail : Cut through Collective Housing Unit

<b>01</b>	Showroom for Products designed and manufactured within the Block	<b>14</b>	Assembly Area for Production
<b>02</b>	Sitewalk	<b>15</b>	Raised Logistics Corridor
<b>03</b>	Access to shared Loading Dock	<b>16</b>	Public Circulation
<b>04</b>	Recycled Plastics Facade enclosing Micro-Factory Production Spaces	<b>17</b>	Structure/ Circulation / Storage
<b>05</b>	Precast Concrete Facade Panels for Collective Housing Units	<b>18</b>	Public Circulation / Access to interior of the block from the Showroom
<b>06</b>	Recycled Plastics Facade enclosing Collective Housing Units	<b>19</b>	Interior Courtyard
<b>07</b>	Collective Balcony Spaces and secondary circulation. Closed off by movable wall panels.		
<b>08</b>	Collective Roof Terrace		
<b>09</b>	Interior Vertical Circulation		
<b>10</b>	Movable Wall Panels to create private Balcony Space		
<b>11</b>	Collective Maisonette Unit		
<b>12</b>	Production Space for dirty Processes with direct ventilation		
<b>13</b>	Live / Work Micro-Factory Production Area		





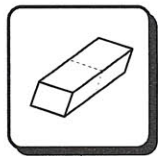
...He put some water on the stove and took a quick shower. When he had first moved in, these two units had been the only things occupying the space he now called home and belonged to the standardized inventory of the apartment. Walking in for the first time, he had the impression that the interiors were not quite finished, but as it was explained, the decision to keep material finishes at a minimum had been one way to cut back the initial project cost and be able to offer a lower rent. The floors and ceiling were unfinished concrete and the initial party wall to the adjacent unit had consisted of a plastic sheathed wood frame, which was alongside the bathroom and kitchen units some of the first products that were produced in the block. The design was alright, a place to cook eat and sit and a minimum amount of storage comprised one unit, while the other provided a shower and small bathroom. The units were strategically placed at the center of the space and connected to the in-floor plumbing and electrical. It had taken him a little while to figure it out in the beginning, but one of the great aspects was the ability to move the units which allowed the user to reconfigure the open floor plan. The space in total appeared more open than the typical configuration of fixed baths and kitchens and during the typically pushed the unit against the wall in order to increase the living room space...

Interior View of the Housing Unit



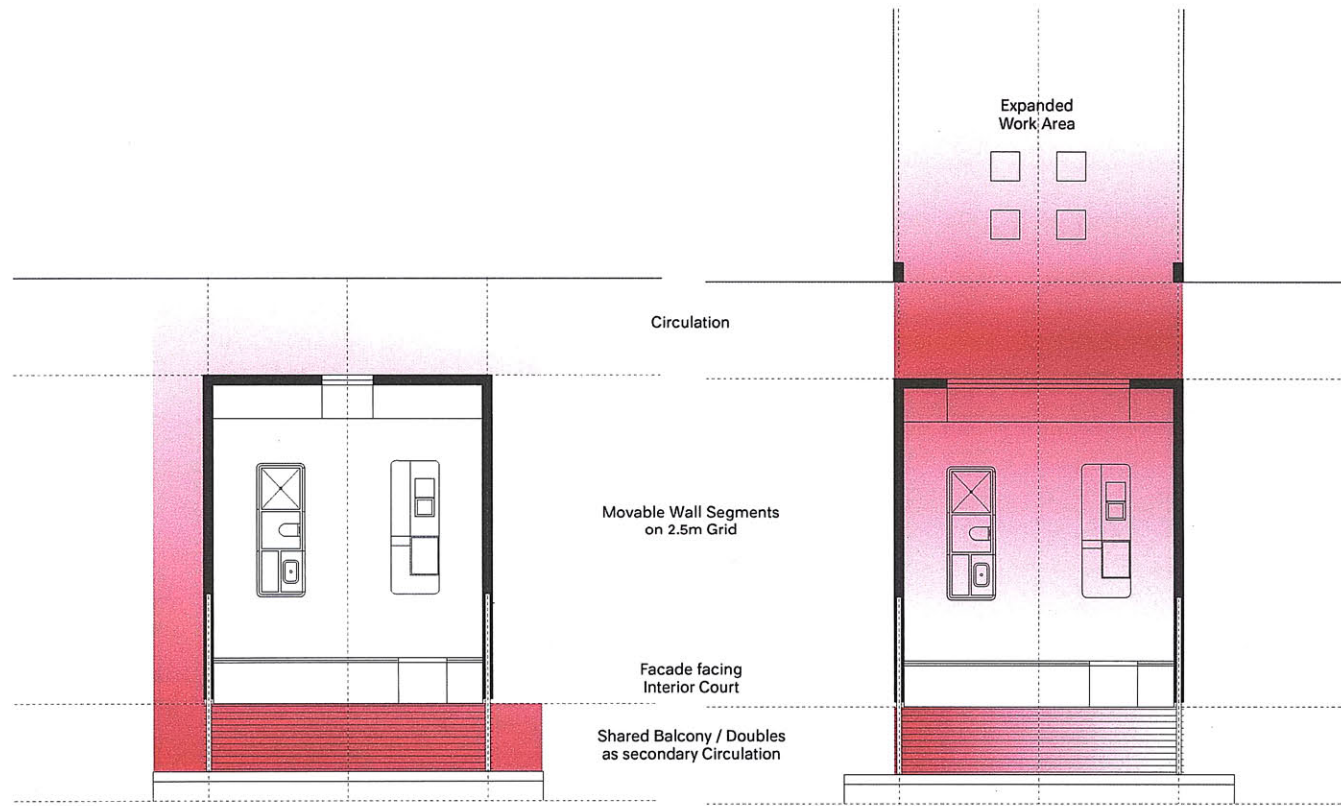
# Unit Plans : Type A

## Unit Type A



**50m<sup>2</sup>**  
min  
SINGLE  
PERSON  
HOUSEHOLD

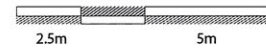
**50.2%**



Collective Housing  
Typical Single Person Unit

Live / Work Unit

 Negotiated Space



# Unit Plans : Type B

## Unit Type B




**75m<sup>2</sup>**  
min  
TWO  
PERSON  
HOUSEHOLD

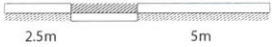
**10%**



Collective Housing  
Typical Maisonette Unit

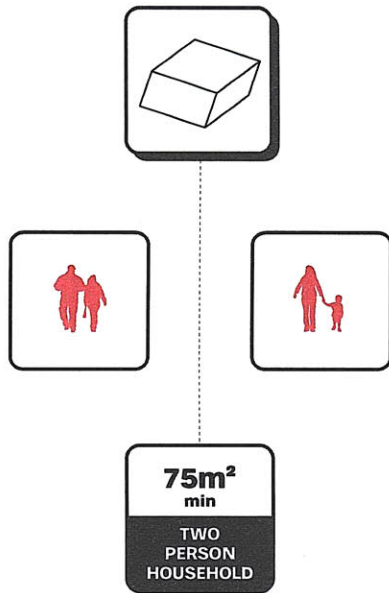
Level +1

 Negotiated Space



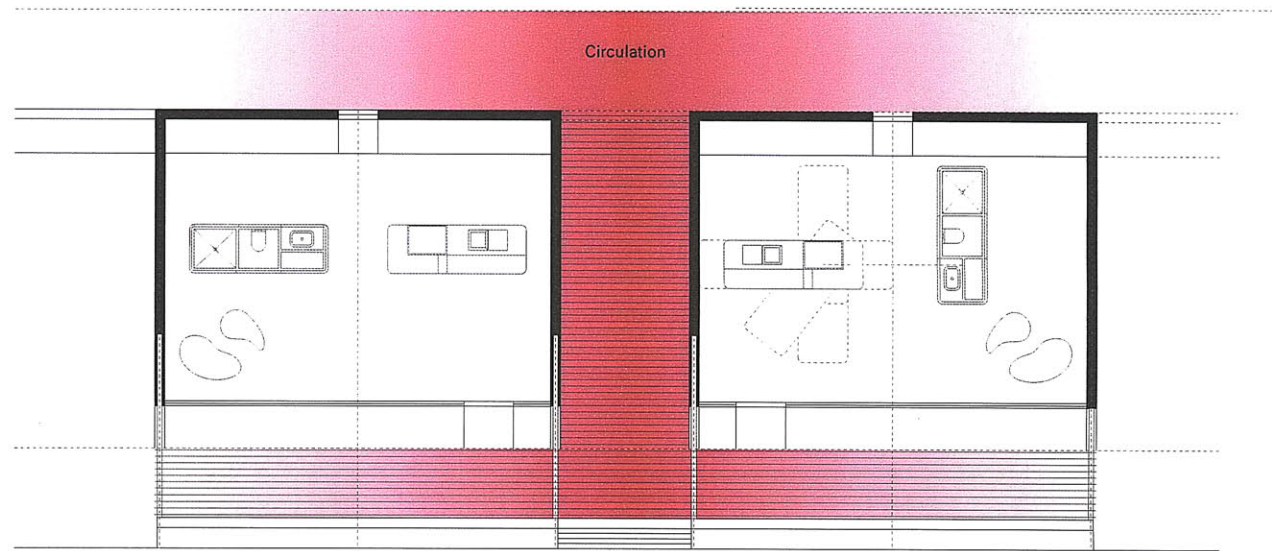
# Unit Plans : Type C

## Unit Type C



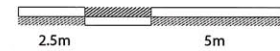
20.1%

Each Unit is supplied with minimal furnishings consisting of a Kitchen and Bathroom Unit which can be used to divide up the interior space.






Collective Housing  
Typical Two-Person Unit

Negotiated Space between two Units. Can be closed off to extend the apartments foot print.



# Unit Plans : Type D

## Unit Type D

**125-175**  
**m<sup>2</sup>**  
SINGLE  
PERSON  
HOUSEHOLD

**18.7%**



Private Housing  
Typical Family Unit



Negotiated Space



...Slightly set apart were the family housing units. Unlike the collective housing units, each unit could be accessed directly from the street level they were facing and provided a higher degree of privacy. Another of the oddities of the project had been the inclusion of a shared space between two units. It was an extension of the housing circulation and connected with the balconies and could be sectioned off through a sliding door in order to temporarily increase the footprint of the apartments by almost 50%, which given the otherwise regularly sized footprint of the apartment a welcome increase. In a sense he had always deemed himself lucky with his neighbor. They had always gotten along well and the negotiation of the extra space had been for the most part frictionless. While some people used the space as a walk-in closet, he had agreed with his neighbor to set up shared office. If needed they could always roll the furniture back into their own living spaces, but for now things had been going well. But judging from the nasty note he had seen the other day walking past Unit 34, it appeared that not everyone had made the same experience. Apparently someone had found the little niche as a great place to store his trash. He could only hope that his relation with the neighbor in Unit 35 was going better, otherwise he guessed that there was always the option to sign up for space-trade, an attempt to remedy some of the problems of living in a voluntary collective....

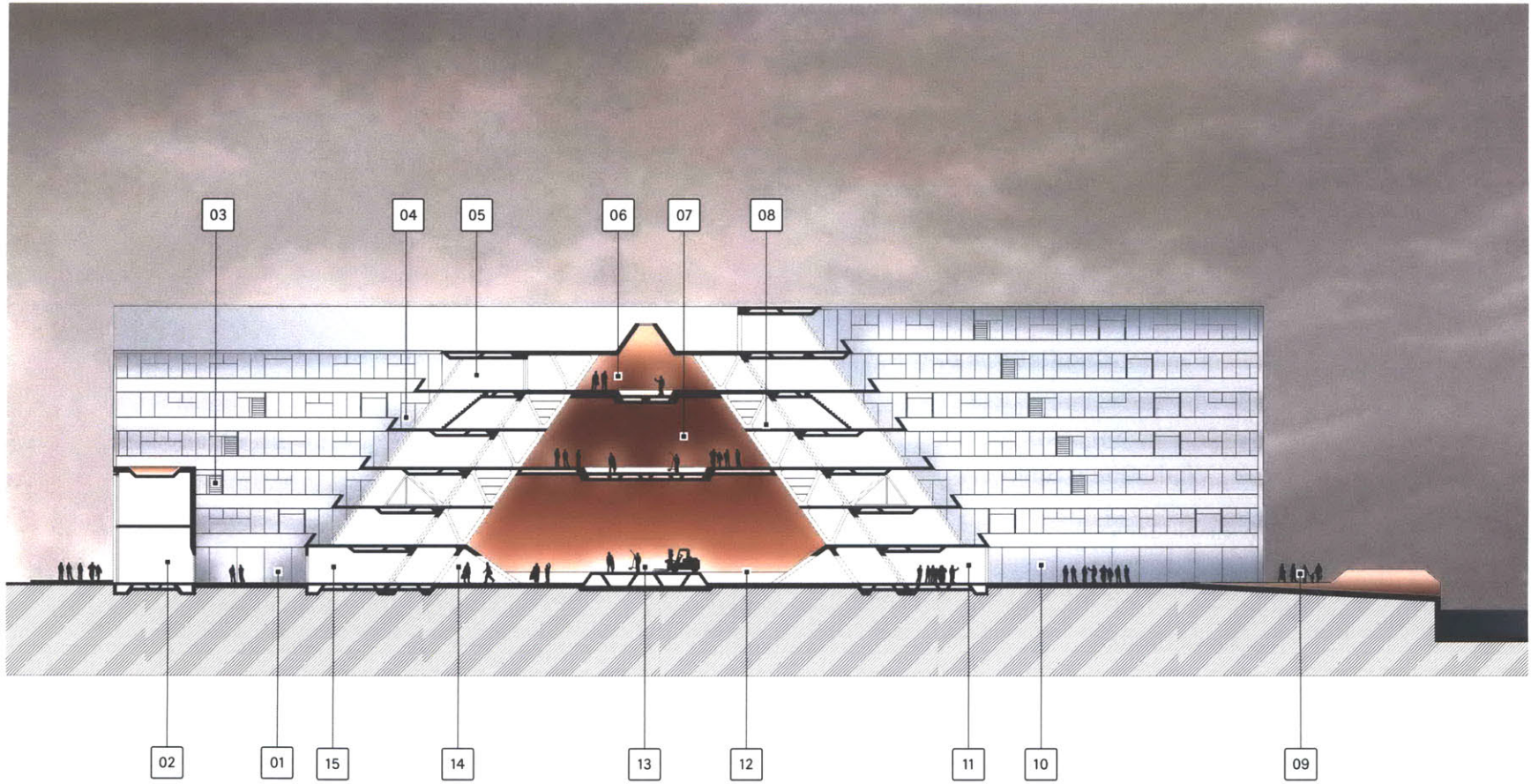


Exterior View : Negotiated Space



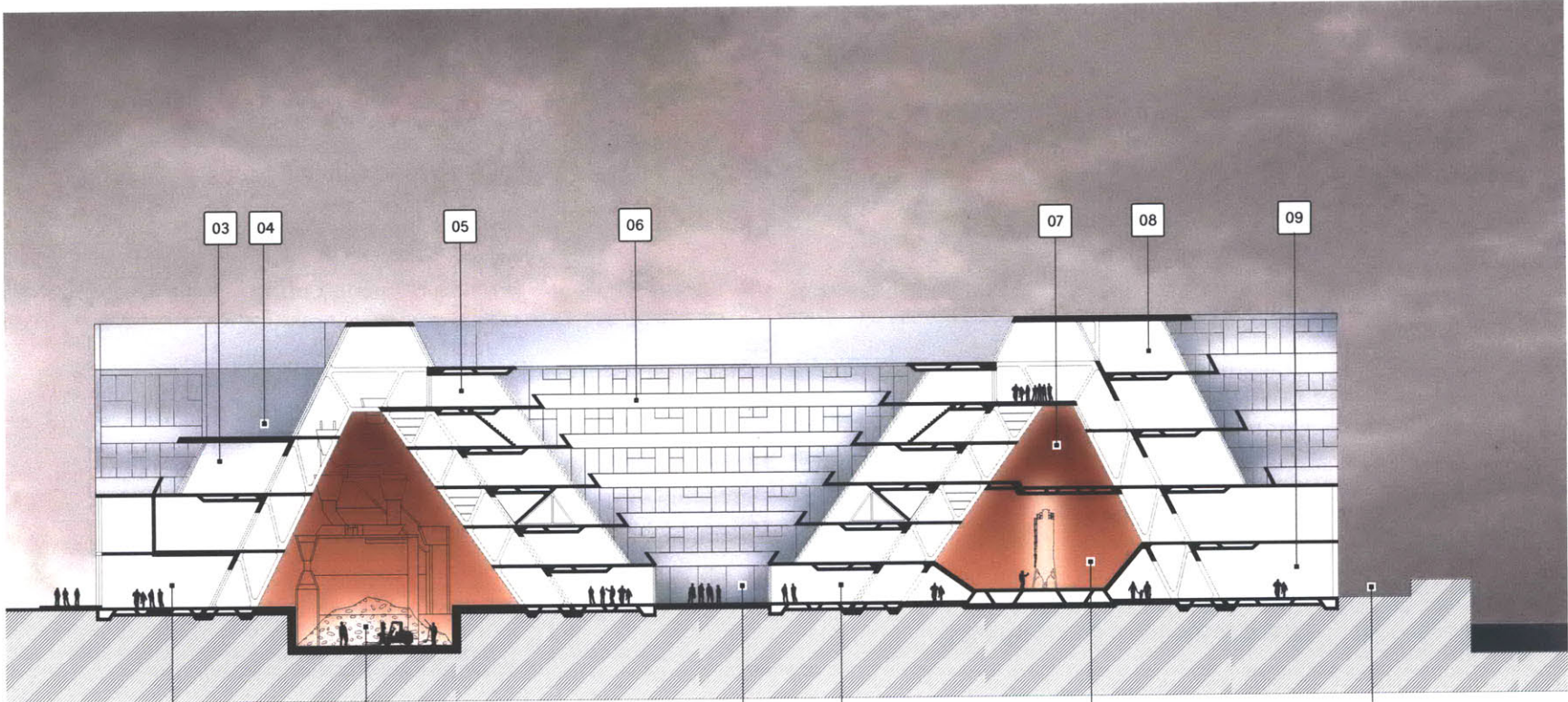
## **Section - AA : Cut through Recycling Plant and Collective Housing Block**

- 01** Interior Courtyard
- 02** Showroom Local Design and Production
- 03** Circulation Space
- 04** Collective Balcony / Circulation
- 05** Collective Housing Units
- 06** Micro Factory Production Spaces
- 07** Live / Work Production Spaces
- 08** Circulation / Storage
- 09** Public Beach / Boardwalk
- 10** Interior Court open to River
- 11** Public Circulation / Canteen
- 12** Public Circulation
- 13** Raised Logistics Corridor /  
Assembly Area for Production
- 14** Circulation / Storage
- 15** Public Circulation / Showroom



## **Section - BB : Cut through Collective Housing Block and Shared Production Space**

- 01**            Recycling Facility
- 02**            Local Business Commercial Space
- 03**            Private Housing Units
- 04**            Collective Roof Terrace
- 05**            Collective Housing Units
- 06**            Collective Balcony / Circulation
- 07**            Live / Work Office Spaces
- 08**            Private Housing Units
- 09**            Private Housing Lobby
- 10**            Public Boardwalk
- 11**            Plastics Manufacturing Facility
- 12**            Manufacturing Office Spaces
- 13**            Interior Court



03

04

05

06

07

08

09

02

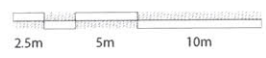
01

13

12

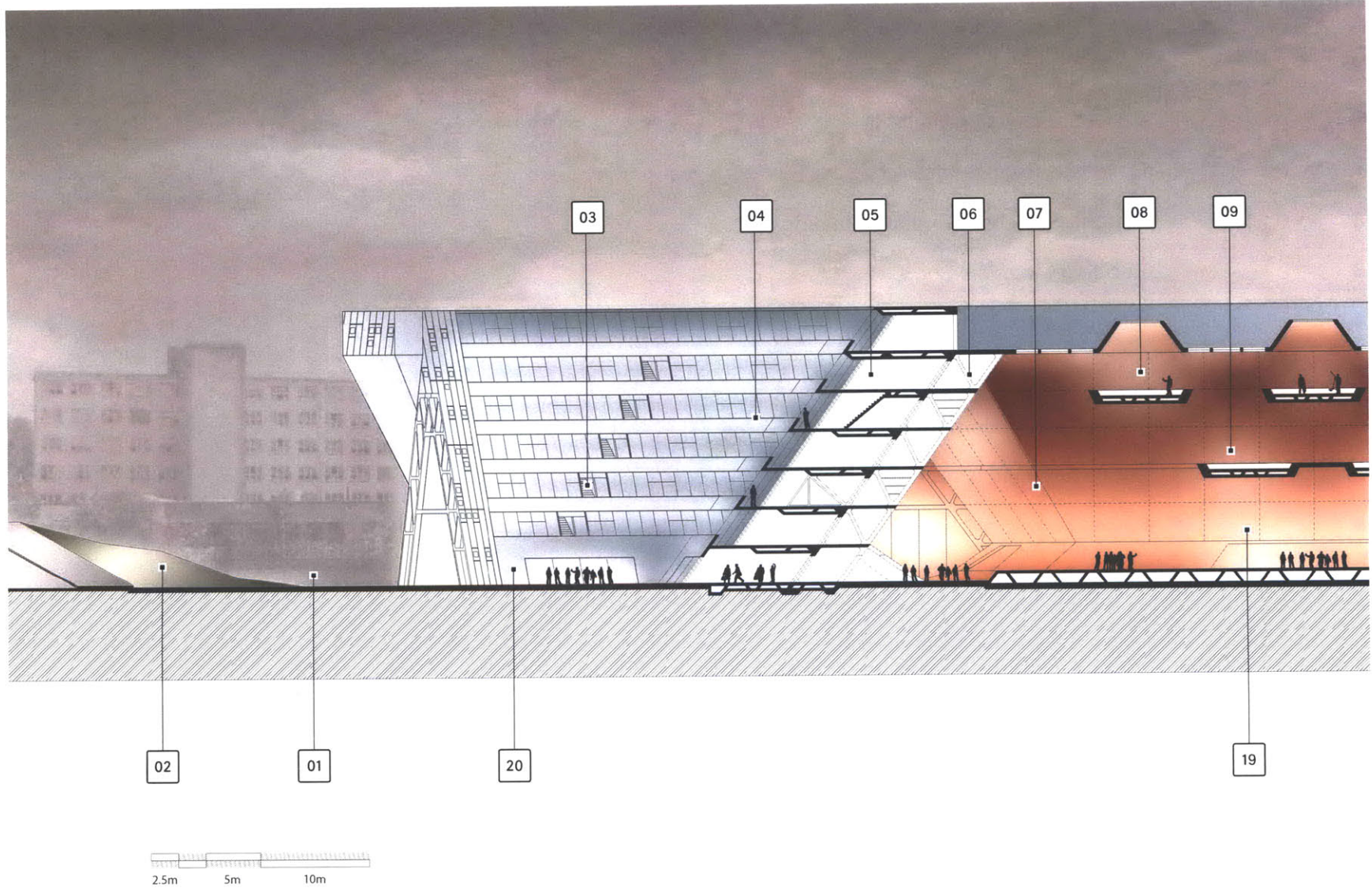
11

10



## Section - CC : Cut through Collective Housing Block and Shared Production Space

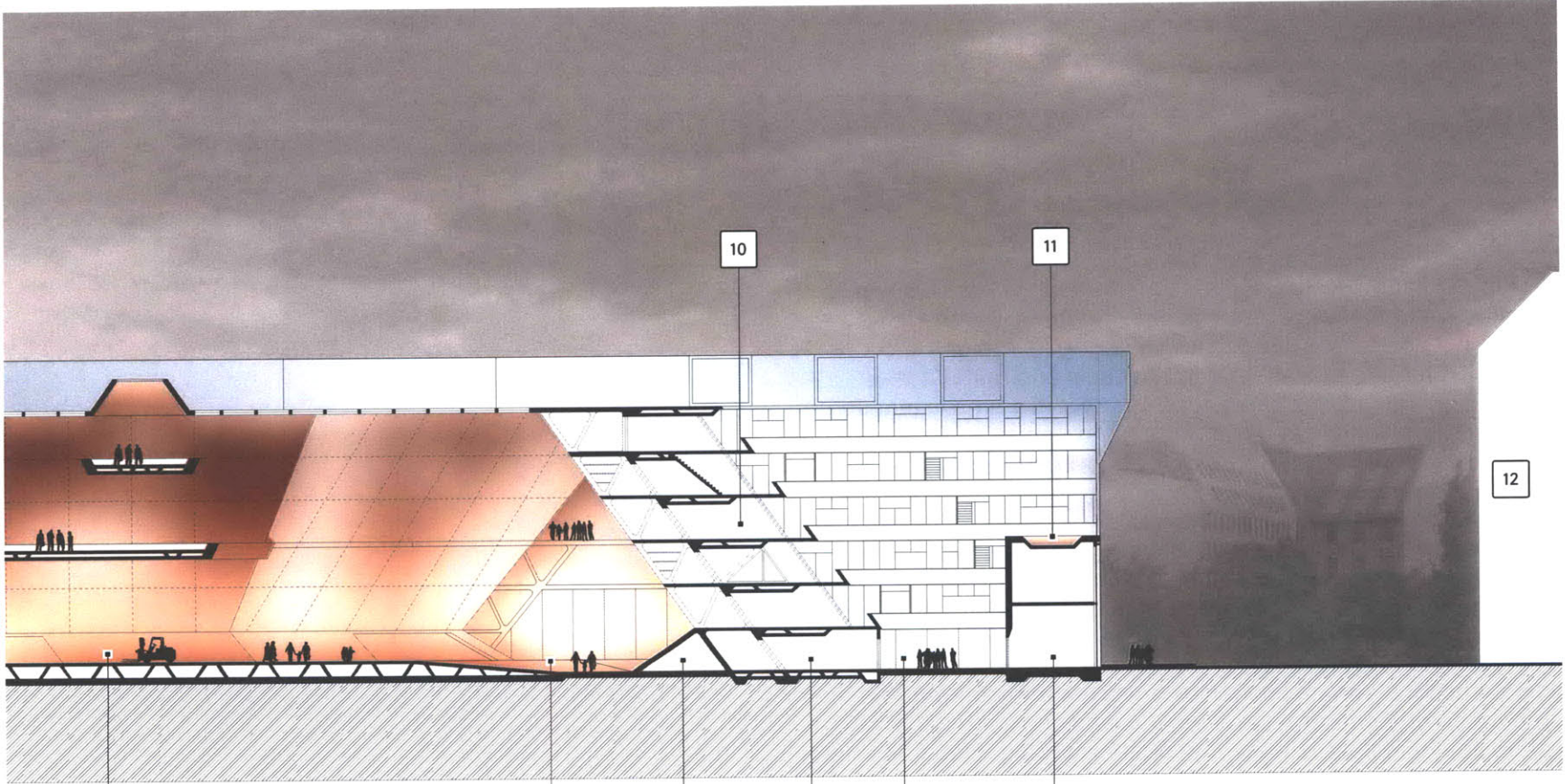
<b>01</b>	Public Park	<b>07</b>	Live / Work Office Spaces
<b>02</b>	Public Green Space	<b>08</b>	Private Housing Units
<b>03</b>	Circulation Space	<b>09</b>	Private Housing Lobby
<b>04</b>	Collective Balcony / Circulation	<b>10</b>	Public Boardwalk
<b>05</b>	Collective Housing Units	<b>11</b>	Plastics Manufacturing Facility
<b>06</b>	Circulation / Storage	<b>12</b>	Manufacturing Office Spaces
<b>07</b>	Interior Public Circulation / Production Spaces	<b>13</b>	Interior Court
<b>08</b>	Micro Factory / Dirty Production	<b>19</b>	Raised Logistics Corridor / Assembly Area for Production
<b>09</b>	Live / Work Production Spaces	<b>20</b>	Interior Court open to Public Park
<b>10</b>	Public Boardwalk		
<b>11</b>	Plastics Manufacturing Facility		
<b>12</b>	Manufacturing Office Spaces		
<b>13</b>	Interior Court		
<b>03</b>	Private Housing Units		
<b>04</b>	Collective Roof Terrace		
<b>05</b>	Collective Housing Units		
<b>06</b>	Collective Balcony / Circulation		



## **Section - CC : Continued**

- 10**                    Collective Housing Units
- 11**                    Collective Roof Terrace
- 12**                    Viktoria Speicher / Existing Building
- 13**                    Recycling Materials Shop
- 14**                    Interior Court
- 15**                    Public Circulation / Materials Shop
- 16**                    Circulation / Storage
- 17**                    Public Circulation
- 18**                    Raised Logistics Corridor /  
Assembly Area for Production





18

17

16

15

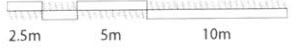
14

13

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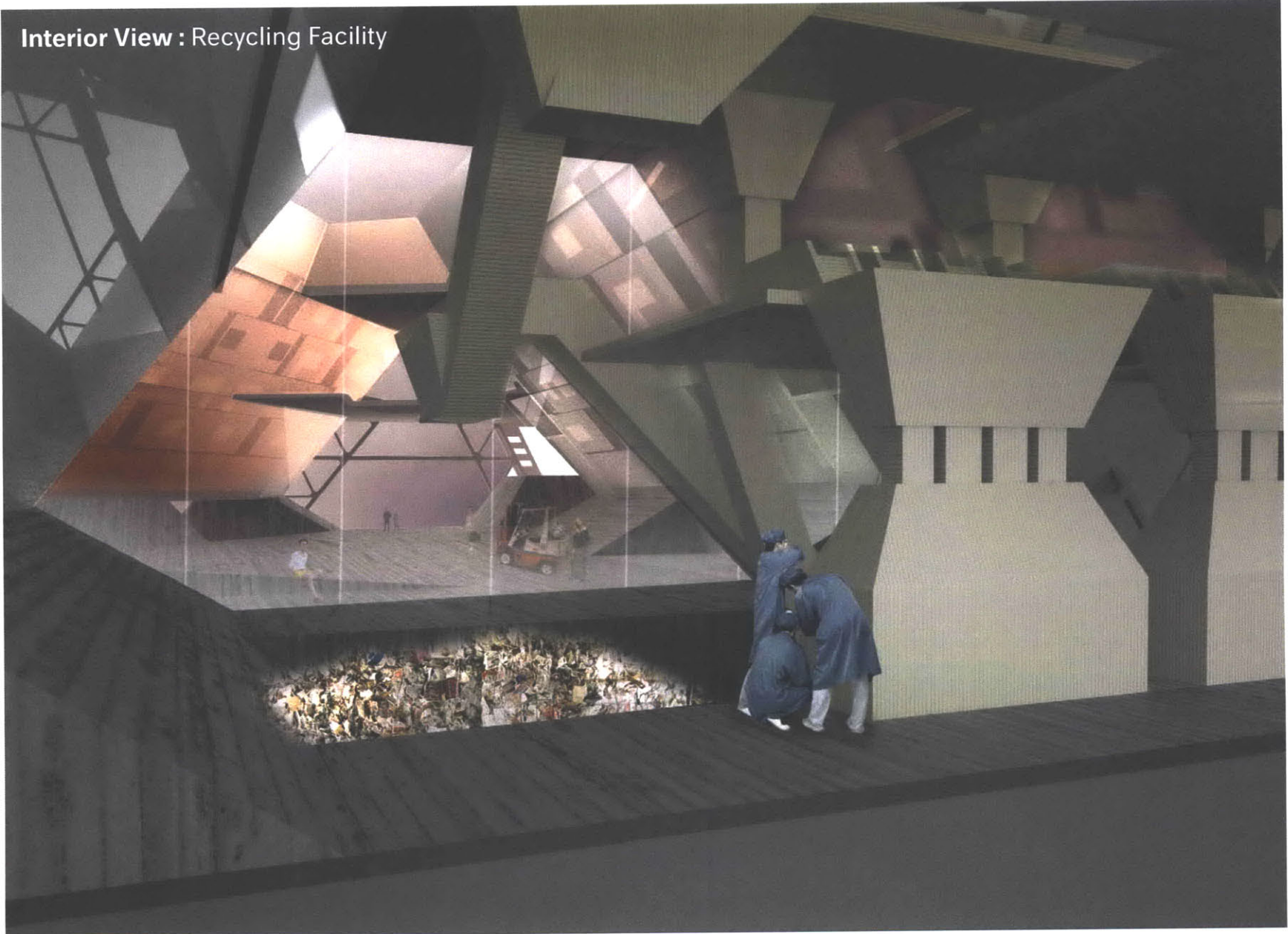
11

12



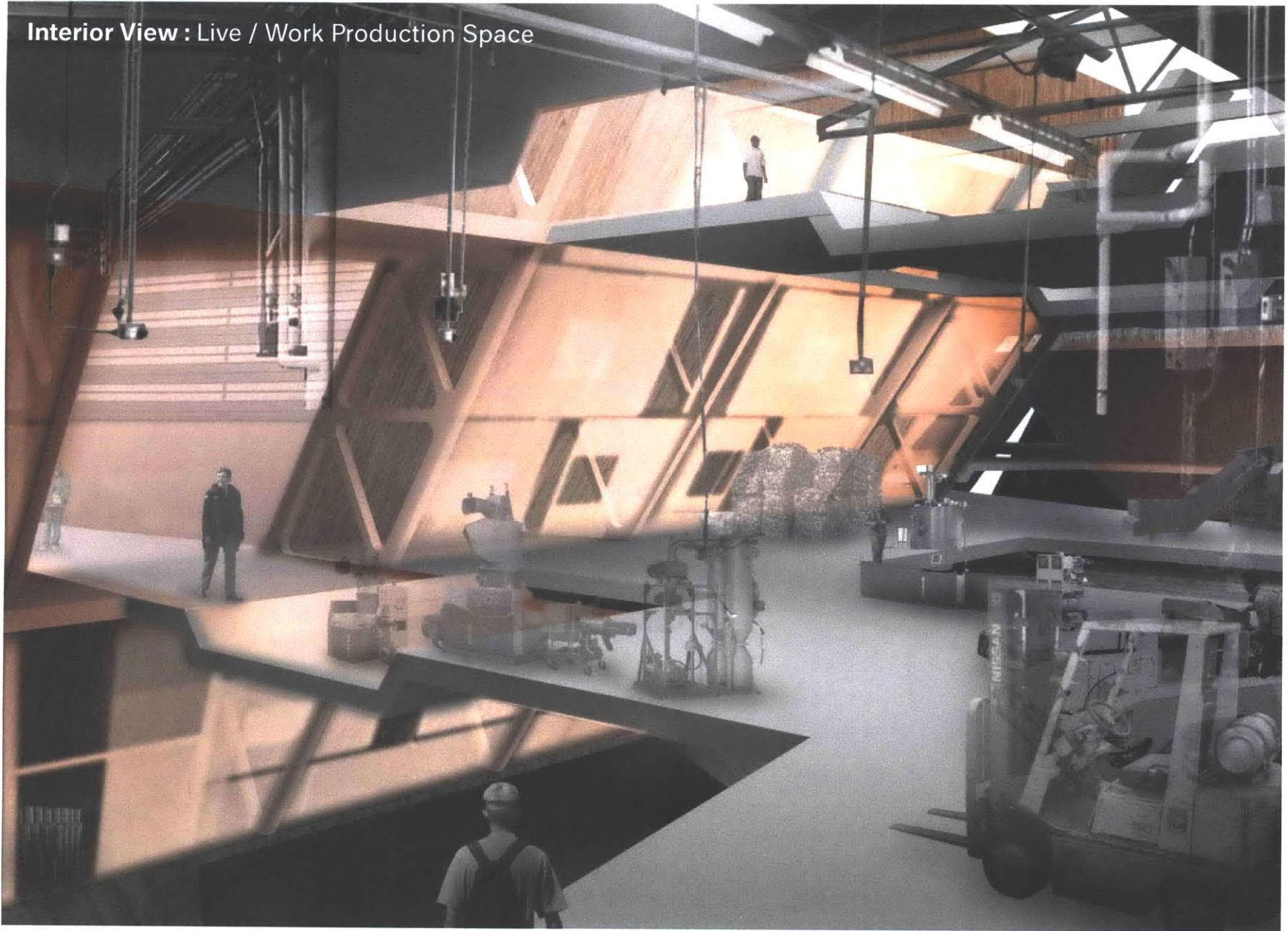
....He looked at his watch, almost time to go to work. This was actually one of the great benefits of living in the block. He had worked outside for a while but volunteering in one of the shops after hours he had picked up enough skills and made a favorable impression on one of the team leaders in a small start-up on the fourth floor which were producing highly customized covers from recycled plastic for the seemingly limitless range of electronic gadgets which organized our lives. It was one of the trends that had come out of the limitless years of consumption was the desire for highly individualized goods. A rapid change from mass production to mass customization. Whereas the products had been unaffordable for the average person and easily had fit list of status symbols, the development of open source rapid prototyping tools, cnc mills and 3D printers had revolutionized the production of small run goods, by lowering the entry barrier to the production process and had been hailed as next industrial revolution, doing for “hardware”, what open-source coding had done for “software” two decades earlier. True, one of the main concerns had been the cost of the raw material, but given the on-site recycling and reclamation industries, at least the residents here had the benefit of highly reduced raw material costs....

Interior View : Recycling Facility



...Maybe it had also been one of the main selling points for some of the small start-ups to join the collective and at least for those that had been able to adept it had in the long run paid off, despite the initial financial investment. In addition it always seemed that there were enough individuals like himself, who were willing trade a few hours in helping assembling some of the products in return for knowledge and a little bit of machine time after hours, keeping the overhead of the small start-ups lower than some of their competitors outside of the block. He was sure not everyone felt the same way about these informal arrangements, but for him it had worked out well...

Interior View : Live / Work Production Space



Interior View : Public Circle



Interior View : Shared Loading Dock



The following three stories were produced in order to set up some of the concerns of the thesis project and how they could be addressed architecturally. Accepting, that the endeavour to impact and change an individual's behaviour through built form is utopian in its own right, the format of the story can become a valuable tool in formulating possible future scenarios, while acknowledging its possible failure and avert the totalitarian nature of the utopian project.





**APPENDIX A :**

## On Architecture...

Life was good. Private institutions had finally understood the power of spectacular architecture. Coined after one of its forerunners, the “Bilbao Effect” had reinvigorated the demand for extraordinary architecture. After a decade of stardom, the dialectics of the “hot”, “difficult” and “belabored” architecture which followed in the vein of Tafuri and dominated the theoretical practice of the 80’s had been sequestered and tamed by the “cool”, “easy” and “projective” practice of the new millennium. Abandoned was the project of “resistance”, which had always hampered the ideal alignment with developmental practices and stood in the way of actually producing buildings. Criticality had become irrelevant, a nuisance and detrimentally opposed to what some believed lay at the core of the architectural profession, the production of buildings, which requires the assurance of capital to carry out the project. The new practice would be embedded in the building process itself. Hidden within the diagram, only a world of flows and programmatic possibilities could accurately portray the increasingly complex global, social and economic relations of the now and produce the slumbering potential of change.

The new millennium brought with it the technological advances needed to digest and portray the immense stream of data. The architect was in charge of the Darwinist selection process, deciding which schemes were fit to survive in their new environment. No longer held back by technological restrictions of form and matters of construction, the new architecture produced an abundance of shapes described through the process of twisting, splitting, folding, stacking, heaping and perforating. Architecture became an active proponent of globalization. The rising demand for new monuments to brand the success stories of companies in the Middle East and China produced an architectural zoo of the beautiful, the monumental and the bizarre. Skyscrapers, the idioms of successful markets dominated the skyline. Individuality and newness became the driving forces for a field of architecture that was trying to keep up with the pace of new construction around the world. Time was precious and

for those who believed in the theoretical side of architecture, the ambitions were packaged nicely into diagrams, based on geometries, construction, materiality and effect. The architect as fashionable designer had replaced the activist arguing for the politics of housing and questioning of the status quo.

Some people started to question the relevance of the discipline of architecture. What was the role of the Architect in the building process? A growing lack of technical knowledge and dependence on a long list of consultants and experts had to some relegated the architect as a mere participant in the building process, a designer of shapes and effects which would underline the idea or program, supplied by the client or developer. Developers were the giants within the building industry. Their financing could make or break the project and who would not want to see their building completed? Success was measured by the ability to attract new clients and provide an architecture not witnessed before. Banking on the salvation through technological advancement, the tools of customized manufacturing and impending direct translation from drawing to building were seen as the much needed tools to diminish the gap between idea and result and to take back control of the building practice. Others attempted to increase their business savvy by focusing on the streamlining of the production process of architecture, by studying the practices of developers and allowing for deviations from the conceived envelope in order to save a deeper underlying idea of the project. But record profits, rising housing and land prices assured the profession of its relevance and need in society. A growing awareness of climate change and the importance of sustainability provided an alibi for the lack of socially oriented ideologies and the lessons of history, the assumedly failed project of modernism and utopian visions and planning policies which had destroyed the urban fabric of cities across the world still were to vivid in architects memories.

But within this celebration of new architectural feats, concerns about capital A Architecture began to make its rounds. A renewed interest began to challenge the lack of criticism within the ongoing practice. Where were the manifestos, the reasons to

build? What role does Architecture play in our built environment? What about the philosophical project of Architecture? While alive within the history of criticism, it seemed to have melded with the profession in terms of actual building. Who would want to deal with the repetitive task of housing, if you can build a museum or corporate headquarters? With the success and architecture became fashionable and grasping for the latest tools, scripts and trends, architecture's taste rapidly changed.

Disaster struck in the form of the financial crisis in 2008, whose full extent is just becoming evident. A shock wave rippled through the markets as the extent of the housing crisis became visible. A whole system based on the future proceeds, spurned by sub-prime lending practices had brought the markets to a standstill. Stocks plummeted and institutions were fighting for survival, foreclosures emptied the newly built housing stocks and new projects were halted in their tracks and cut from future spending. The building industry entered its worst recession and the construction cranes in Abu Dhabi stood still, with everyone wondering who would be able to lease the project in the unsure future. A decade of unhampered building practice had come to an end. An exhaustion of exotic forms, dazzling surfaces, rotating towers and parametric convulsions had come to a standstill.

Crisis swept the field of architecture. Fear for the future, terror of its relevance began to haunt the profession once again. Yet as some would argue, the state of crisis can also be seen as an opportunity for design. Not just the design of surfaces and shapes, but a chance to reevaluate the practice itself. Maybe the crisis should be seen as a much-needed break from the fast pace of construction in order to evaluate the state of Architecture today. Beyond the state of emergency, which allows for a response and rescue measures to reinstate the status quo, the word itself describes the breaking down of the system. What if it is beyond repair? Should this not be seen for architects to reengage the critical project once abandoned in order to instill some of the critique within the reassembly of the future? Throughout history, crisis within the building industry have spurned the theoretical production of ideas. If one takes

the utopian visions for modern life and the city of the 1930's or the counterrevolutionary utopian provocations produced in the 60's and 70's which imagined a more technologically and socially evolved life for the future, Architecture plays a visionary role in the development of society, incorporating these visions within their projects in order to challenge the existing status quo. Architecture mattered and could so again. Through the means of storytelling and the possibility to translate these ideas into the built environment, Architecture has the ability and mandate as a discipline to combine political, social and environmental ideas in order to imagine a better future. The past two years have reinvigorated the field with a sense of mission, a call to arms to produce a response to the impending crisis. If it is the call for explication of the systems failure in architectural terms, the revival of manifestos, a renewed interest in public space, architectural propaganda, designs for the impending apocalypse, the resurrection of the ghosts of modernist utopias, the politics of materiality, or the idea of the architectural mash-up, they all share a common interest to reread and re-theorize the past in order to extract unfinished projects in order to reinvent the future. Unlike fashion or industrial design, architecture is built to last and through the enclosure of space and the power to delineate can have tremendous effects on the organization of public and social life, even if most architecture appears at times peripheral. By revisiting critical architecture, the architect can reassume responsibility towards the built object.

In this context, the project can be seen as an attempt to reengage critical architecture. On a theoretical level it argues for an architectural response, which recognizes the failure of existing status quo and sees the signs of crisis as a fresh starting point to develop an architecture which is critical towards its surrounding. It draws on the notion of Reinhold Martin's utopian realism in the sense that we can learn from the utopian projects of the past and incorporate its ideals into the architecture of today. By reinvestigating the development of the mixed-use block it questions the motifs of the social condenser and the hybrid alongside its underlying political belief systems, drawing out its potentials and attempting to circumvent its pitfalls. How can

we produce an architecture today, which does not just aim to achieve the highest rental return per square meter, but is able to provide housing for the entire social strata. By looking back at the existing block typology it becomes apparent that the low-rise high-density mix of production and housing produced a more vibrant social scene. Whereas the lack of ventilation and sunlight led to its proclaimed failure during modernism, technological advances in envelope design, construction methods and clean manufacturing processes, can help resurrect a more social mixed-use typology in terms of density and production. But a mere technological update would not be critical towards the conditions that first produced the precedent nor comment on the current model, which is bound for failure. If capitalism and industrialization produced the typology, the infusion of socialism and communist ideas of shared space for living, learning and production, which favors the public can make the new typology viable in terms of criticism. By reintroducing the tools of mass-customization into the hands of the public as a means of production, social relations can be reestablished, as the well being of the block depends on the coherence of the group.

### **On housing...**

Once upon a time in a city in Europe, the promises were great. Democracy, freedom and the all the goods that were once so hard to come by were readily available in the stores. The people had waited a long time for this moment, demonstrations, protests and some had paid dearly for this moment when the wall would come down and the city would once again be reunited after almost 40 years of physical separation. Since that day a lot had changed. What once was state property had been taken over by the "Treuhand Anstalt", an agency that promised to swiftly appropriate and return the land into private hands, so that it could grow and prosper quickly, something the state had been unable to do. Investments were made and additional funding was poured into the city in order to mend the scars left behind by the wall. Soon construction cranes were flown in from all over Europe. Architects battled over the prestigious commissions to

reaffirm the city's status as the country's capital. Transparency, openness, remembrance, these adjectives were to be inscribed into the new Berlin. Places quickly transformed, the building stock was deemed outdated and in dire need of repair. Housing stock was turned over and the saviors from the West rediscovered a city they had almost forgotten about. Spurned by the promise of cheap land and great returns they descended onto the city to help in its recovery.

Parts of the city that had been tucked away in the crevices of the wall soon found themselves back at the center of the reunified city. Districts were redrawn, names changed and the city reinvented itself in the light of becoming a capital once again. The worker's palaces and remainders of the past were cleared away, slowly, respectfully to make the city again what it should have been. The gray and green death strip that once so clearly divided east and west soon was filled with new developments. Brand-new facades with big open windows invited the shopper to take advantage of their newly won freedoms. Whole neighborhoods were transformed, public spaces were cleaned up, the Alexanderplatz with its TV tower, which once proclaimed the progress of the now defunct socialist republic and had later been the forum for public protests, was reborn as an attractive shopper's paradise. The products of socialist modernism now looked old and hostile in comparison to the brightly lit, transparent structures proclaiming the newest arrival of electronic products, able to assist in establishing the newfound individuality.

Over the years, the city slowly transformed. With the popularity of the newfound land, rent control was abolished to help spur the transformation and make the city "livable" once again. The economy was booming and change was in the air. Old industries were torn down in order to make room for the new economy. Media was to be the future of the city. First tremors were felt when the city proclaimed record spending deficits. But the future was just around the corner and it seemed only a matter of time until the new businesses would support the new population. "Poor but sexy" became the slogan that resonated with its residents and the

city set out to sell off its land and housing in order to replenish its coffers and started to cut back on its social programs in order to make ends meet.

When people questioned the growing signs of privatization they were shown the progress which had already been accomplished. The gleaming new facades, products in all sizes, shapes and colors, happy young families and plans for new developments, which would protect them from dangers of those who were jealous of their success. For those who were afraid of the rumors telling of the radicalization of the youth, they build higher walls. For those who were afraid of the tales of burning luxury cars, they provided elevators to inconspicuously hide them in their apartments. Old city blocks, which lacked the qualities of light and air, were demolished or decored and with it a part of the complex social network that had characterized the district in earlier times was taken with it.

Until one fateful morning when news from across the Atlantic proclaimed disaster in the financial markets. As the rumors unfolded it became clear that the effects would be felt at home as well. The crisis demanded a response, the leaders of the world were attempting to save the failing system. What had happened? Was it not in its nature to thrive on speculation, drive up prices and reward those who understood its intricate market factors? It did not belong to one nation and like any organism, its goal was to spread and reproduce, survive under any circumstances. It had finally abandoned its shackles and was free to roam the world. Drastic measures were to be taken. As the building boom abruptly came to a halt, the increasing deficit could not longer be hidden. Financed on the promise of future gains, the city now struggled to find occupants for its newly erected palaces.

After two decades of prosperity people began to wonder what had happened to the neighborhoods they once were so attracted to. The people who had given their neighborhood charm and character had left as the rising rents preferred those who came from afar and the well-paid jobs supported by the industrial complexes within the city's midst that once were able to sustain

a living had to migrate to the edges of the city. Here a leftover concrete world of high-rise housing blocks, once the socialist republic's pride, was slowly eroding away and offered housing. Life at the perimeter was different though, jobs were few and far in between, unemployment, the lack of a future perspective and growing violence soon led to its labeling as a problem district.

It is in this world that the project could provide an alternative to the way housing has been de-socialized over the past decades in Friedrichshain-Kreuzberg. The destruction of the existing block structure in the wake of urban renewal and following proposal of high-rise housing blocks has not only led to the dispersal of industries, which were able to provide a wider social stratum with jobs, but also limited the accessibility of urban infrastructures to its lower-income population. With the ongoing economic crisis and the increased cutting of social programs, it is this part of the population that is affected most and most likely to increase. By proposing a low-rise mixed-use housing block, the thesis project is revisiting the abandoned block structure in order to extract some of its social qualities. The goal is re-democratize housing within the urban center, providing access to all of its citizens. Whereas the squalid living conditions of the first industrial revolution ultimately led to its demise, technological advances in façade systems and alternate massing strategies can make this urban form viable once again. Given the increasing trend towards single person households, the collectivization of parts of the housing block could reinstall a sense of social coherence within the block itself. The future will also require more flexibility on how the spaces are used, combining living and working and providing the ability for alternate programmatic uses, as demands within the city change. Rather than providing a strict, mono-functional use category, which might require its destruction and rebuilding as the city changes, structural flexibility and adaptability can form part of a sustainable urbanism. By looking back at the history of the social condenser and the hybrid mixed-use, the thesis is trying to extract approaches in terms of social coherence and viable approaches towards building, which can include collective and public programs in the market environment of today. Strategies towards the affordability of housing can be

pursued through architecture itself, in terms of the building process and type of construction. In this regard the thesis is also revisiting the socialist project of providing housing through standardization and prefabrication. By attempting to develop a set of prefabricated elements that would provide a variety of assembly strategies its goal is to overcome the stigma dehumanization, characteristic of earlier projects. Furthermore, the thesis posits that housing by itself, apart from the rest of the city, is no longer a viable option and has contributed to the decline of urbanity. Through the reintroduction of collective manufacturing capabilities, the mixed-use block hopes to provide another approach to affordability, in which profits from the production could be used to sustain affordable housing as well as providing a means to gradually update and restructure the block according to its needs.

### **On resource scarcity and the apocalypse...**

Once upon a time, industrialization was the catalyst that catapulted humanity into modernity and enabled its rapid urbanization. New machines running on fossil fuels converted energy into labor at an ever-increasing speed a minimum of the cost of human labor. The development of new technologies allowed for an increasing ability to process and transform natural resources into commodity products in order to feed consumer demand. It appeared as if the resources were limitless, energy was cheap and plentiful and in the search for new discoveries, man set out to colonize new territories. For almost a century, this approach has led to the increased prospering of the western industrialized world, based on the availability of cheap labor and resources in order to maintain constant growth. As local resources were gradually depleted, the import of resources in return for finished commodity items led to an increased globalization of the market structures. Economic alliances were formed and protected by force.

At its heart laid a cycle of ever increasing production and consumption, which provided an abundance of wealth and

economic freedom which were directly associated with the ideology of democratic principles in opposition to the socialist state controlled mechanisms of communism. That what politics seemed to have been unable to achieve the theory of the free market was able to provide. Goods were cheap and fashionable and represented individual freedom. Marketing strategies proclaimed their obsolescence once the latest version had left the conveyor belts of its production facilities, in order to sustain its cycle. Objects littered the sides of highways and transformed the landscape through artificial mounds, cemeteries of the broken, outdated and discarded byproducts of everyday life.

Bound by the premise of cheap fuel, investments into alternate fuels remained marginal, too expensive and unnecessary seemed the effort to look for alternates. People never had to think about where their energy was coming from and the efforts it took to obtain them, politically, socially or environmentally. But already in the 1970's first concerns about its sustainability were raised, as increasing oil prices threatened to disrupt the continuous growth cycle. Spurned by the increasing monopolization of producing nations and fears of political instability, the western world was made painfully aware of its increasing dependencies on the import of natural gas and oil reserves. Yet the first signs of crisis were averted, as the globalization of the economy and industry shifted large portions of its manufacturing capabilities east, in the search for cheaper labor, exporting with it the concepts of market capitalism. The future of wealth lay in product development and increasing its commodity value, rather than the physical labor involved in producing it.

The concept of "Peak Oil", that a time would come, when extraction of this precious fluid would reach its limit and the amount of energy needed to extract it would be greater than energy procured. The rapid industrialization of the Asian market, coupled with a rapidly growing world population, which has quadrupled since the beginning of industrialization, has dramatically increased resource demands. Not only in terms of raw energy, but also in regards to natural resources necessary to produce consumer goods. As land properties rose, agriculture

in Europe today is only feasible today through government incentives, leading to the increased import of goods required to sustain the current level of daily consumption. Whereas before Europe and the US were the main beneficiaries of in the past, the production of wealth within China and India has already created an ever growing consumer market, striving for the same levels of abundance as previously enjoyed in the western world. Already today, with the push towards open markets, the future potential to sell consumer goods in order to maintain current growth levels lies outside of Europe. As this tendency progresses, we are faced again with issues of resource scarcity, as extraction nears its limits. Whereas the western world had dominated the markets in the past and exerted its control over other nations, exporting free market capitalism alongside principles of democracy, the future might see a radical redistribution of power. As the recent examples of China, Russia and the Middle East have shown, capitalist production is independent of ideologies and strives under oppressive regimes. This brings into question what the future of the world will look like as power structures are reversed. The western world had built its future on the development of intellectual capital, but even now this type of work will only provide for a small part of the population. What will happen once this feeble construct of cheap labor, speculation and over consumption breaks apart? The global financial crisis was able to provide first glimpses of a possible future, as values deteriorated, housing foreclosures spiked and consumers drastically cut spending, furthering the downward spiral. Only through the immense borrowing policies against future profits could the system be stabilized for now. But as the recent Euro crisis has shown, it is far from being saved. Climate change, overpopulation, rising water levels and lack of resources are bringing the apocalyptic visions so often portrayed in books and films closer to reality.

Over the last decade, issues of sustainability have gathered increasing momentum, yet its abstract application through point systems and its inclusion in commodity items in order to sooth the guilt of the consumer, are far from sufficient to address the future crisis. Given that buildings account for  $\frac{3}{4}$  of the annual

energy consumed on a global level, Architecture can play a vital role in addressing these issues. The thesis project therefore proposes construction solutions, which drastically reduce energy consumption through façade technologies, appropriate massing strategies and the inclusion of renewable energy sources. The goal ultimately is produce a mixed-use housing block, which can provide energy autonomy in order to respond to the future concerns of an impending energy shortage. By addressing the notion of flexibility and adaptability, the project tries to provide a structure which can adopt to changing market needs in order to extend its life cycle and reduce the effects of its embedded energy. Another proposition is the to assess the possibility of recycling of old housing building stock. A large portion of the buildings slated for demolishing in Berlin today, are the prefabricated concrete “Plattenbauten” of the socialist regime. Given the panelized standardization of the construction, is it possible to reuse portions for the construction of the block? A larger aspect of sustainability is the reevaluation of consumption. Rather than proposing a retail oriented mixed-use development, the project proposes the re-localization of production. Through the development of micro-factories and the explicitation of labor, natural, social and economic resources required by the production process, it attempts to reinstall value in the produced goods. In conjunction with this process, the project argues for the inclusion of localized recycling facilities, which can process otherwise discarded products and become a vital source of free material to feed the production process.







**CONCLUSION :**



Maybe more than any other project undertaken during my graduate studies, the thesis project posed a number of intriguing challenges. From coming to terms with what I believe are important questions within the field of Architecture today, to the attempt of addressing them in architectural terms. Yet each solution to a particular problem appeared to raise an additional question. There are parts of the thesis project I wish I could have expanded on more through drawings and writings, in particular the architectural design of the envelope and a clearer definition of the role of the micro-factories in relationship to each housing unit in respect to the types of manufacturing, but ultimately were cut short by the sudden end of the semester.

Another important aspect of the thesis project was the idea of an “archaic futurism”, an approach to re-evaluate historic building typologies and Architectural frameworks in order to address current issues within the field of Architecture today. I hope that traces of the attempt to incorporate some lessons from the Kreuzberger Block are evident in the organization of the final project, yet it may be impossible emulate the intricate socio-economic conditions, produced over several decades, within the confines of a unique proposal. Similar to other “utopian” projects,

the thesis attempts to produce an alternative to the existing status quo. Yet if this alternative in the end is more successful than what it attempts to replace heavily relies on the reception and habits of the user and hence the project has to accept the possibility of failure. In that sense I believe a return to the production of possible scenarios through the mode of storytelling can become an important tool in anticipating possible outcomes.

In the end it is difficult for me to proclaim the proposal's success or failure. Ultimately I hope that the thesis succeeded in raising some interesting questions and showed the possibility of alternative to reintegrate housing and production for the future. And although the thesis project as such has come to an end, personally it has taught me lessons and opened up new areas of research that I will take with me into future projects.

Again I would like to express my sincerest gratitude to everyone involved with the thesis project, especially the members of my thesis committee. It would not have been possible for me to formulate my thesis and produce an architectural proposal without their tireless support, positive criticism, patience and their ability to generate meaningful discussions.



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