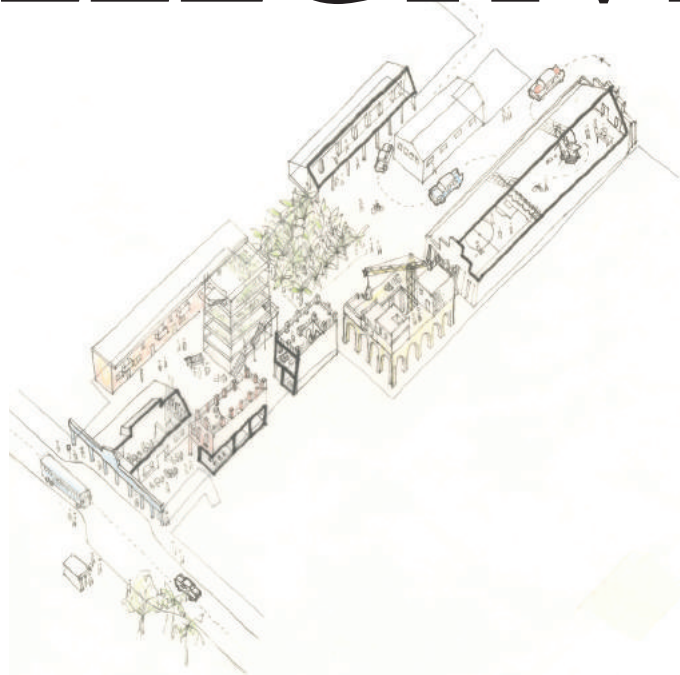


Master Dissertation Project // 22 June 2017 // Aaron Swartjes

COLLECTIVE PATCHWORK, PATCHWORK OF COLLECTIVITY



*A Strategy for Community Empowerment and Self-Managed
Regeneration of a Deteriorating Neighborhood in Havana:
El Cerro*

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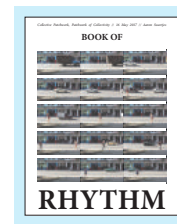
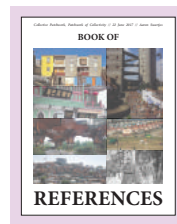
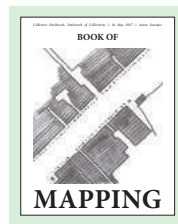
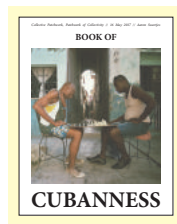
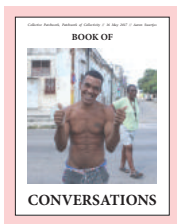
by Aaron Swartjes

the first thing I wrote after spending a couple of days in Cuba,
early July 2015

What will happen to Havana with the oncoming changes that are standing on Cuba's doorstep? Due to the current political situation and the inevitable shift of power, it is not easy to estimate the outcome. In Cerro, inhabitants are eager to construct their own houses and expand in due time with the necessary extensions through common and shared knowledge. The lack of rules results in people (re)claiming transformative spaces, especially as seen in the portales between the houses and the street. The Cerro neighborhood is an extremely dense area and although there is a big shortage of (decent) housing, the inhabitants are in need of decompression spaces. The call for silence, green areas and breathable air is big. Even though it does not always show on the outside, a lot of the former quality is already lost. There is not enough money available to renovate everything, and even if the means were available, there is no use in creating a large-scale open-air museum or new Disneyland. So much unused and forgotten potential is available from former generations, whether we are talking about decaying movie theaters or empty swimming pools. Right now I think the already uprising evolution is a battle between heritage and freedom. How can we prevent these two becoming enemies and stimulate a future where they exist in a symbiotic environment?

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PROLOGUE

When I finished high school, I felt like I needed to broaden my horizon and see something of the world before starting higher education. Latin America had always intrigued me and I decided to go live in Argentina for a year. This was an amazing personal experience and while returning to Belgium, I kept a part of the warm Latin American spirit in my heart. My interest in discovering the world only increased and I continued travelling whenever I had the opportunity.

In the summer of 2015, I had the chance to take part in a development cooperation research project in Havana. The project was supported by VLIR-UOS and fitted in the framework of Streetscape Territories. Together with Iwo Borkowicz, Vytautas Lelys, Virginia Stammitti, Antonio Boeri, Wim Van Hees and Marija Armonaite I spent almost two months in Cuba. In November 2016 I returned to the wonderful Caribbean island to do more research in order to prepare for the master thesis. This dissertation project is based on the research collected on those two trips.

WORD OF THANKS

In the first place, I would like to thank my family. Not only for the support during the development of this master dissertation, but for believing in me and helping me since the day I started studying architecture.

I am grateful for the friends I have, who have been supportive while I was putting all my energy in this dissertation and for lifting my spirit when the going got tough.

I want to thank the Havana Streetscape Territories team for living and sharing the Cuban experience all together.

Thank you, Dirk Jaspaert, for taking an interest in the project and providing insights concerning construction and building technology.

Thank you, Iwo Borkowicz, for taking the time to help me out. The discussions and pep talks were both valuable and pleasant.

And most importantly, thank you, Kris Scheerlinck, for being the academic promoter I hoped to have. Your inspirational guidance, genuine support and sincerity have enabled me to make this master dissertation into a profound and heartfelt project.

A special mention goes out to the amazing Cubans, who have helped me out and shared their stories with me. Their kind spirits and warm hearts have been the true inspiration for this dissertation project.

STREETSCAPE TERRITORIES

The master dissertation fits in the Streetscape Territories framework. Streetscape Territories is an international research project that deals with the way buildings and properties are related to streets and how their inhabitants can give meaning to them. In other words, this project focuses on the territorial organization of streetscapes, explored in different contexts, studied as part of different cultures and defined by different social networks.

The research starts from the assumption that streetscapes are subject of constant negotiation, part of scenarios of uncertainty on a social, cultural, political, economical and environmental level. The project pronounces a discourse on the meaning of streetscapes and related urban infrastructures, related to the adjacent or surrounding urban fabric.

Streetscape Territories deals with models of proximity within a street, neighborhood or region and starts from the assumption that urban space, from the domestic scale till the scale of the city, can be understood as a discontinuous collective space, containing different levels of collective use that are defined by multiple physical, cultural or territorial boundaries.

The research and design approaches are defined by five main concepts: depth, collective space, proximity, spatial delimitation and openness and functional indetermination.

CUBA: A REVOLUTIONARY PAST, DYNAMIC PRESENT AND CHALLENGING FUTURE

In 1492, Christopher Columbus claimed Cuba for Spain. Havana was founded in 1519 and quickly became one of the most important cities of the Caribbean and entire Latin America because of its strategic location for the Spanish conquistadores. At the end of the 18th century Havana had become a vibrant export-oriented economy. Cuba only gained formal independence from Spain in 1902, so until then the Spanish had heavily influenced every aspect of Cuba. Until today the influence is very visible in the urban fabric of the city: public buildings and mansions in colonial style, baroque palaces, pedestrian corridors under porticos and churches to name a few. (Hamberg, Coyula, 2003).

In the beginning of the 20th century Havana went through a construction boom in which the city suddenly acquired a very eclectic range of architectural styles. Due to the relatively long colonial occupation and late American influence, the development in Havana happened – unlike most other cities - by addition instead of replacement: new neighborhoods were constructed in new styles, while leaving the former popular style in the older city. (Hamberg, Coyula, 2003) The streetscape in each neighborhood still consists mostly of the architectural style of its respective construction period in history.

After Cuba's independence from Spain in 1902 the country comes under US protection. During the following years, Cuba becomes more and more like a playground of the excess American lifestyle. In 1933 sergeant Batista leads a first military coup and later seizes power again in 1952. Batista was backed by the US and lead an oppressive and corrupt regime. Cuba becoming a brothel ran by the mafia and continuously rising inequality lead to a first unsuccessful coup from Fidel Castro in 1953. In a succeeding coup in 1959, together with Ché Guevara and a guerilla army, Fidel Castro took over. The majority of middle-class and poor citizens supported the Revolution, because of its anti-Batista character. However, not until the 'Triumph of the Revolution', it became clear for the Cubans that Castro and Guevara wanted to install a communist regime. Not everyone on the island agreed when this happened. Fidel Castro implemented the communistic regime anyway, allied with the USSR and relations with the US quickly went downhill and Cuba was placed under an embargo (BBC, 2017).

Housing was one of the first topics addressed by the Socialist government and something that helped them gain political support to achieve their Revolution in the first place. They tackled the great inequality of the housing situation by ending private rental of housing through the Urban Reform Law in 1960. From that moment on, housing was for people to 'live in, not to live from'. The state organized a program through which former tenants would pay rent to the state for five to ten years and afterwards gain full ownership (Peters, 2014). The Revolutionary government left the responsibility for housing to local governments, who could almost never answer the demand.



fig. 1: Fidel Castro (left), Ché Guevara (middle) and other revolutionary compatriots marching in a memorial service (5 March 1960)



fig. 2: "Marielitos" fleeing from Cuba to the US

The result was that since 1959 at least two thirds of all housing was self-built rather than state-built, most of them in the informal sector (Hamberg, Coyula, 2003). The government of the Revolution also focused its policy on the nationalization of education, industries and the bank system. This became quite an anti-urban politic when the government focused on agricultural labor and improving living conditions in the countryside (Hamberg, Coyula, 2003). All businesses on the island were seized by the state, without any compensation.

After the ‘Triumph of the Revolution’, Castro started to execute all former Batista-supporters. He continued this purge to all others who opposed his political ideas by either killing them or locking them away in one of many new jails. Heavy propaganda began, the press was placed under heavy censorship and freedom of speech was gone. Human rights were violated on a daily basis.

From the beginning of the Socialist regime, throughout the following years and up until today, many Cubans have fled the island for both political and economic reasons. This exodus reached a climax in 1980 when Fidel Castro allowed – for a brief period – everyone who wanted to leave the island. That year alone 125 000 people fled to the US. During the entire period of Castro’s reign, the CIA attempted countless times to kill - or at least humiliate - him. They tried everything: from putting explosives in seashells to putting chemicals on his shoes to make his beard fall off. They never succeeded (Suddath, 2009).

The collapse of the Soviet Empire in 1989 had extreme consequences for Cuba. Because of Cuba’s dependence on the Soviet Union for oil, tools, spare parts and a trade market at favorable prices and the tightening of the US embargo, Cuba fell into a deep crisis. The Cuban government called this period – quite euphemistically – the Special Period in Times of Peace. The agricultural sector went into an immediate crisis and there was an imminent food shortage on the island. However, Cuba answered to this crisis with creative answers and innovative programs, for example through urban agriculture and the introduction of market-style reforms in a Socialist framework. The government reformed previously state-owned farms into co-operatively owned farms that could make use of the reforms in terms of a free market for their agricultural products. In Cuban cities, through encouragement of the government, many inhabitants started small vegetable gardens in their backyards, courtyards or vacant city plots (Peña Díaz, Harris, 2003).

Since the revolution there is still only one political party: the Communist party. Education and health care have always remained free of costs and everyone on the island has the same job opportunities and social security. Cuban researchers argue that there does not exist poverty in Cuba, but that there is only a population that is ‘vulnerable’

or 'at risk' (Hamberg, Coyula, 2003). Although a basic principle of the 1959 Revolution was that every citizen had the right to live in an adequate home, Cuba keeps on struggling with a big housing deficit which is estimated around 500 000, although some demographers estimate it closer to one million. According to the latest numbers, more than 60% of the Cuban housing stock (almost 2,3 million buildings) is in marginal or bad condition (Peters, 2014).

In 2006, Fidel Castro's health declines and finally in 2008 his brother Raúl becomes president. Since then, Cuba has gained a lot of momentum with new reforms, a changing socio-political situation and reinvigorated enthusiasm. In 2009, US president Barack Obama announced that he wants a 'new beginning' with Cuba and by 2011 he relaxes travel restriction from the US to Cuba. Also in 2011, the Communist Party Congress releases new reforms that allow individuals to buy and sell property for the first time in 50 years. The reforms also call out for "new organizational forms in construction, both state and non-state" and they legalized private and non-agricultural cooperative businesses. In 2015 the US and Cuba discuss about restoring diplomatic relations in a historical meeting and in 2016 Obama visits Cuba as the first US president to do so in 88 years (BBC, 2017).

After almost fifty years of Communist leadership, out-reigning nine American presidents and surviving countless assassination attempts, Fidel Castro died aged 90 in 2016. To say that opinions about Castro's achievements in Cuba are polarized is an understatement. What everyone agrees on though, is that his impact on Cuba and the world in our recent history has been grand. Fidel Castro, besides from being a brutal dictator, has been blamed for ruining the Cuban economy sometimes the whole country as a whole. However, by only looking at Castro's economic policy and not at the US economic restraints of the suffocating embargo, an important nuance is overlooked. By looking through a US capitalist lens, Cuba might be perceived as poor and an enemy of economy. It is important, however, to understand that Cuba, since the 1959 revolution, has put priorities on other aspects of society than individual consumption. Salaries are low, but they do not fully determine the living standard, because every Cuban has the right to free education, health care, sports and culture (Yaffe, 2016).

Right now, it feels like Cuba has been in a time capsule that just opened. Former glory and forgotten romance are what remains, but new energy is already setting of sparks. Cuba has succeeded throughout a history of many problematic economic situations to provide alternative answers with few resources. The ingenuity, creativity and determination of Cubans have often turned problems into sustainable and resilient solutions. Raúl Castro claimed that he wants to continue the spirit of the Revolution in order to build a "prosperous and sustainable socialism" (Danby, 2016). However, it will be a challenge for Cuba to find a good way to address its complex reality in the current dynamic socio-political climate. Today, all eyes are on Cuba.



fig. 3: Fidel Castro together with his brother Raul Castro (2004)



fig. 4: Barack Obama and Raul Castro (2016)

INTRODUCTION OF EL CERRO

For this master dissertation, I focus on the neighborhood of El Cerro. It is a deteriorating part of Havana with a lot of former glory, but without a good idea of what has to happen from now on. Cerro is not considered a priority region for development or financial investment by anyone and tourists hardly ever go there. The challenge will be to think of an architectural intervention that fits in this existing reality and responds to the local context in the right way.

THE EVOLUTION OF EL CERRO


The city of Havana was founded in the 16th century and became an important metropolis in the Caribbean. At the end of the 18th century the economy was oriented mostly towards trade and exports and became significant for the Spanish empire. The population of Havana grew out of the walled city towards the outskirts. This development followed a net of principal roads. The Calzada de Monte extended from the city wall towards the southeast and transformed into the Calzada del Cerro at the next intersection. The Calzada del Cerro is the spine of El Cerro: on both sides of this road the neighborhood started growing and developed.

The area was attractive to the aristocracy of that time, who started building antique residences – often temporary summer houses - on the Calzada: Casas Quintas. These colonial-style houses followed a new principal of design. They abandoned the idea of a central patio and replaced it with a garden in the back. Towards the street, these houses had a shaded corridor – a portal – that became the key characteristic of El Cerro. The Calzada del Cerro today is a 2,4km road with a continuous row of colonnades on each side. It is the longest of its kind in entire Latin America.

Further urbanization and industrialization (installation of factories) of El Cerro, brought the middle and working class of Cuba towards the neighborhood. The discrepancy between the decadent aristocracy and the other classes was big, pollution due to the industry increased, traffic became congested and El Cerro started marginalizing. The affluent Cubans moved once again to neighborhoods on the new city outskirts and left El Cerro with a rich architectural heritage and a generally poor population.

fig. 5: map of Havana and its outskirts in 1898 ►

fig. 6 (following page): map of Havana today, with neighborhood indications ▼

An aerial satellite photograph of a city, likely Havana, Cuba, showing a dense grid of buildings and streets. A white outline traces a path through the city, starting from the coast on the left, moving inland, and then curving back towards the coast. A red line is drawn across the lower right portion of the city grid. Two text labels are overlaid on the image: one in the center-right and one in the lower-left.

*Plaza de la
Revolución
(Vedado)*

*Playa
(Miramar)*



*Centro
Habana*

*La Habana
Vieja*

El Cerro

Calzada del Cerro

*10 de Octubre
& Regla*

A NEIGHBORHOOD OF STONE

Time has turned Cerro into a periphery: an architectural history of memories of suffering and destruction, charged with complex significance and cultural references. Cerro's uniqueness of spatial and atmospheric qualities is waiting for things to come. Video footage of the neighborhood reveals a mineral sequence. Every building is a piece of the mosaic in this city of stone. This sequential view from the Calzada del Cerro helps us read and understand the streetscape of Cerro. The Calzada's street view was designed as a repeating row of regular facades as a spatial continuity with portales to create a safe and functional corridor for the inhabitants.

The current perception of Cerro can be described as mineral. The proof of decline is omnipresent: buildings crumble and voids appear. The Calzada becomes a fragile continuity with many implications on formal and informal use. The portales are appropriated in many different ways: they used to be open and public, but are gradually changing in closed off private spaces. The high percentage of construction on the plots in Cerro becomes quite clear from a higher point of view. This density exists because of the high need of space for housing. In the past, people who were looking for more qualitative housing left Cerro for Vedado or Miramar. Today, inhabitants of Cerro no longer have a choice. They do not possess the economic means to move out of the neighborhood, so they have to survive in Cerro with the present conditions.

Patios have been closed; small open spaces at the back of houses have been transformed into a kitchen, a bedroom, a bathroom... The priority for the inhabitants is extra space to live in. Multiple families share one house and are unable to adapt it in a structural way, so they claim the spaces that are easiest to transform: portales and patios. Green and open space has become a luxury in Cerro that most inhabitants cannot afford any longer. The need for space becomes bigger by the day. A high percentage of the houses are currently in a very bad state. There is imminent danger of collapsing. Every once in a while, a house collapses and people die. People are afraid this might happen to them too, but there is no solution and no way out. The people of Cerro are proud of their heritage, but would throw everything to the ground and rebuild a safe house if they could.

fig. 9 - 13 (page 22-31): photographs of the streetscapes in El Cerro ▼



fig. 7: high built density in El Cerro



fig. 8: high built density in El Cerro







JRF ANO 1925















FRAMEWORK

Cuba is changing. As a framework for the research that I conducted in order to understand the site, I decided to establish some topics of investigation.

This research fits in the Streetscape Territories framework, an international research project that deals with the way buildings and properties are related to streets and how their inhabitants can give meaning to them. Streetscape Territories deals with models of proximity within a street, neighborhood or region and starts from the assumption that urban space, from the domestic scale till the scale of the city, can be understood as a discontinuous collective space, containing different levels of collective use that are defined by multiple physical, cultural or territorial boundaries.

Following here, are five categories influenced by the new dynamics, subdivided in a list composed of questions about the ongoing changes and future regards. They are potentials that will lead to an architectural intervention:

1. Decomposition of the Cuban Heritage
2. The Future of Housing
3. Socio-economic Development
4. Accessibility
5. Collective Space

1. DECOMPOSITION OF THE CUBAN HERITAGE

1.1 The rich colonial heritage on the Calzada del Cerro is in a very bad state. Will development mean a loss of heritage and cause gentrification? Are there ways to develop, while maintaining (part of) the heritage and not chasing away the current inhabitants? Or will it always be a choice between preservation and development?

1.2 In the colonial period, the colonnades stretched out continuously over the entire 2,8km of the Calzada del Cerro. Every corner of a block was reserved for stores or services. Today, many portales are closed or appropriated in another way. Businesses went out, but are emerging again. Is it possible and useful to look back to the colonial period to make design decisions?

1.3 Can there be any investments made into development projects when there's barely any private money or governmental aid for anything whatsoever?

1.4 Can the deserted cultural and industrial spaces (empty movie theaters, swimming pools...) be invigorated and restored? Or otherwise reused?



fig. 14: appropriated colonnade

2. THE FUTURE OF HOUSING

2.1 Right now only Cubans can actually buy property, but foreigners are already making pacts with locals for when this law changes. What will be the influence of foreign stakeholders in the Cuban housing market?

2.2 Due to bad organization and lack of rules, will the estimated 5% of open space in El Cerro continue to be filled up with informal settlements and extensions? Can good architecture and planning address both the need for more housing and need for decompression space?

2.3 Most buildings alongside the Calzada del Cerro are houses. What is the role of the room adjacent to the portal? Often, small businesses are emerging from those spaces. Is the ground floor along the Calzada del Cerro ideally a more commercial space instead of particularly housing?

2.4 Are models of co-housing and community housing a solution to the density problem and housing shortage? Can these models be linked to (small) businesses and productivity?

2.5 Is it possible that at some point certain spots will become fake Disneyland-like areas, while most parts of Cuba will look like a 'boring American periphery'?



fig. 15: informal housing

3. SOCIO-ECONOMIC DEVELOPMENT

3.1 What is the current status of the Internet? Is it already introduced in other places than hotels? Is there an influence on the streetscape and public spaces? What is the 'new' perception of distance between friends and family? How does the contact within Cuba and other countries work?

3.2 What will remain of communism and the socialist reign? How big will the capitalist influence be? Cuba presumes it can maintain its socialism, is that possible? Until what extent? What do these changes mean for the freedom of speech and press? Will the 'sharing mindset' stay (car-sharing, for example)?

3.3 Acceptance of the LGBTQ community and other minority groups (religion, color of skin etc.) is happening relatively quickly. Cubans are waiting for changes to happen, which makes them more tolerant. Do minority groups have certain areas in El Cerro where they can gather and meet?

3.4 Will the eventual opening of the borders lead to another mass emigration? Will people return to the island and reclaim pre-revolution period property that was once theirs (or their family's)?



fig. 16: American flag

4. ACCESSIBILITY

4.1 Will a typical Cuban transport system like the *almendron* remain possible in a capitalizing future? The current transport sector is predominantly devoted to public use. Will the inevitable changes in the transport sector influence the public space in a negative way?

4.2 The Calzada del Cerro was designed with a tram going both ways in the center, a single road on each side and houses with their famous corridors as an extended shaded sidewalk. Today it's only a double road for motorized vehicles. Is Havana facing the takeover by car mobility as seen in Western cities some decades ago? Can this stage be omitted?

4.3 Today, traffic is polluting and extremely noisy. What can we do to make El Cerro more livable?

4.4 What is the role of the busy Calzada del Cerro? What is its relation to the secondary streets in the neighborhood? How can it become a stronger asset?



fig. 17: overcrowded bus

5. COLLECTIVE SPACE

5.1 Will bricks and stones continue to take over the streetscape of El Cerro is the development of housing? Is there a way to keep or create green spaces too?

5.2 How can (green) decompression zones be provided on both short and long terms? Are these two very different approaches and can one start the spark for the other?

5.3 Cuban life used to be very vivid in the streets and under the colonnades, but is slowly evolving inwards into the private atmosphere. Is this a negative trend? Can design offer solutions to bring life back to the streets and under the colonnades?

5.4 Can the deserted cultural and industrial spaces like old movie theaters and empty swimming pools be invigorated, restored and renovated? Or reused in other ways?



fig. 18: vibrant social life

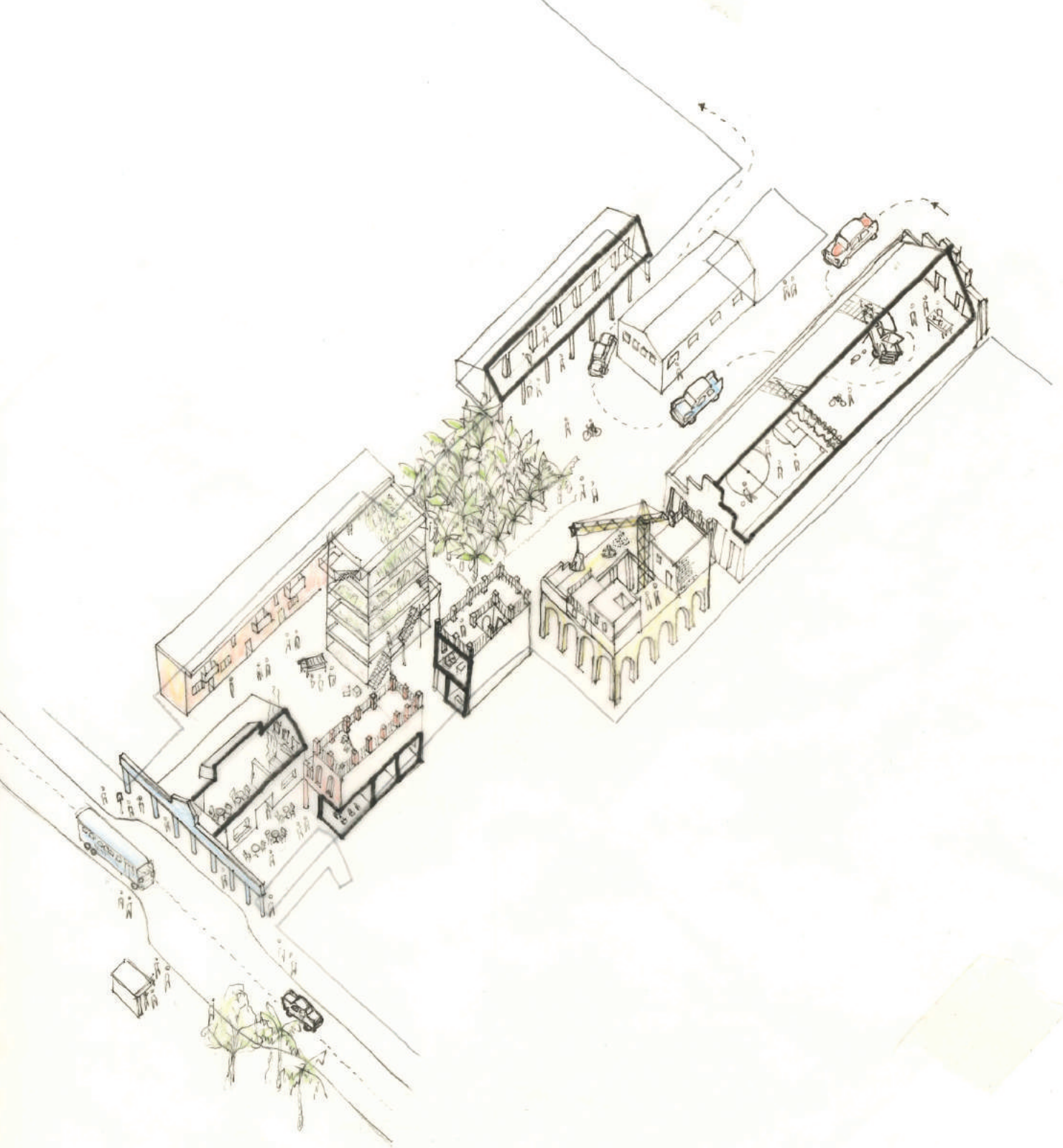


fig. 19: first impression of an architectural intervention in El Cerro

RESEARCH QUESTION

In the neighborhood of El Cerro, many interesting things happen on the intermediate scale between the public space of the street and the private space. Especially the corridors along the Calzada del Cerro and pasillo's in the interior urban fabric have an extra layer of depth that is very rich in collectiveness because of the social relationship these spaces generate.

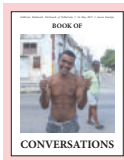
On the other hand, many inhabitants are living in bad conditions: extra living space and new housing are desperately needed, the heritage is crumbling down and people who are working more than full-time are not getting by.

How can the people of El Cerro benefit from the current dynamic political, cultural and social climate and how can an architectural intervention contribute to use and enhance the energy, resourcefulness and entrepreneurship of the Cubans as a power to spark development and life in their neighborhood?

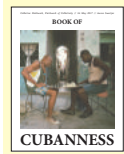
I see the Calzada del Cerro as a threshold to El Cerro: an intervention zone of new urban forms as a bridge providing the missing links in the neighborhood. I propose to create a system to regenerate a city-block and to empower the people by giving them the possibility and responsibility to build, adapt and upgrade their own neighborhood: El Cerro.

“THE BOOKS”

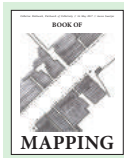
I collected the information of my research in books: each book is a different way of looking at Cuba, a different colored pair of glasses to look through at the interesting but complex Cuban reality. I used the books as tools to make my architectural proposal. The books are added loosely in this dissertation, because they are not meant to be read in any particular order. They are different aspects of the colorful story of my looks on and reflections about Cuba. A brief summary of what you can find in each book (the summaries are arranged in alphabetical order according to the title of the book, not in order of importance or any other order that assumes hierarchy):



The Book of Conversations is a compendium of conversations with the inhabitants, vendors, passers-by and everyone else who wanted to discuss my topics of interest and contribute his or her story about life in Cuba.



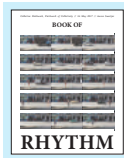
The Book of Cubanness is an index of things that contribute to the Cuban atmosphere. It is an anthology that includes some of the typologies, architecture, behavior, facts, solutions and other things that make Cuba what it is.



The Book of Mapping contains the investigation of spatial qualities in Havana. I chose a representative city block in the neighborhood of El Cerro to research thoroughly and it contains a comparison with the neighborhood of El Vedado.



The Book of References is a collection of case studies from around the world that are relevant to the context of Cuba, and the neighborhood of El Cerro in particular. It is a way of looking at my research site through the lens of similar situations elsewhere in the world.



The Book of Rhythm looks at Cuba and the neighborhood of El Cerro through the lens of movement. It is an investigation of how the streetscape works in the sense of actions, repetitions, stillness and other situations.



The Book of Visions is a collection of interesting articles, bold statements and visionary thoughts that have inspired me throughout the process of the Master Dissertation.

REFLECTION ON THE STREETSCAPES OF EL CERRO

This is a reflection on the properties of the streetscapes in Cerro through the Streetscape Territories framework. It is about how territories and people relate to each other in the streetscapes and how these relationships contribute to the local identity of the physical and social environment of El Cerro. This reflection goes into the properties of collective space, depth configuration, proximity, spatial configuration and the level of program (Scheerlinck, 2016).

The Calzada del Cerro acts in many ways as the spine of the neighborhood. When it comes to depth configuration, the Calzada feels like the most central and public place. This does not mean that it is the most social interactive space. More things happen on the intermediate level between public and private space. The different levels of occupation on streets in the internal urban fabric feel like gradual steps away from the Calzada del Cerro.

The continuous colonnade on the Calzada del Cerro is a very interesting level between the most public space that is the street and all the functions that are lying behind, both built and unbuilt space. These portales allow for both a very clear and distinct claim of territory and an ambiguous in-between space. Depending on the fact of whether a portal is appropriated and if so in what way, adds different levels of depth to the organization of the space.



fig. 20: variable collectivity

Many houses do not have an entrance at the street level and are configured along (a chain of) smaller access ways in the building block. These pasillo's act as the atrium in a Roman courtyard house: they are an open or half-open central space to which different living units and systems are connected. This extra level of depth between the street and the house is extremely interesting and rich in collectiveness because of the social relationship that exists in it.

The reconfiguration of former, bigger colonial housing, like the Casas Quintas, to multi-family housing constitute a new level of depth and collectivity in today's Cuba. The front door no longer serves as the border to personal space as it used to be, but to a new form of collectivity. New layers of depth and collectivity are constantly added, often informally, to the existing urban fabric. The territorial organization of these different levels of collectivity in the urban fabric is often constituted by social boundaries and relations that provide or deny accessibility.

Streets adjacent to the Calzada del Cerro and especially in the internal urban fabric display a different use and perception of the street and thus a different architecture and border organization between public and private atmosphere. The different intensity of transport and movement in which streets in Cerro are used and the proximity to publicness are important as to how boundaries are created. Spatial organization of private



fig.21: shared access

property along the Calzada del Cerro often works as an attempt to enlarge the relative distance between intimate atmosphere and the more collective streetscape. The proximity of inhabitants the neighborhood to the Calzada del Cerro often distinguishes their possibility of inclusion in the dynamism en emergence happening in Cerro right now.

Inhabitants of Cerro feel unsafe. Around the 1990's (due to the economic crisis), Havana's crime rate (burglary and robbery) rose slightly. This resulted in everyone closing off as many parts of his or her home as possible. Upon seeing the majority doing this, everyone copied it. After the economic crisis the numbers dropped again, but the fences and iron grates remained. Compared internationally, Cuba always had an extremely low crime and violence rate. Even during the economic crisis, Cuban numbers were way below the average. Only during the last years, due to the upcoming tourism, little street crime rates rose a little. But they consist almost entirely of tourists getting pick pocketed in Habana Vieja and Habana Centro.

Another reason for closing of personal space and/or appropriating new space is privatization and identity. Inhabitants might feel more comfortable when 'their' private space is clearly set off. In many streets and pasillo's the boundaries between the public and private realm are uncertain. The closer someone lives to a main road, a busy public



fig. 22: self-organised playground

space or a transport node, the more likely he is to claim territory. In a quieter place in the neighborhood - especially in pasillo's - the spaces in front and between houses are more open and feel like an urban living room. They are delimited by social control, because only people who live there or who are considered as desired or invited will be allowed to enter.

Since 2011, opening a (small) businesses is allowed. They are private, but still very dependent on state regulations and supplies. The streetscape, especially on the Calzada del Cerro, has changed a lot since 2011. Cafetería's, guaraperias, repair shops and markets are opening their doors. This small grain is new to the city. Before, big state-owned shops and warehouses ran everything. A few of them are closing or empty, but they still exist in the urban fabric.

Cerro is a very densely built neighborhood and has many inhabitants. Still, there is a housing shortage and the quality of the housing is bad. People are appropriating portales, (former) productive spaces and other open or indetermined space as extra living space. This means that housing is constantly trying to take over other programs in the area. Sometimes though, inhabitants use their private housing space also as a (small) commercial space: they sell food and drinks from a window in their front door, they repair bikes or watches on their doorstep or living room...



fig. 23: urban living room

The portales on the Calzada del Cerro are the favorite place to appropriate and acquire new uses of space. What used to be a continuous corridor, is now turned into an ambiguous area between the public sidewalk and the sidewalk extensions and areas with restricted access (Anderson). The use of each part of a portal is very dependent on the level of delimitation and the program that exists in the buildings or spaces behind it. For example: in front of a guaraperia, the corridor space is used for quickly drinking one or two glasses of sugarcane juice. In front of some houses, the portal is completely closed off by walls or fences and turned into a private front garden. Other portales are used as a bus stop, shaded sidewalk, a showcase for products or a combination of any of these.

The big state-organized programs are slowly weakening, like the Socialist state itself. The new small businesses are an interesting and necessary new addition to the city, but the system is not (yet) economically viable. Cubans are generally highly educated, but cannot use their competences to work. Medical assistance is provided for everyone, but housing is not safe and there is not enough food. With new program added and a new economic model based on production and a more circular economy, Cerro could flourish.

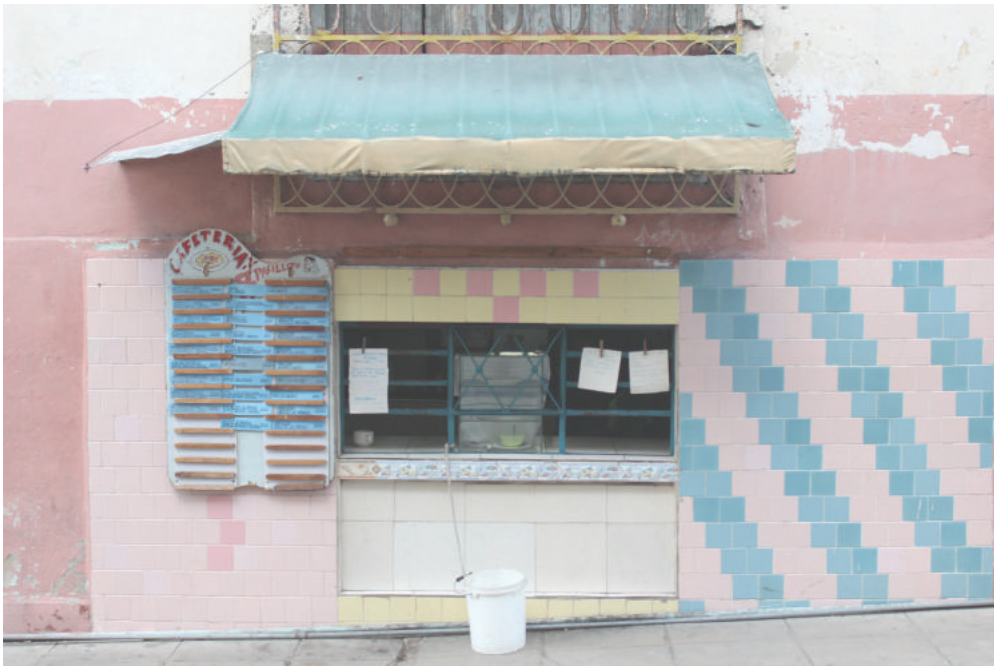


fig. 24: emerging business

CONSERVATION AND REHABILITATION OF URBAN HERITAGE IN DEVELOPING COUNTRIES

Heritage preservation is not only about the passive protection of some buildings with historic significance, neither the compulsion of trying to preserve everything that is old. It is about a creative strategy of use and re-use of the heritage as a whole in a city. Change and modernisation should not only be allowed, but are desirable. It is important that the life of a community on site can go on while and after the quality of the heritage is upgraded. Urban heritage should be an asset that benefits the present and future of a city (Steinberg, 1996).

Revitalization and rehabilitation strategies have to be focused on entire areas and the present communities, not on individual buildings or the physical environment alone. A first important aspect of conservation strategies is the social aspect. Around the world, the majority of inhabitants of historic city districts are poor. They usually suffer from the impact of sub-division and over-utilization of outdated services. The lack of financial (and other) resources of this community in a historic center further contributes to the continuing deterioration and decay. It is important to think how they can participate and benefit from revitalization and rehabilitation. Changing land use and value, and gentrification are often a result of such strategies (Steinberg, 1996).

A second important factor is the economic aspect. Financing conservation and rehabilitation is not easy, and especially difficult in developing countries. It is interesting to look at a possible mix of private and public resources to carry out a strategy. Tourism can be an interesting contributing factor. An integrated approach with an eye for local economic activities is a good starting point. The government can provide an incentive for the rehabilitation and re-use of historic property by providing tax exemptions for inhabitants or users. This is the case in Cuba. While rehabilitating and conserving historic property and/or putting it to new economic use (like a hotel or restaurant), Cubans can get exemptions from taxing. It is important to estimate how strategies will change the land use, activities and value, and how they will influence the community and city (Steinberg, 1996).

A last aspect to be taken into account is the urban scale. How can the urban pattern and urban tissue be preserved as a whole through development and changes and how can the conditions of the historic heritage be adapted and modernized while ensuring safety and quality of life? In heritage-worthy areas, specific urban patterns can include typical density of land use, building heights, width and patterns of circulation routes (like roads or alleys), building typologies, infrastructure... The goal of a rehabilitation and conservation strategy should be not to fossilize these elements and make it into a Disney-like feature, but to maintain and sustain the essential and recognizable qualities that constitute this urban tissue while upgrading it to the necessities of the present (Steinberg, 1996).

HERITAGE IN EL CERRO

In order to think about heritage preservation in the neighborhood of el Cerro it is interesting to analyze the existing typologies. What are the recognizable factors, details and essential qualities of the heritage?

The most striking and visible aspect is the uniform pattern of the continuous corridors on the Calzada del Cerro. In combination with high ground floors with multi-purpose functions, they provide a fantastic collective space and recognizable identity of the neighborhood. The value is high exactly because of the completeness of the whole in the urban fabric of Cerro. Other additions in the built structures like balconies, creativity in ornamental finishes and the wide range of flamboyant colors contribute to the recognition of the heritage and identity. Because of the dense urban fabric, many alleys and passageways have originated in the built tissue, adding interesting and rich levels of collectivity. The social aspect of the use of these pasillo's and other collective spaces is very valuable for the quality of community life. The combination of the presence of rich cultural heritage as physical architecture and the quality of rich levels of collective spaces define the social life and meaning in the urban culture of El Cerro.

A lack of financial resources makes it difficult to think about heritage preservation in El Cerro. Part of the solution can be an educational impulse instead of an economical impulse: learning about the value of heritage, learning how to build safe or properly renovating while taking heritage and history into account. Another way to think about preservation is to consider the re-use of materials on site as a vital part of the strategy. The heritage can live on and be useful again by becoming part of the new construction. After all, it is not one brick that makes the heritage, but the combination of the factors listed above.

HOUSING IN CUBA

Before the revolution, in general only wealthy people in Cuba owned their homes. This was an important source of perceived inequality on the island. In 1959, immediately after the revolution, Fidel Castro decided that every Cuban had the right to live in an adequate home. The government introduced a system where they collected reduced rents from tenants for a period between ten and twenty years, before transferring the ownership title to the tenants. The revolution thus greatly increased homeownership (Grein, 2015). However, owning a private house as an investment was prohibited, because that would undermine the communistic principles of equality. This meant that the state was the sole provider of housing for the Cubans.

Different types of efforts were made to alleviate the housing shortage, from mass standardized housing projects organized by the state to rehabilitation programs launched by for example microbrigades. Material shortage and other issues often slowed down the process, which made the projects drag on for years.

After completion, housing is assigned according to need. This is determined by the Cuban state. The payment for the house happens through the rent, which is established to pay off the production costs for the housing under a leasing contract of roughly twenty to thirty years. After that period, the inhabitant becomes legal owner of the property. Today, around 85% of the Cubans own their house (Grein, 2015). Until recently, Cubans were not allowed to use housing as an investment, so a property could not be sold. Relocating could only happen through a system called 'permuta', which is literally exchanging houses with another party. This always required government approval. These laws did not keep the Cubans from organizing a real estate market: they found a way around the restrictions and used the law of house-swapping to buy and sell houses among themselves, while in the eyes of the state they were just using the permuta-system (Peters, 2014).

During the 'Special Period' Cuba fell into a deep crisis. The population had become completely dependent on the Communist state and overnight that state had almost nothing to provide anymore. Acquisition of materials and transport became very difficult and the construction sector fell into a crisis too. Even until today, this crisis is still ongoing and the embargo imposed by the USA is not helping.

According to the latest numbers, more than 60% of the Cuban housing stock (almost 2,3 million buildings) is in marginal or bad condition (Valero, 2015). The complete housing stock consists of 3,9 million residential units of which 85% are privately owned. Cuba has 11,2 million inhabitants and thus live on average with 2,8 residents per unit (Peters, 2014). The housing deficit is estimated around 500 000, although some demographers estimate it closer to one million (Grein, 2015). This results in overcrowded houses where any composition of family, extended family or other people live together without any privacy. According to the National Housing Institute (2013), between 60 000 and 70 000 new housing units should be built per year to solve the housing problem (Peters, 2014).

The Cuban government wanted to address these problems by implementing changes in the law to make room for a private sector and reformation of enterprises. Therefore, they released Decree 288.

DECREE 288

On 2 November 2011, the government under Raúl Castro issued Decree 288 that opened up the private real estate market again for the first time since the Revolution in 1959 (Peters, 2014). The government hopes that a more robust private market will alleviate constraints on housing stock and deteriorating infrastructure. Owners can now legally sell their house for profit and use the money for consumption or investment (Grein, 2015). There is no governmental approval necessary for the sale of housing, only registration.

As an article in the Cuban official newspaper stated in 2013, the government is interested in involving cooperative groups to solve the housing problems. Since cooperatives fit better into the socialist mindset than private firms, the government is willing to give the cooperatives preferential treatments. These cooperatives could form larger-scale construction enterprises.

Since many Cubans are not waiting until someone else builds or repairs their home, the DIY-construction sector is booming. To support this movement, the Cuban government opened 43 building supply centers in Havana with reduced prices for building materials to help these DIY'ers. Materials like cinder blocks (\$0,28 per block), red bricks (\$0,12 per brick), particleboards (\$14 per 3,5m²), cement (\$10 per 42kg), paint (\$3,30 per gallon), floor tiles (\$1 for a 40cm² tile) plumbing and electrical supplies and tools are offered in Cuban pesos (prices in Dollars are equivalent to price in CUP) (Peters, 2014).

Families with a low income can apply for a grant to subsidize their repair and construction projects. The grants are funded by the proceeds from the supply centers. Upon accepting a grant, citizens sign an agreement about how they will use the money. The maximum grant available is 95 000 Cuban pesos (\$3,800) (Peters, 2014). Since 2011, small loans are available to be used for repair and construction, to start up a small business or to assist small farmers. Most loans are used for home construction purposes (Peters, 2014).

Since the full payment has to be made when a person buys a house, the market today exists almost entirely of people who either have sold their house or people who receive money from abroad. Taking mortgages is not yet possible (Peters, 2014).

EMERGING PRIVATE BUSINESSES

In 2011 the Communist Party of Cuba introduced new economic reforms, known as the 'lineamientos'. Everyone knows that the state can no longer take care of free health care, education, sport and cultural activities for all citizens. The new laws aim to make the national economy more efficient, enhance national production and reduce import. In the reform a list is published for people who want to work for themselves, for 'cuenta propia'. They are called cuentapropistas and operate according to the system of supply and demand. However, the Cuban government stated that these 'lineamientos' "are not a change in the economic system, just an actualization of the socialist model." Economy has to remain a tool to provide free access to the social accomplishments established by the revolution.

Since the reform until the beginning of 2016, around 496 000 licenses have been granted to 'cuentapropistas' around Cuba, 100 000 of which have been granted in the capital Havana alone (Leysens, 2016). The most popular activities for private businesses are restaurants and cafeterias, driving a taxi and renting rooms through the casa particular system. The access to foreign currency through contact with tourists is very attractive for Cubans, but even outside of the tourist sector these new businesses are booming.

It is not easy for Cubans to start a private business. However small it may be, there is some basic financial capital needed to start. Cubans who have access to foreign currency through their contact with tourists or contact with family living abroad have an advantage on this aspect. Other Cubans have to turn to banks, which are granting small loans to these entrepreneurs. To maintain control over the private businesses, the government holds on to import through the state only. All supplies and resources used in small private businesses are (theoretically) bought at a state-owned warehouse or supply-center (Leysens, 2016). However, the black market should be taken into account and people also have their own contacts for products in the countryside or elsewhere.

THE LIST OF OCCUPATIONS FOR WHICH CUBANS CAN OBTAIN A LICENSE TO START A PRIVATE BUSINESS:

1. Accountant/Tax Preparation
2. Animal Caretaker
3. Animal Groomer
4. Animal Rental
5. Animal Trainer
6. Antique Dealer
7. Art Restorer
8. Artificial Flowers Seller
9. Artisan (arts and crafts maker)
10. Audio Systems Installer/Operator
11. Automobile Battery Repair
12. Automobile Electrician
13. Babysitter/Nanny
14. Barber
15. Bedframe Repair
16. Benny Moré Dance Team
17. Bicycle Repair
18. Blacksmith/Seller of Horseshoes and Nails
19. Book Binding
20. Breeder/Seller of Pets
21. Builder/Seller/Installer of Radio and TV Antennas
22. Building Construction Services
23. Building Superintendent
24. Bus Driver
25. Bus/Train/Taxi Stop Barker (calls out instructions to waiting passengers)
26. Button Coverer (wraps buttons in cloth, popular in the 50's and 60's)
27. Buyer and Seller of Records (including CDs)
28. Café Owner (cafeteria)
29. Café Owner (cafeteria, light snacks and beverages)
30. Car Body Remolding
31. Car Painter
32. Car washer/Oil Changer
33. Caretaker of Elderly/Handicapped
34. Caricaturists
35. Carpenter
36. Cart Operator
37. Charcoal Manufacturer/Seller
38. Children's Ride Operator
39. Cleaning/Household Help
40. Clothes Washing/Ironing
41. Collector and Payer of Bills
42. Collector/Seller of Natural Resources (ie sell shells)
43. Collector/Seller of Recyclables
44. Computer Programmer
45. Construction Laborer
46. Contracted Employee of a Self-Employed
47. Costume Jewelry Repair
48. Craftsman/Seller/Repairman of Wicker Furniture
49. Dance Duo "Amor" (traditional Cuban dances)
50. Dandy (man dressed in Colonial garb)
51. Decorator
52. Disposable Lighter Repair and Refill
53. Document Translator
54. Doll and Toy Repair
55. Driving Instructor
56. Electric Motor Rewiring
57. Electrician
58. Electronic Equipment Repair
59. Embroiderer/Knitter
60. Engraver of Numbers
61. Event Planner (weddings, etc)
62. Extras (people in period dress)
63. Eyeglass Repair
64. Fence and Walkway Repair
65. Floor Polisher
66. Flower Bed Arranger
67. Flower Wreath Arranger
68. Folkloric Dancers
69. Food Retailer (in kiosks and farmers' markets)
70. Food Wholesaler
71. Formal Wear Rental
72. Fortune Tellers
73. Fresh Fruit Peeler
74. Furniture Painter and Polisher
75. Furniture Repairman
76. Gardener
77. Grower/Seller of Ornamental Plants
78. Grower/Seller of Plants for Animal Feed and Medicinal Purposes
79. Habaneras (women posing in colorful colonial attire)
80. Hair Braider
81. Hairdresser
82. Handcar Operator (on rails)
83. Horse and Carriage Rides
84. Horse-Drawn Carriage Operator
85. House Painter
86. Insurance Agent
87. Iron Worker (grating for doors, windows)
88. Jeep Driver
89. Jewelry Repair
90. Knife Grinder
91. Leather Craftsman
92. Leather Repair
93. Leather Tanner (except cows and horses)
94. Locksmith
95. Machinist
96. Maker of Yokes, Harnesses and Rope for Oxen
97. Maker/Seller of Aluminum Products
98. Maker/Seller of Food and Beverages in "China Town"
99. Maker/Seller of Marble Objects
100. Maker/Seller of Non-Ferrous Metals
101. Maker/Seller of Soaps, Dyes
102. Make-up Artist
103. Mambises-style Musical Groups (traditional Cuban music)
104. Manicurist
105. Mason
106. Masseuse
107. Mattress Repair
108. Mechanical and Combustion Equipment Repair

109. Mechanical Saw Operator (as in a sawmill)
110. Messenger
111. Metal Polisher
112. Miller of Grains
113. Mini-Bus Driver
114. Mobile Hand Cart Hawker of Agricultural Products
115. Motorcycle Driver
116. Mule Driver
117. Music/Art Instructor
118. Musical Duo “Los Amigos” (popular music)
119. Musical Instrument Tuning and Repair
120. Night Watchman or Building Doorman
121. Non-Alcoholic Beverage Seller (home delivery)
122. Office Equipment Repair
123. Operator of Children’s Fun Wagon Pulled by Pony or Goat
124. Ornamental Fish Farmer
125. Painters (who sell pictures in the street)
126. Palm Tree Trimmer
127. Parking Attendant (including for cars, bicycles)
128. Part-time Farm Laborer
129. Party Entertainer (clowns, magicians)
130. Passenger Boat Operator
131. Pedal Taxi Driver
132. Photographer
133. Piñata Maker/Seller
134. Plasterer
135. Plastic Covering Maker for IDs
136. Plumber
137. Postal Agent
138. Private Construction Contractor (in the Havana “Old Town”)
139. Producer/Seller of Articles and Animals for Religious Use
140. Producer/Seller of Bricks and Tiles
141. Producer/Seller of Brooms and Brushes
142. Producer/Seller of Clay Goods (pots, planters, cookware)
143. Producer/Seller of Costume Jewelry
144. Producer/Seller of Harnesses, Blankets, and Saddles
145. Producer/Seller of Items Used in the Home (self-made or made by other self-employed)
146. Producer/Seller of Plaster Figurines
147. Producer/Seller of Rubber Accessories
148. Public Bathroom Attendant
149. Public Park Caretaker
150. Real Estate Broker
151. Refrigerator Mechanic
152. Repair of Measurement Instruments
153. Repairer of Water Pumps
154. Restaurant Owner (paladares)
155. Roaster (ie of peanuts, coffee)
156. Roofer
157. Room/Home Rental
158. Saddle and Harness Repair
159. Seamstress/Tailor
160. Septic Tank Repairman and Cleaner
161. Sewing Machine Repair
162. Shearer (as in sheep)
163. Shining Shoes
164. Shoe Repair
165. Shoemaker/Shoe Salesman
166. Shorthand, Typing, and Language Instructor
167. Sign Painter
168. Small Household Goods Repair
169. Small-Truck Driver
170. Space Rentals in One’s Home to Self-employed
171. Spark Plug Cleaner and Tester
172. Sports Trainer (except martial arts and diving)
173. Station Wagon Driver
174. Stove/Range Repair
175. Street-based Seller of Food and Beverages
176. Taxi Driver
177. Telecommunications Agent (retail)
178. Textile Dyer
179. Three-Wheeled Pedal Taxi Driver
180. Thresher
181. Tire Repair
182. Trader of Scrap Metals
183. Traditional Barber
184. Trained Dog Exhibitor
185. Truck Driver
186. Tutor (currently employed teachers not eligible)
187. Typist and Copier
188. Umbrella and Parasol Repair
189. Upholsterer
190. Used Book Seller
191. Vegetable/Fruit Street Vendor (from fixed venues)
192. Wagon or Pushcart Operator (to help move things)
193. Watch Repair
194. Water Delivery
195. Welder
196. Welder
197. Welder/Flamecutter (cutting with gas)
198. Well Digger
199. Window Glass Repair
200. Wine Maker/Seller
201. Woodsmen/Logger

List taken from Richard Feinberg’s report on entrepreneurs in Cuba: *Aterrizaje Suave en Cuba? El Surgimiento de los Empresarios y de las Clases medias (2013)*

COOPERATIVES

Cooperatives are playing an increasingly important role in the process of economic reform in Cuba. The country is going through a transition period and efforts of decentralizing the economy to provide growth but without losing socialist values has been one of the main challenges.

Cooperatives have been part of Cuba for a long time, dating back to the 1930's. Since the revolution, agricultural cooperatives have been a tool for land reformation policies and solving food shortages. When the Soviet Union fell in 1991, Cuba lost a tremendous amount of import and export capacity, foreign support and subsidies. To tackle the following food crisis – euphemistically described as the ‘Special Period’ by the Cuban government - economic reforms were necessary and they introduced a market economy by decentralizing and reorganizing the agricultural sector. Large state-owned farms were divided into cooperatively owned units. Today, around 70% of the farmed land in Cuba is run by cooperatives (Johnson, 2014).

The Cuban Congress approved significant economic reforms in April 2011, legalizing private and non-agricultural cooperative businesses. From then on, state-owned businesses could be converted into cooperatives owned by workers. In 2014, 384 (77%) cooperative licenses were approved for the conversion from state-owned businesses, but 114 (23%) licenses were approved for brand new startups (Dubb, 2014). This energy of Cubans to start a non-agricultural cooperative on their own is very promising for the economy.

On 1 July 2013 the first non-agricultural cooperatives were started. The approved cooperatives were mostly part of the construction, transport, agricultural market and personal or technical service sector. The government supports and encourages this cooperative model by giving benefits from tax breaks, providing minor technical assistance and leasing state property. Most cooperatives do not own their property, but only their equipment and tools (NCBA CLUSA, 2014). The Cuban government prioritizes the cooperative movement, because it fits more into the socialist ideal of collective property and collective participation than private property and business.

Current problems and holdbacks for the cooperatives are a lack of education, difficult access to basic materials and resources, outdated tools and equipment and the bad state of buildings. Besides direction and accountants receiving (basic) technical education, nobody was thoroughly prepared for the transformation to cooperatives. The new system comes with new responsibilities and not everyone has been ready to deal with that (Leysens, 2016). A better connection to the international cooperative movement could open possibilities to international support and funding and involvement of NGO's. Until today, consumer cooperatives are not permitted yet.

However, the cooperative structures have enabled Cubans to increase their income. On average, Cubans working in cooperatives earn three times more than when they were working in state-owned businesses. Another positive aspect is that research has shown that workers in cooperatives are much more motivated to do their job. This can be attributed to the higher income, but the improved working climate and possibility of participation certainly contribute too (Leysens, 2016). Cubans are looking for ways to take advantage of the dynamic period the country is going through and people involved in cooperatives are very enthusiastic and hopeful about the future. The cooperative structure allows for a bottom-up movement and empowers the ordinary Cubans to take their faith in their own hands. The Cuban government hopes that the emerging cooperative sector will be a bigger success than the private sector to avoid a capitalist force and to be able to keep the socialist values. Because of the state support for the cooperative movement, it becomes interesting for many Cubans to be part of such a startup.

MICROBRIGADES

Microbrigades are a typical Cuban invention, first introduced in 1970 (Math y, 1994). It is a concept of mutual self-help housing. At that time innovation in Cuban housing production was influenced by the housing shortage for the growing population, the lack of manpower in the construction sector and the overstaffing and decline of productivity in factories and institutions (Hamberg, 1990). The basic concept of microbrigades was to form small construction worker groups of the redundant staff of factories and institutions, while still paying the original salary. Within that microbrigade, 60 percent of the constructed housing was allocated to the workers and 40 percent was submitted to the national housing stock to be redistributed by the state (Hamberg, 1990).

Even though building quality was not optimal, the program was effective and microbrigade-houses were in high demand. By 1976, around 30 000 Cubans were working in 1 150 microbrigades who built 82 000 housing units (Math y, 1994). However, around the mid-1970's the microbrigades started to fall apart because they were no longer supported by the government. Reasons for that are the slow construction process compared to mass housing production, a growing economy which opened up many new job opportunities and some issues and divided opinions about the fairness of the 60-40 percent allocation rule.

Around the 1980's the housing shortage had returned, so Fidel Castro decided to implement the concept again, with some changes that resulted in two types of microbrigades: state microbrigades and social microbrigades. The 60-40 percent rule was changed to 50-50 percent and the microbrigades now also built technical and social infrastructure (Hamberg, 1990). When the economic crisis of the 'Special Period' began, many microbrigades shut down again because there were almost no materials to work with.

State microbrigades are organized by the government and construct flats, houses and other socially or economically relevant buildings. Everyone can volunteer to join, if the union accepts him or her and if the former employer agrees to let that person go. Social microbrigades are organized by the community. They are often founded by inhabitants on a local level who want to improve their living conditions. Like state microbrigades they rely on the support by the local “consejo popular” (municipality) for construction materials, salaries and expert consultancy. Social microbrigades create jobs using their own neighborhood-inhabitants and improving living conditions on the local level, while increasing local identity, residential satisfaction and social inclusion (Brester, 2012).

In social microbrigades, buildings are distributed to the workers on a performance-based system: the ones who work the hardest, get the most points and thus the first houses. Working in the microbrigade and doing overtime voluntarily will result in a discount on rent.

“Talleres de Transformación Integral del Barrio” were installed in districts with sub-standard living conditions around the country. In such a Taller an interdisciplinary team (three to five people) of experts of architecture, engineering and social work was put together to improve the housing conditions and local infrastructure, to construct and maintain public buildings and to strengthen the local economy (Núñez Fernández and Oliveras Gómez, 2005; Ramirez 2005). The Talleres worked closely together with microbrigades and/or promoted their formation within the neighborhood.

CHICHI PADRON: A MICROBRIGADE CASE STUDY

An interesting case study with very successful results and compelling evidence is presented in the paper of Benedikt Brester: social microbrigade Chichi Padron. It is located in the neighborhood of Nuevo Condado in the city of Santa Clara. Santa Clara is a university city in the geographical center of the Cuban island. Nuevo Condado is a neighborhood that had been neglected for a long time by urban planning and developed as an informal settlement. Inhabitants were unemployed, poor, illiterate and former criminals. Other Santa Clara neighborhoods had a very negative perception towards Nuevo Condado (Brester, 2012).

The social microbrigade Chichi Padron developed from a neighborhood club that used to organize social activities. 30 people from the club took the initiative to tackle the housing problem in their neighborhood and founded the social microbrigade in 1990, without any support from the government. They were tired of their persistent negative image and bad reputation. Headquarters were set up in the neighborhood and everything was coordinated from there. The state sent experts, because nobody in the neighborhood had the right qualifications: three experts, a civil engineer and a city planner. In participation with the residents of the neighborhood and university researchers, the residents created a development concept for their neighborhood. All decisions were made in collaboration with every stakeholder (Brester, 2012).

The goals were to upgrade preservation-worthy buildings, replace substandard housing, construct social infrastructure open to everyone and install lacking infrastructure (water, electricity and sanitation). Chichi Padron became an important provider of jobs in the neighborhood and apart from earning money, the inhabitants/participants also gained an adequate house constructed by themselves. The microbrigade provided the human resource and the state everything else, like materials. By 2005 (after 15 years), the microbrigade had built more than 160 apartments and houses, the entire neighborhood was connected to electricity, water and sewage and the main streets were paved and equipped with streetlights. In that period, the number of flats in good condition rose from around 25% to almost 75%. The efforts contributed very positively to the social state of the neighborhood, with for example a better employment rate and less school dropouts. The community also started with urban farming to provide more local food. The bottom-up project is a big success until today and has a very high level of autonomy. Governmental influence is just financial and administrative (Brester, 2012).



fig. 25: Typical houses constructed by microbrigades in Nuevo Condado

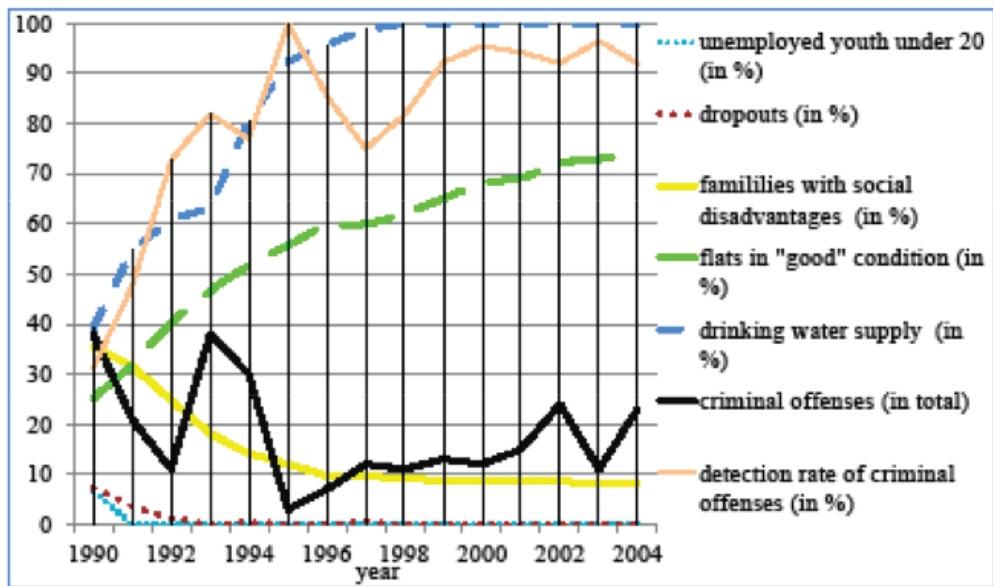


fig. 26: Diagram of the changing socio-spatial characteristics in Nuevo Condado

ECO-MATERIALS IN CUBAN SOCIAL HOUSING PROJECTS

In 2007 the Building and Social Housing Foundation awarded a Cuban organization for its innovative practices. The BSHF is an independent research organization that promotes sustainable development and innovation in housing. With the help of “Centro de Investigación y Desarrollo de Estructuras y Materiales” (CIDEM), environmentally and economically sustainable building materials are manufactured in workshops on a local scale. The systems works through direct participation of house owners, who construct, repair or renovate through an assisted self-help system. This project is now active in 33 Cuban municipalities across five provinces (BSHF, 2007).

Due to the collapse of the Soviet Empire, the provision of materials through the central Ministry of Construction practically stopped. Resources and transport for construction materials became almost unavailable. An answer to this lack was to start producing and building locally on a small scale. This stimulated local economy and provided new jobs. Producing and selling inside a community minimizes energy and transport costs. Residents of such communities are setting up mutual self-help systems in order to build, repair and renovate houses in their neighborhoods (BSHF, 2007).

The machines and know-how used in these projects are either Cuban or Latin American. Materials are made in workshops with personnel training and advise before, during and after construction. CIDEM organizes a micro-credit system for poor or at risk families so they too can participate in the housing projects. This enables quick action instead of the everlasting wait for state-assistance. The production system is developed to be completely self-sustainable. During the first year CIDEM sets up a workshop they visit regularly to provide training and support and to ensure quality and safety. Over time, when the community has acquired the know-how, CIDEM's help becomes less necessary and the workshops become self-sufficient (BSHF, 2007).

Eco-materials produced and used include: micro-concrete roofing tiles (MCR), lime-pozzolana cement (CP-40), pre-cast hollow concrete blocks, low-energy fired clay bricks (fueled by bio-waste) and bamboo. CP-40 is a hydraulic binder made from a mix of lime and pozzolana. Pozzolanic materials are found everywhere in Cuba, both as waste and as a natural product. The elements must be mixed and made to powder and can replace up to 40% of the regular Portland cement. Ideally, CP-40 is used in precast concrete elements. Micro Concrete Roofing tiles (MCR) are durable, economical, watertight and long lasting elements to construct lightweight roofs. Fired clay bricks are easily made locally and by replacing firewood with briquettes the process becomes cheaper and more sustainable. The briquettes can be made in a simple press with waste from for example sugarcane, rice or coffee (BSHF, 2007).



fig. 27: local construction of lime-pozzolana cement (CP-40) concrete blocks



fig. 28: local construction of Micro Concrete Roofing tiles (MCR)

ARCHITECTURAL INTERVENTION

Each architectural intervention and step of the design should be an investment, not just an expense. Both the process leading up to construction and the activity of building are part of the impact of the eventual architectural intervention. Producing materials, establishing cooperatives and worker groups (microbrigades), participatory planning and designing, education and self-constructing all become part of the architecture. How the intervention is built, becomes the most important part of that intervention. It is a way to activate and empower a local neighborhood by implementing a system that becomes locally self-sustainable after a while.

“Setting up an infrastructure for (re)claiming the commons is relational: it is the creation of connections and links, a networking of concepts, tools, subjectivities, and so on. This networking itself should be common, the (re)claiming of the commons thus needs space, and the time to share, actions, objects and desires” (Petrescu, 2010). I propose a patchwork of collective spaces that encourages local residents to participate in the (re)appropriation and self-managed use of space in the city (Petrescu, 2010). “These spaces should be looked at as a potential network of passages, linking one open place to another. Space becomes a constitutive dimension of social action, something that ‘happens’ as different social actions produce different spatial qualities” (Stavrides, 2012).

“In these self-managed spaces, people who take part in the commons can see and test the creation of their relationships with others, the effects of their actions with a responsibility towards what is shared” (Petrescu, 2010). “This place should not belong to a certain community but rather be a ground for social encounters: like a city of thresholds, a network of passages; not bound by a fixed geometry but open to a constant process of (re)definition” (Stavrides, 2012). The collective space becomes a patchwork of ideas, experiments and actions. It enhances collectivity and connectivity: “it gives collectives of local residents the possibility to appropriate space in the city through daily activities” (Petrescu, 2010). It is a spatial opportunity for emergence in the Cuban reality of a dynamic climate, economic changes and enthusiasm.

The following phases are the different steps that I consider necessary to implement the eventual self-sustainable system of neighborhood and community upgrading. By combining each phase with the construction of housing, I think that it will become attractive to inhabitants to actually take part in this proposed system. The combination of housing with different other aspects will provoke an interesting complexity. The intervention has no exact final state; it will always be a process. Like a catalyst, each step, action or idea in the intervention instigates new ones.

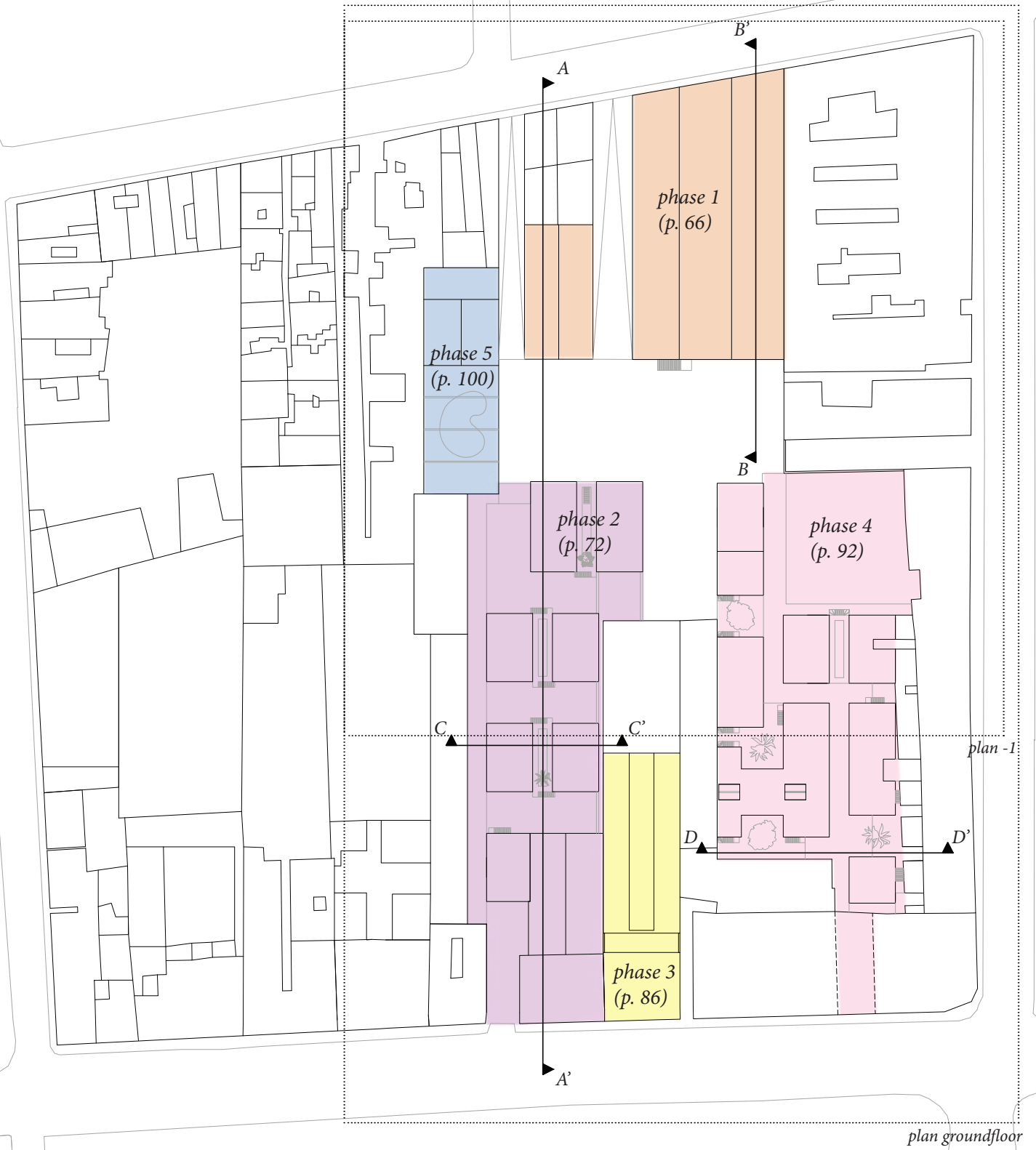


fig. 29: overview scheme: phasing, plans & sections (scale 1/1000)

PHASE 1: MATERIAL PRODUCTION CENTER & HOUSING

The first phase consists of a renovation of existing warehouses, the startup of a materials production center and the construction of housing. A cooperative is formed that will operate the material-warehouse and the building tools. This cooperative can get tax reductions and exemptions if they renovate and maintain the warehouses.

The cooperative can import, produce and sell building materials. Eco-materials like fired clay bricks, CP-40 cement, micro-roofing tiles and concrete prefab walls and slabs can easily be produced in the warehouse. Because of the local production it is more environmentally friendly and reduces transport and import costs.

The productive area will be combined with housing for people of the cooperative. By using the materials they are producing, they will build their own house. This is why it becomes attractive for them to take part in this intervention. They can take a joint loan if they form a housing cooperative and pay it off in time by relying on the production and sale of building materials. The combined investment in cooperative housing and a cooperative production business is the best way for people to create their own jobs, while building their own houses with reduced costs and favorable loans and establishing a bright future.

Local inhabitants form a construction worker group: a microbrigade. They can set up a temporary headquarter on the construction site. The brigade works together with the local municipality (the 'consejo popular'), who deputize experts (architect, engineer, social worker) to advise and instruct them. The microbrigade will be responsible for the construction of the more complex part of buildings: structure, kitchen and bathroom. After completion of that part, house owners can finish the rest safely how they want, with their preferred materials and layout in a time frame that suits them best. By becoming part of the microbrigade, inhabitants can use the time spent working with the microbrigade as a payment or discount on their own housing reparations, renovations or constructions. However, it is impossible for all participants of the microbrigade to immediately receive (new/upgraded) housing at the same time. A collective agreement will have to be made on who receives housing first. In other microbrigade systems throughout Cuba this decision was often based on the urgency of the housing need per family and/or the amount of hours spent working for that particular project.

The basic idea is that local inhabitants are guided and advised by experts and eventually will become more self-sufficient in the material production, planning, designing and construction processes. The education happens through knowledge transfer during practical workshops and construction of the programmed buildings. After some time, the 'outsider experts' can leave or visit less frequently and the system will become locally self-sustaining.

fig. 30: material production center & housing groundfloor plan (scale 1/200) ►

1000



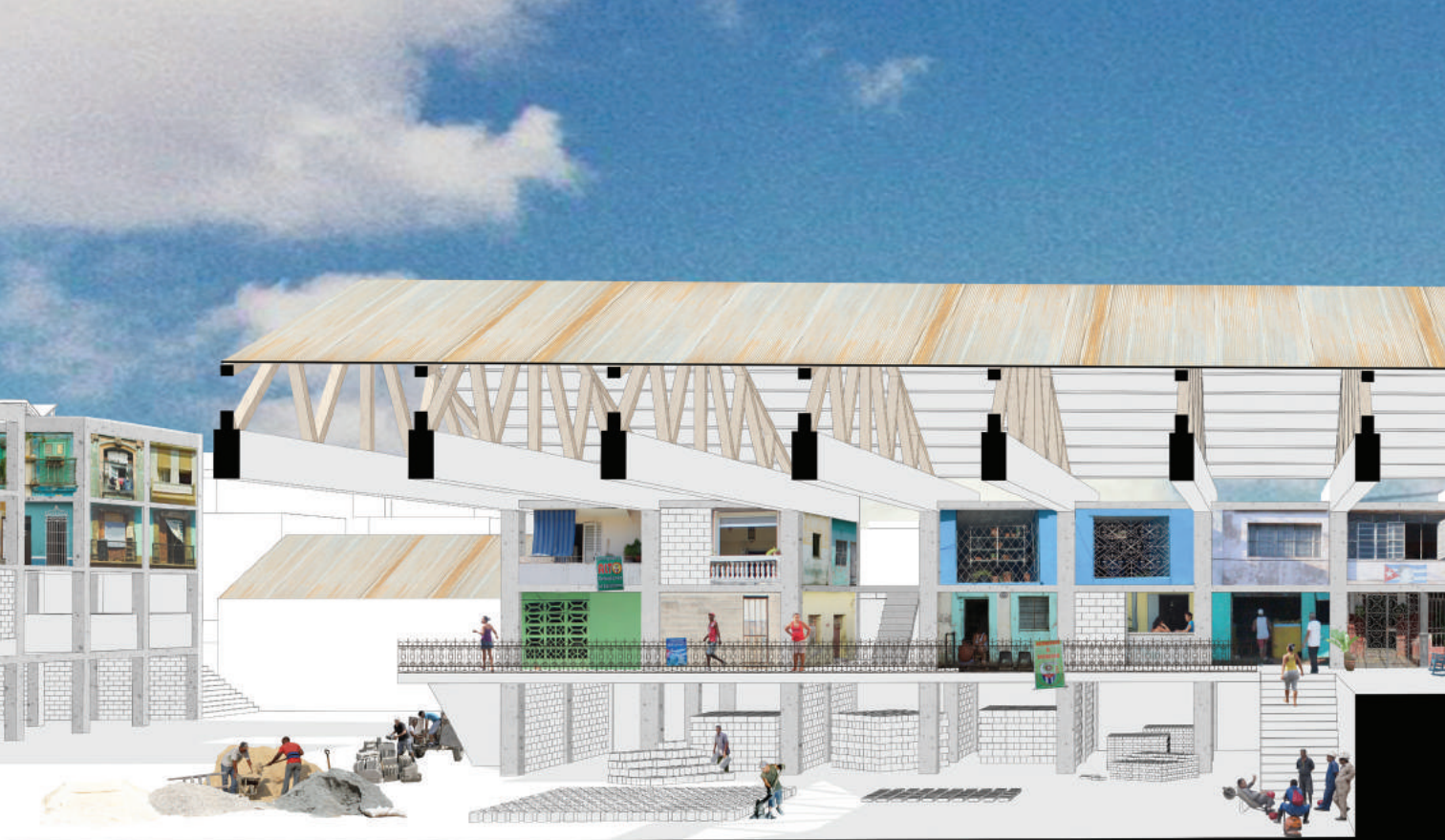




fig. 31: section BB' - material production center & housing

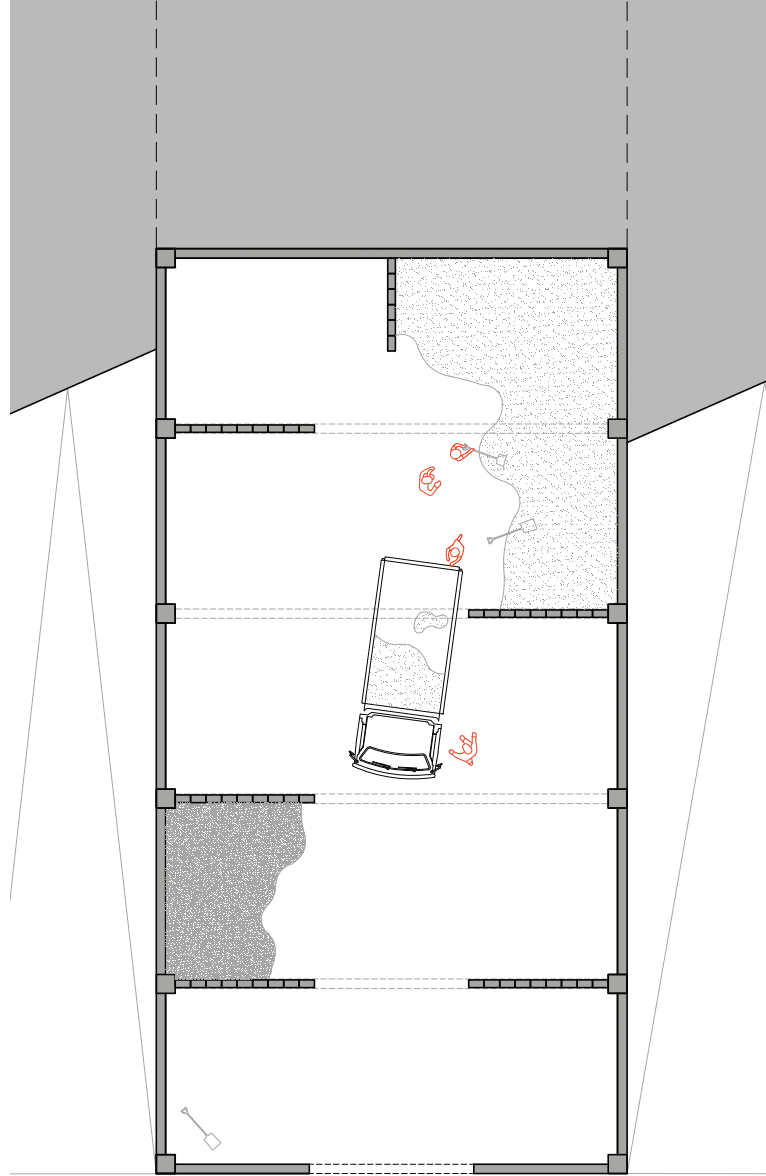
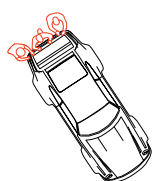
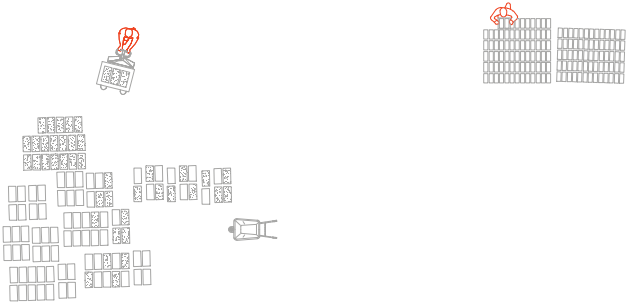
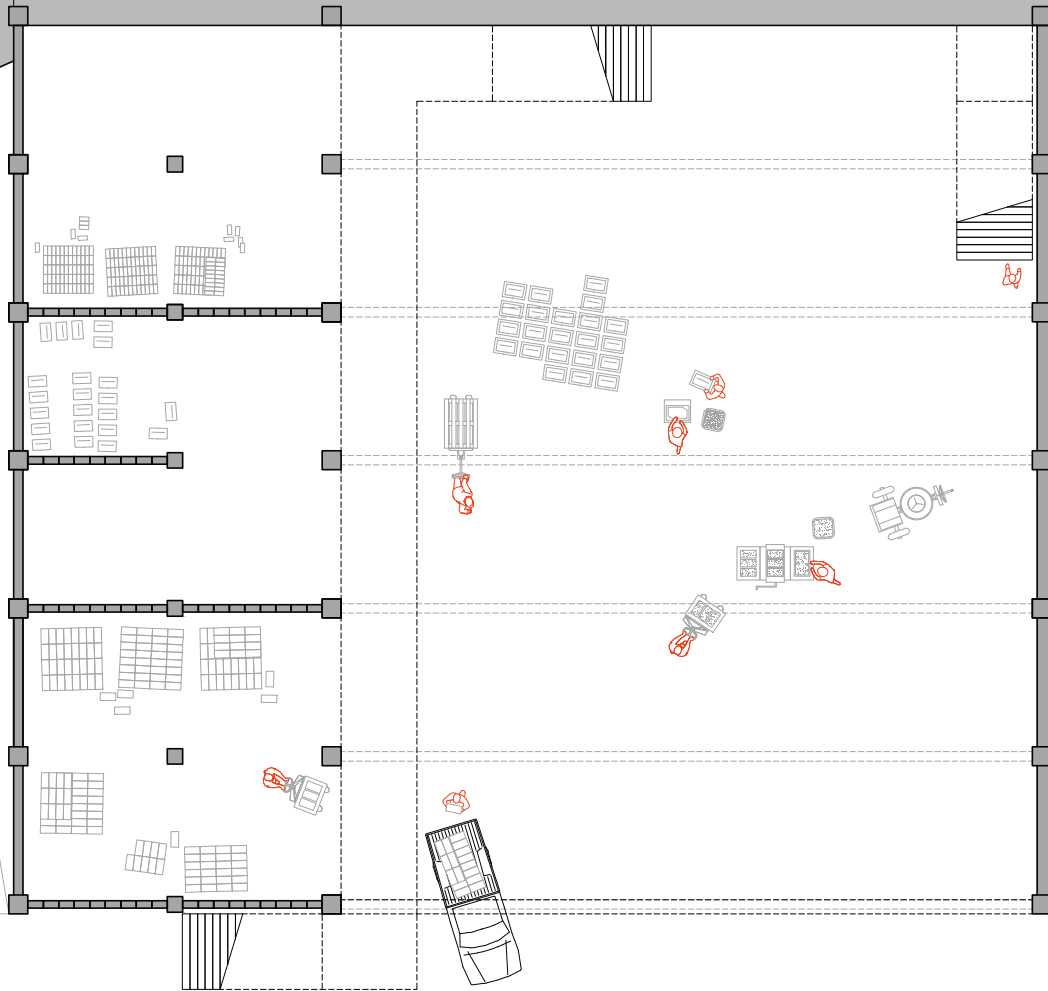


fig. 32: material production center
& housing plan -1 (scale 1/200)



PHASE 2: COMMONING AREA & HOUSING

The provision and production of building materials for the future phases can happen through the production center from the first intervention from now on. The microbrigade continues and gathers more experience while working on new projects.

Phase two revolves around the creation of a place where people can meet to share their knowledge and advice, discuss, design and organize. It is a place where people from the neighborhood can come and get the necessary help in order to start a cooperative, to undertake renovations or constructions, get advise on reparations or to use a space for a workshop or other project. It is a place for experiments, creativity and commoning. The microbrigade that was established in phase one can establish its headquarters here. The learning process for the members of the brigade continues.

A cooperative is established that will take care of this commons center. While working as a housing cooperative at the same time, they can build their house in a very economic way. Before construction and renovation, the site will be striped down of all materials and only the reusable structures and buildings remain. The rest of the materials on site will be collected and either reused, exchanged with the production center or ultimately discarded.

The commons center exists as a polyvalent collective space of different rooms, workshops and spaces. Different thresholds indicate different levels of collectivity. The groundfloor of the commoning area is designed in a flexible way, so inhabitants can appropriate and adapt the spaces according to their needs and wishes.

The existing warehouse is renovated and converted into a supply section for tools that can either be used in the commons center or rented out to use at home for reparations or other projects. Some small spaces for start-ups and entrepreneurial activities are provided at the streetside. Users of these spaces can benefit from the availability of the tools in the warehouse for their activities if they wish. The location on the Calzada del Cerro is perfect to attract a large clientele.

On the first and second levels, cooperative housing with different levels of shared spaces are constructed. The basic construction of the housing is carried out by the microbrigade: structure, kitchen and bathroom. Inhabitants can complete their home afterwards. There are individual family units of different sizes and other housing units that make use of communal kitchen, living room facilities, gardens and/or shared laundry spaces.



fig. 33: impression of how the common area can be used and appropriated

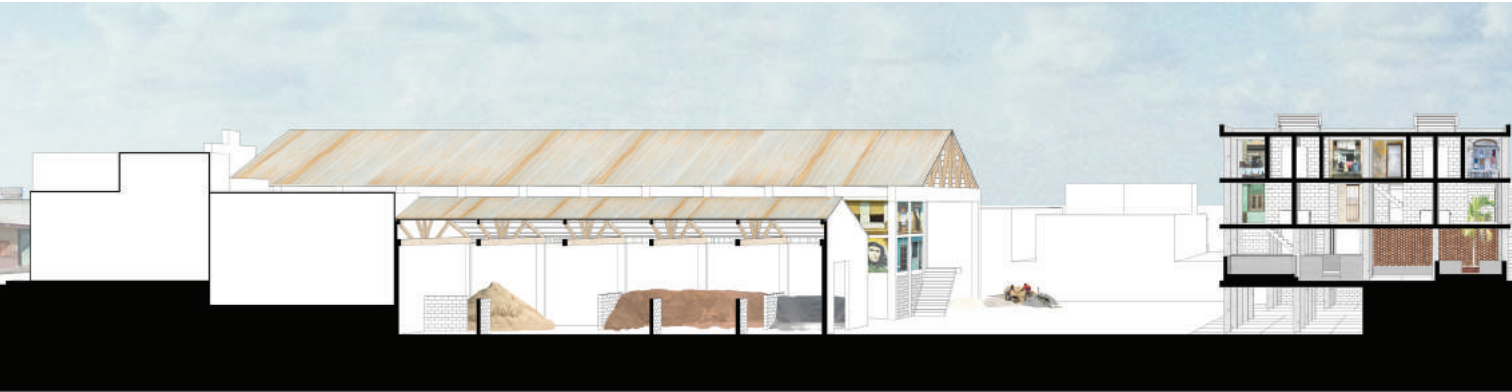
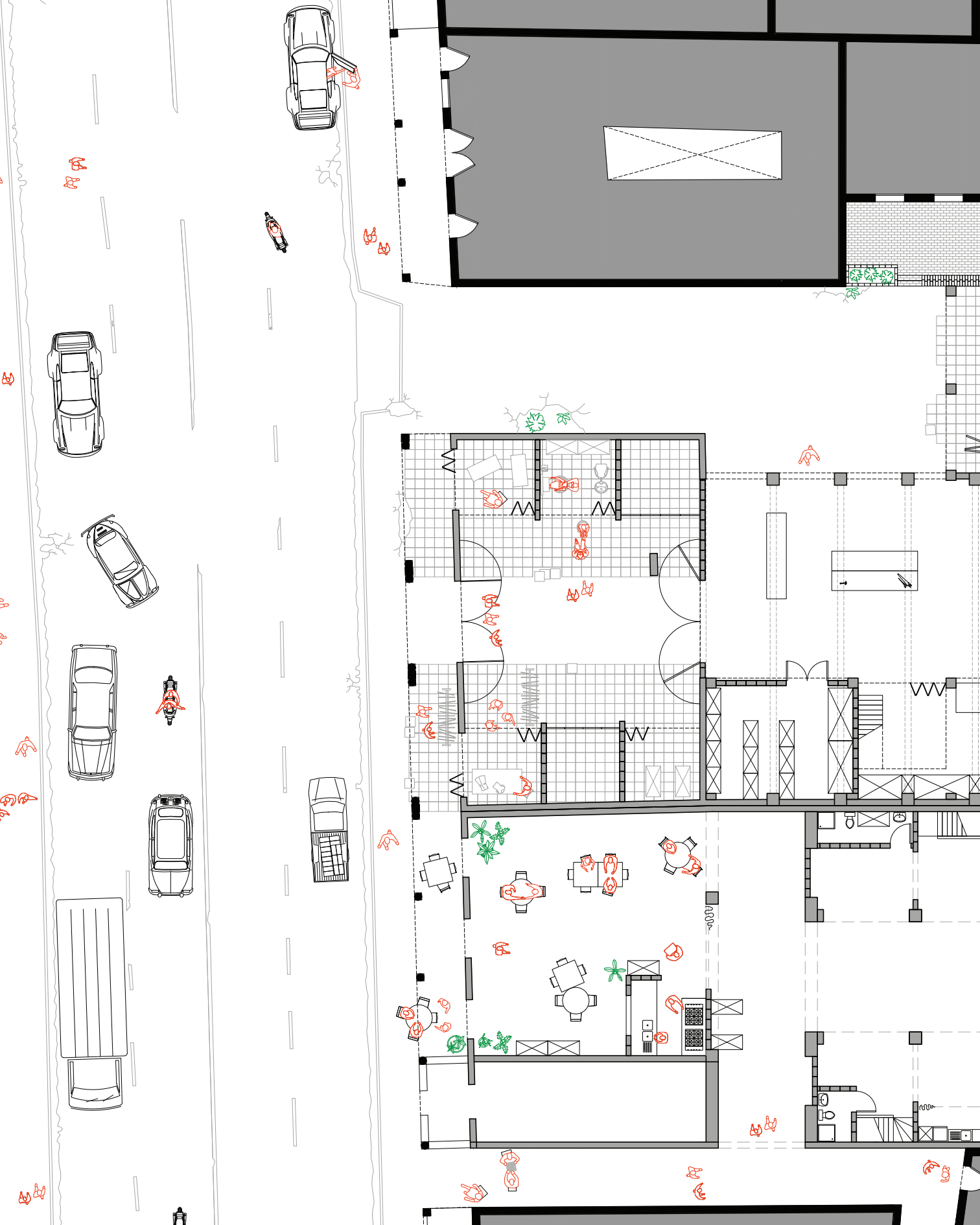


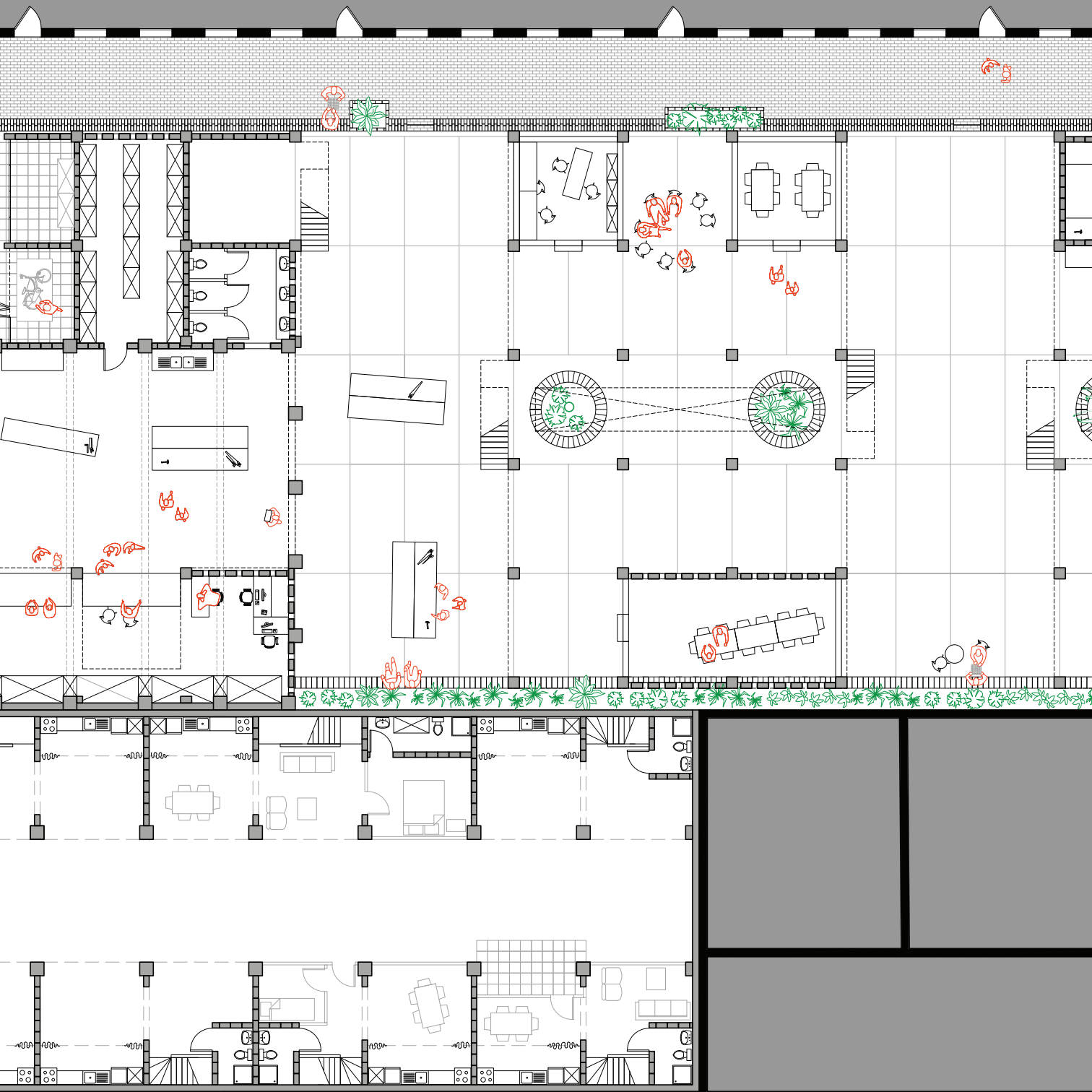


fig. 34: section AA' - commoning area, workshop spaces, tool rental, entrepreneurial spaces & housing in relation to the production center from phase 1

fig. 35: commoning area, workshop spaces, tool rental, entrepreneurial spaces & housing groundfloor plan (scale 1/200)







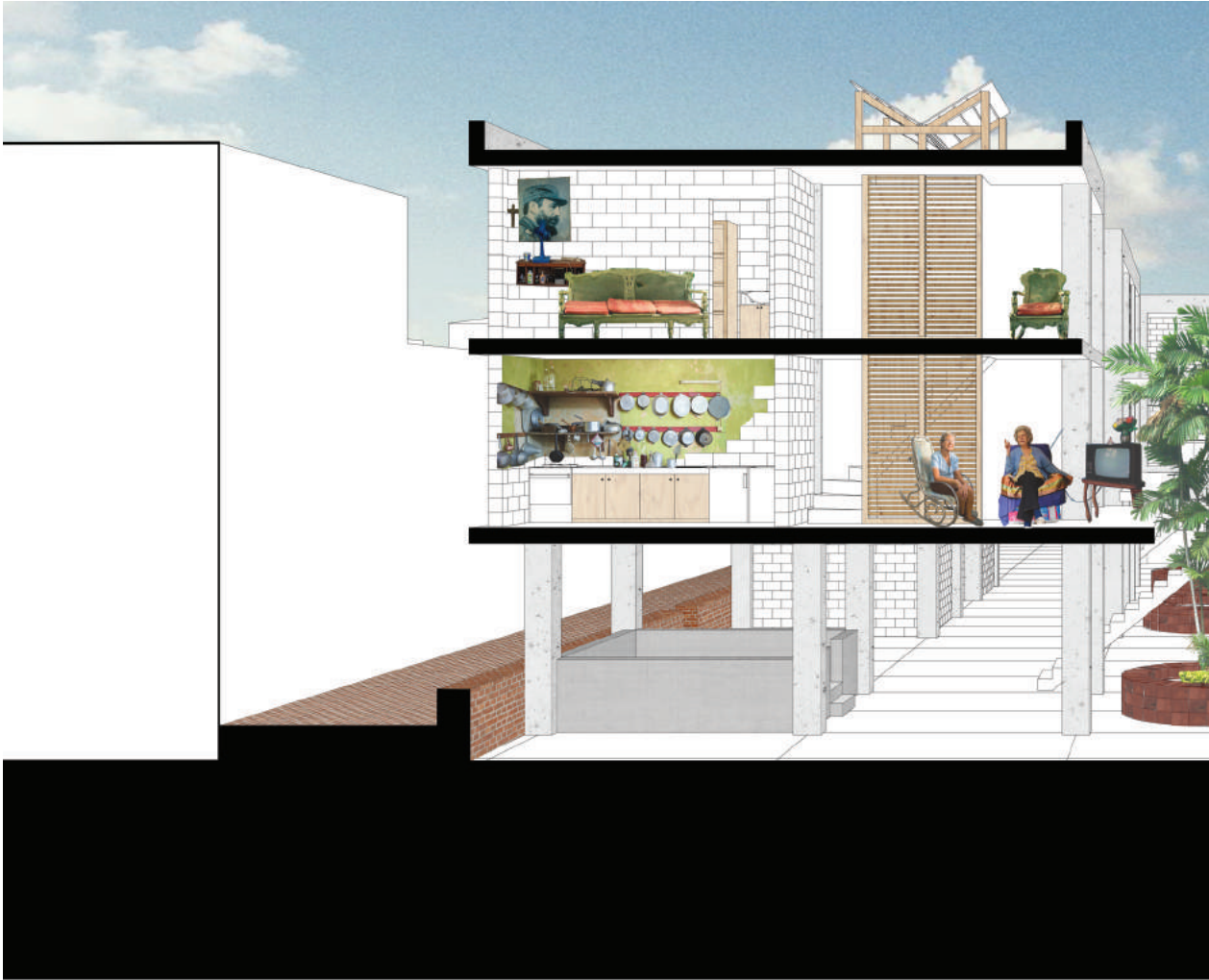




fig. 36: section CC' - commoning area & housing (scale 1/100)

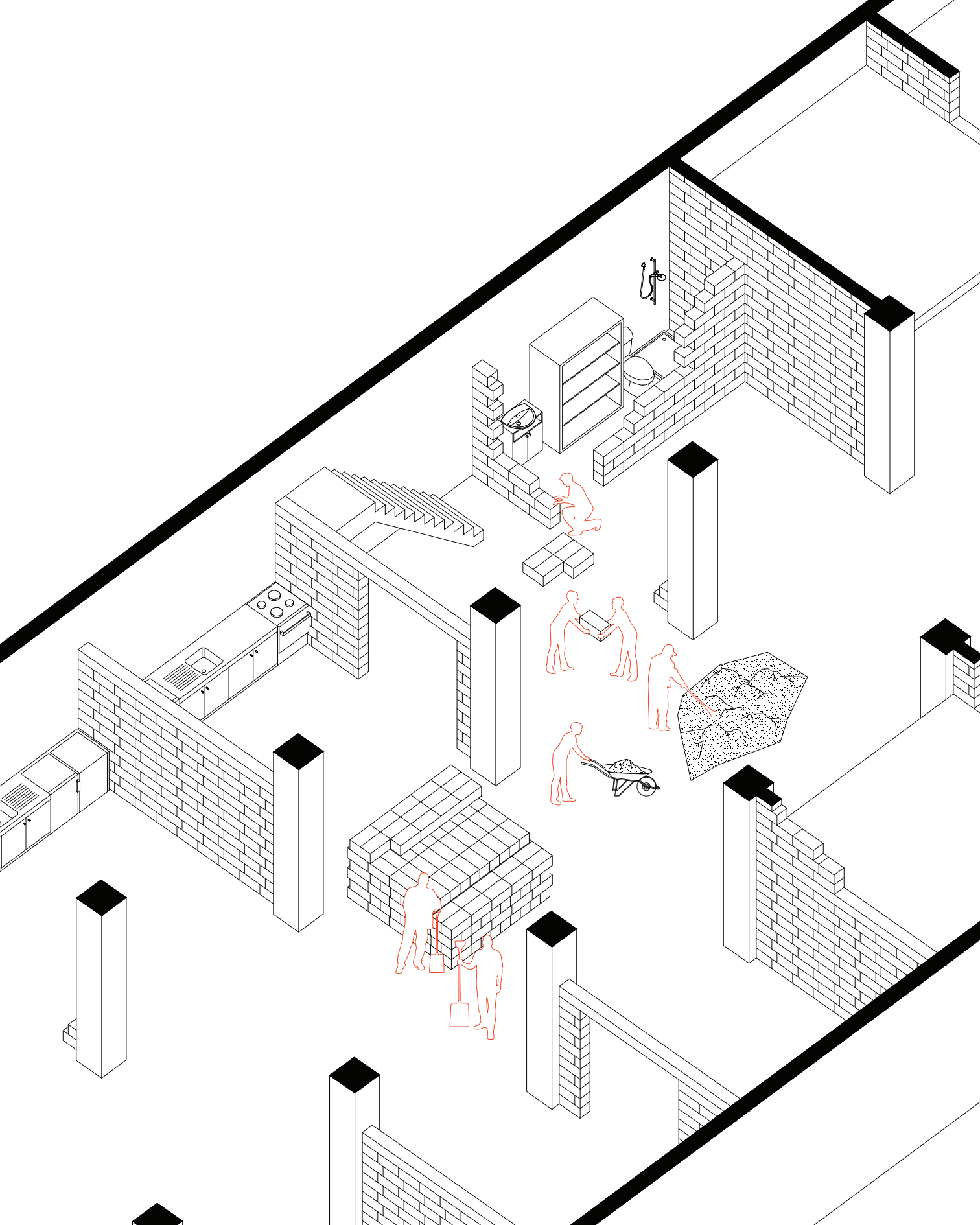
INTERLUDE

With the establishment of a local material production center, an active microbrigade and a commoning area, everything is in place for the further upgrading of the neighborhood. From now on, people with ideas can come to the commoning area and find all the necessary tools, advise and help to get started. Materials can be acquired very economically because of local and ecological production.

Cheaper and safer construction is provided by the microbrigade: structure, circulation, kitchens and bathrooms. Inhabitants can increment on that construction afterwards.

New housing and productive cooperatives can be organized, but projects up to the smallest scale are possible too. Someone with a hole in his or her roof can come to the commons area to look for help. A family that needs to make a small structural adaptation to a wall can come for advice. Young entrepreneurs can find a space to organize their meetings and begin a start-up.

fig. 37: the microbrigade in action (scale 1/100) ►



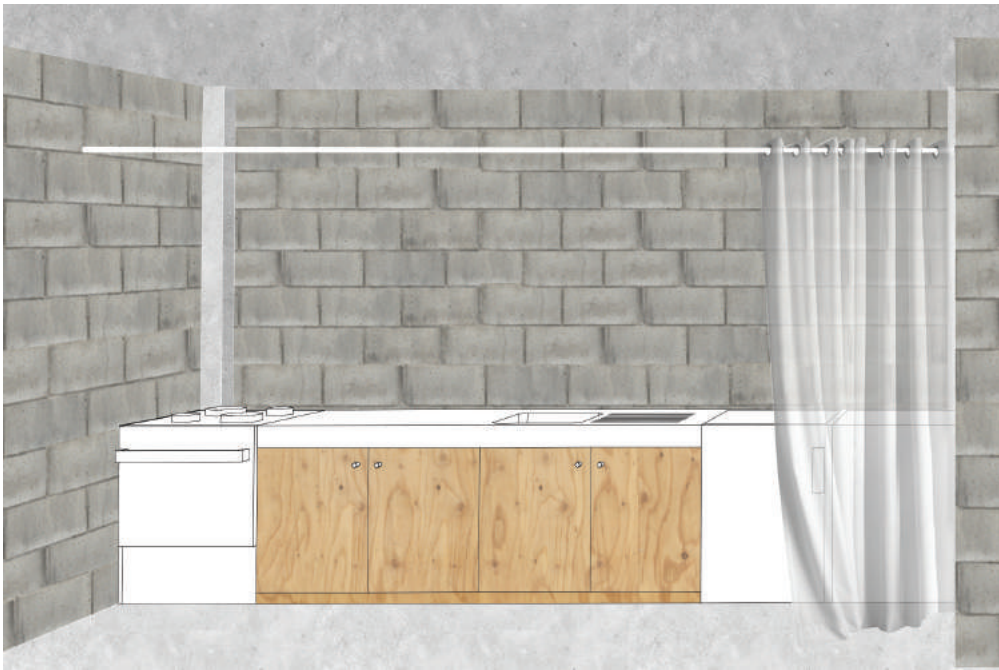


fig. 38: materiality of a kitchen constructed by the microbrigade

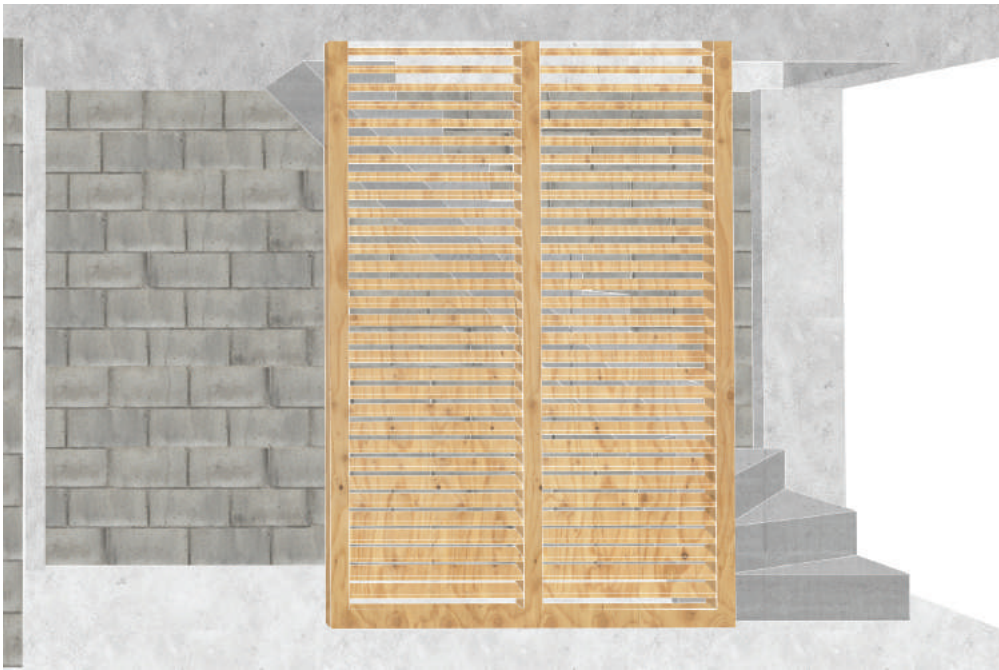
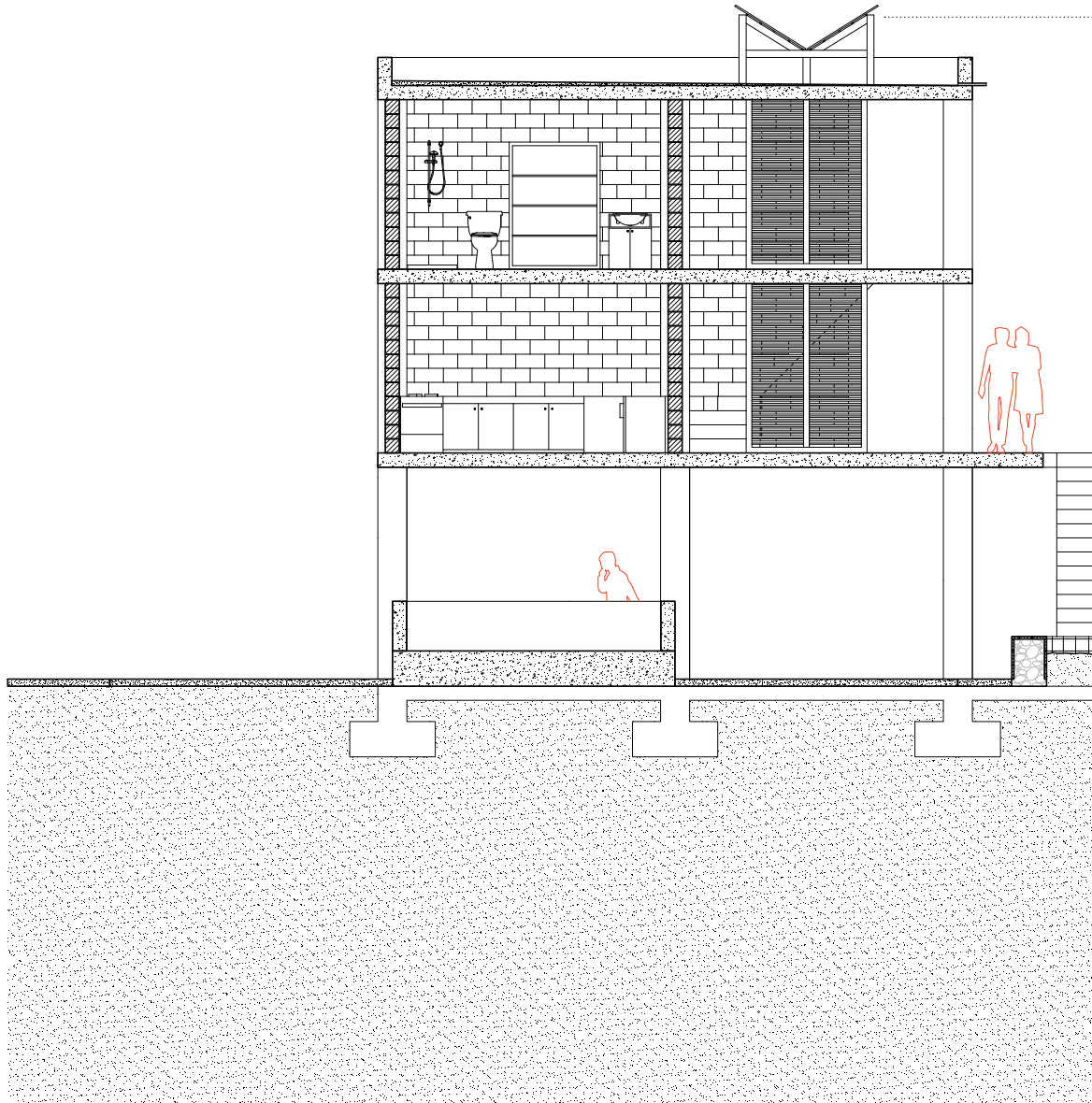


fig. 39: materiality of indoor circulation with ventilation blind, constructed by the micro-brigade



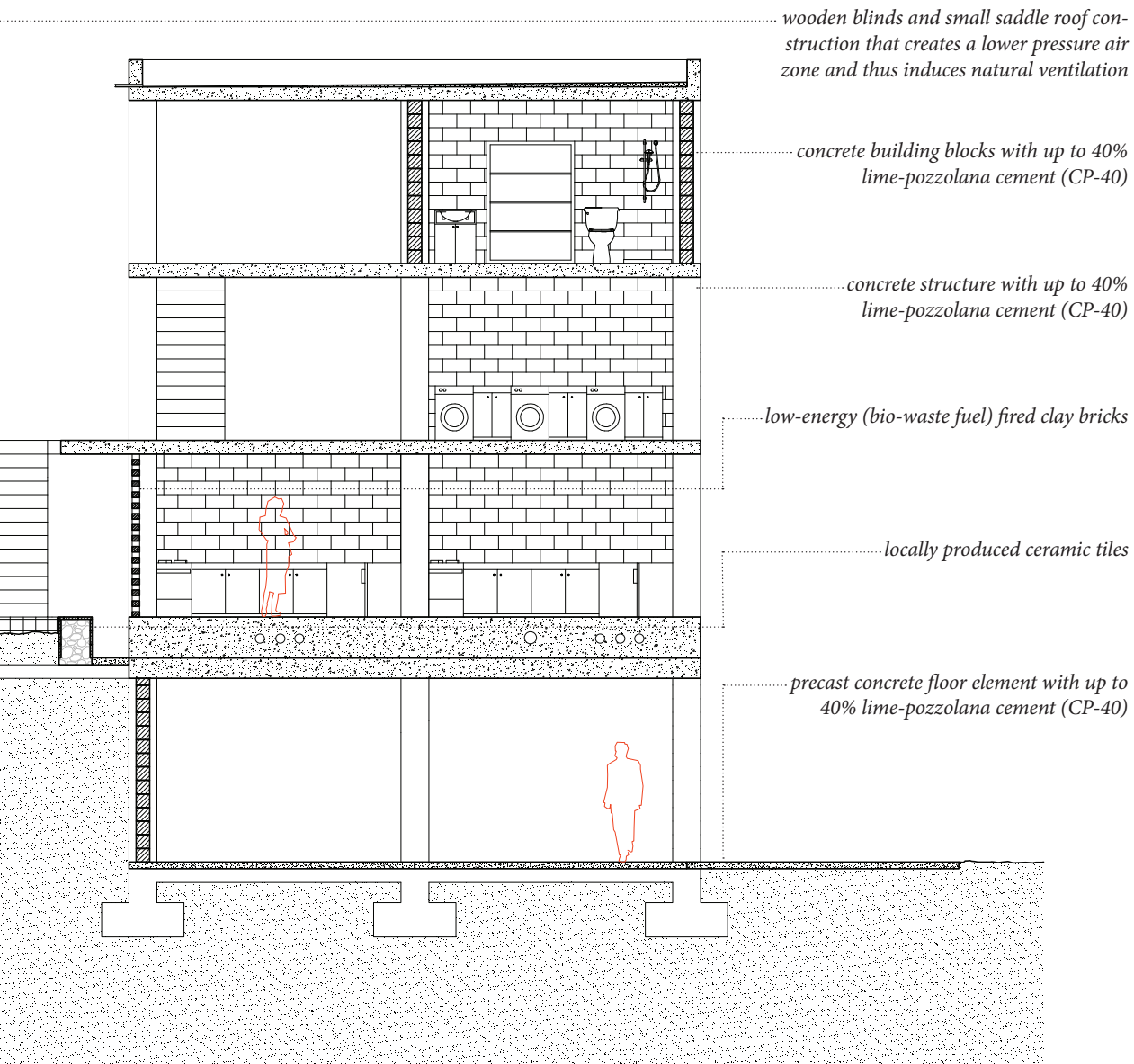


fig. 40: materiality of the basic construction by the microbrigade for the commoning area and housing in phase 2 (scale 1/100)

PHASE 3 –HERITAGE RENOVATION, HOUSING & ENTREPRENEURIAL OPPORTUNITIES

Next to the commons area there is a plot with heritage value in a bad state. The deteriorating building has an entrance from the Calzada del Cerro and is part of the continuous corridor that is so typical for the streetscape. The plot can be renovated and used for housing together with an entrepreneurial space. The execution of this process happens in four steps.

The first step (fig. 41) of the process is the organization of a housing cooperative in the commoning area. With the help of an expert the heritage can be examined and reviewed. A plan will be made of what has to be renovated and what can be used for other purposes. The cooperative can discuss and organize its ideas for the design and construction on its own terms in the commoning area, with advise of the experts.

In the second step (fig. 42), the building site will be stripped down. All the materials on site will be collected and checked for reuse purposes. The parts with heritage value will be preserved or renovated and structural adaptations can happen by the microbrigade. Because of the heritage value, the cooperative can receive tax exemptions while renovating.

In step three (fig. 43), following the plan made by the housing cooperative, the microbrigade can start the works: constructing the new basic structure and services (kitchen and bathroom units). People from the cooperative can join the microbrigade to assist as a form of payment/discount on their house/loan.

Step four (fig. 44), the final step, is when the inhabitants move in and finish their own house. They can do this however they want in the time that is possible for them. The difficult construction work is done by the microbrigade, so everything can happen safely from now on. The cooperatively owned entrepreneurial place will be the source of future income. The inhabitants can decide what they want to do with it: maybe open a cooperative restaurant or subdivide the room for multiple small functions like a cafeteria and some repair shops. Collective spaces like the roof can be used for urban farming, drying clothes, having a birthday party...

fig. 41: step 1 (scale 1/400)

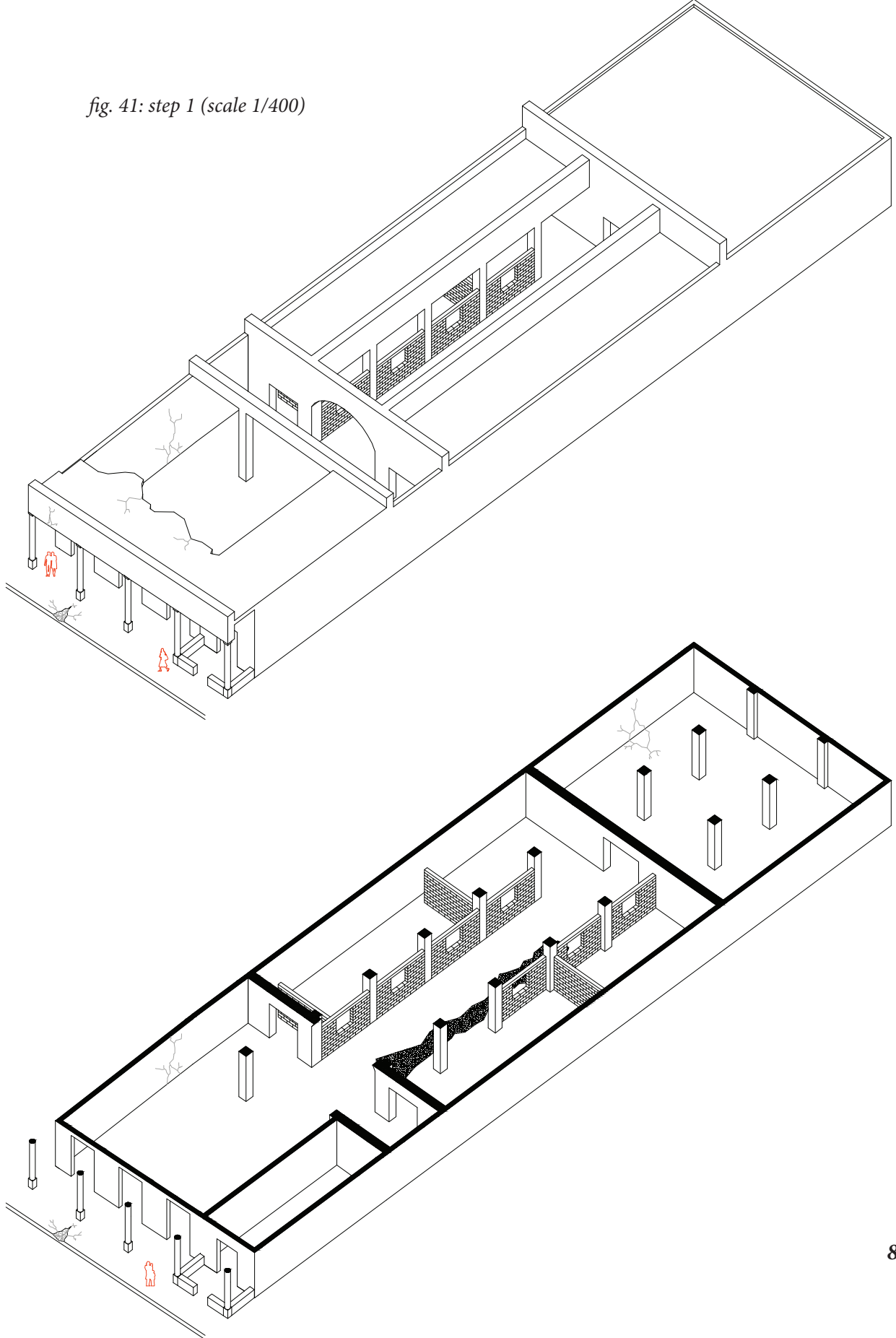


fig. 42: step 2 (scale 1/400)

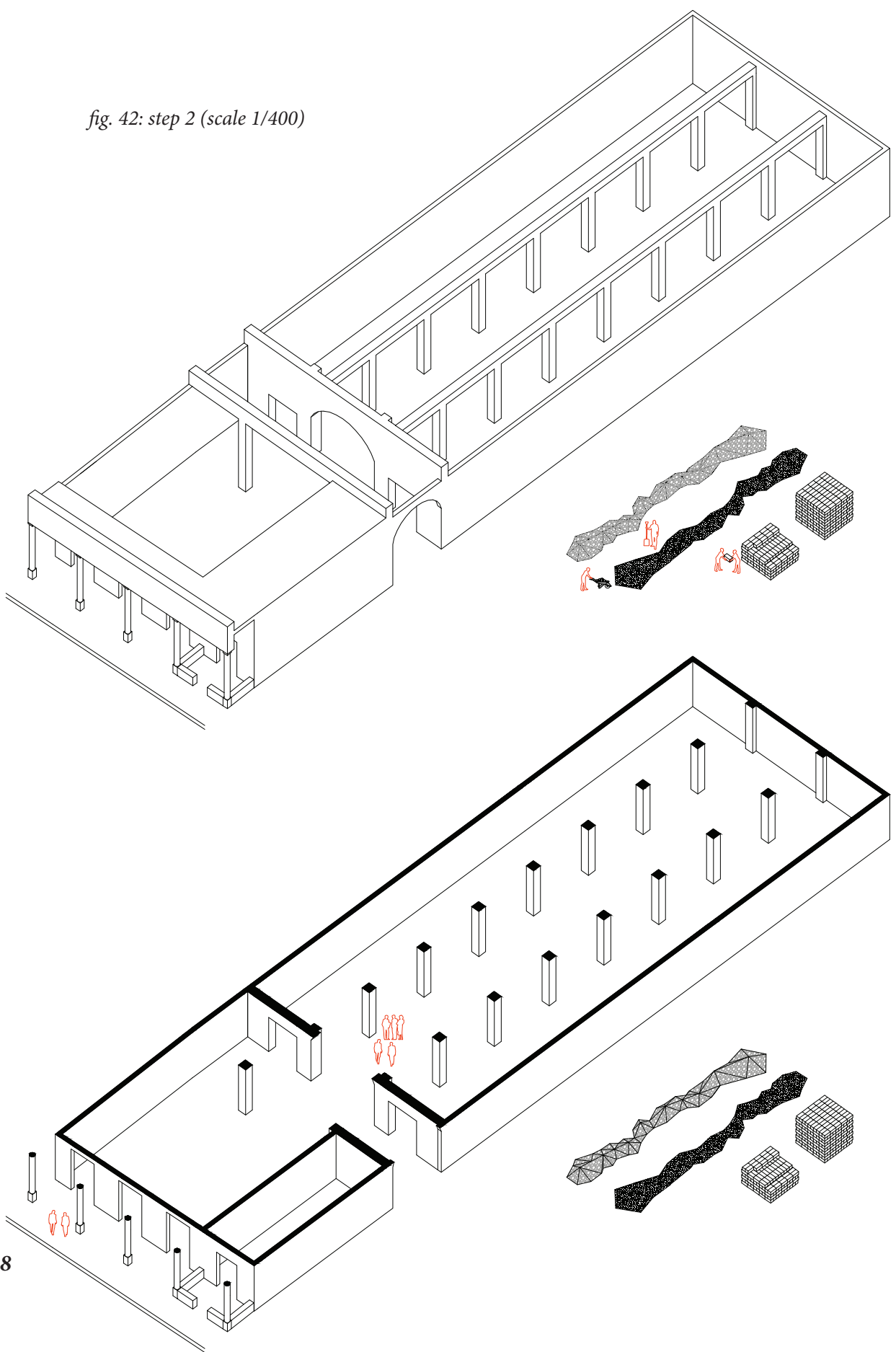


fig. 43: step 3 (scale 1/400)

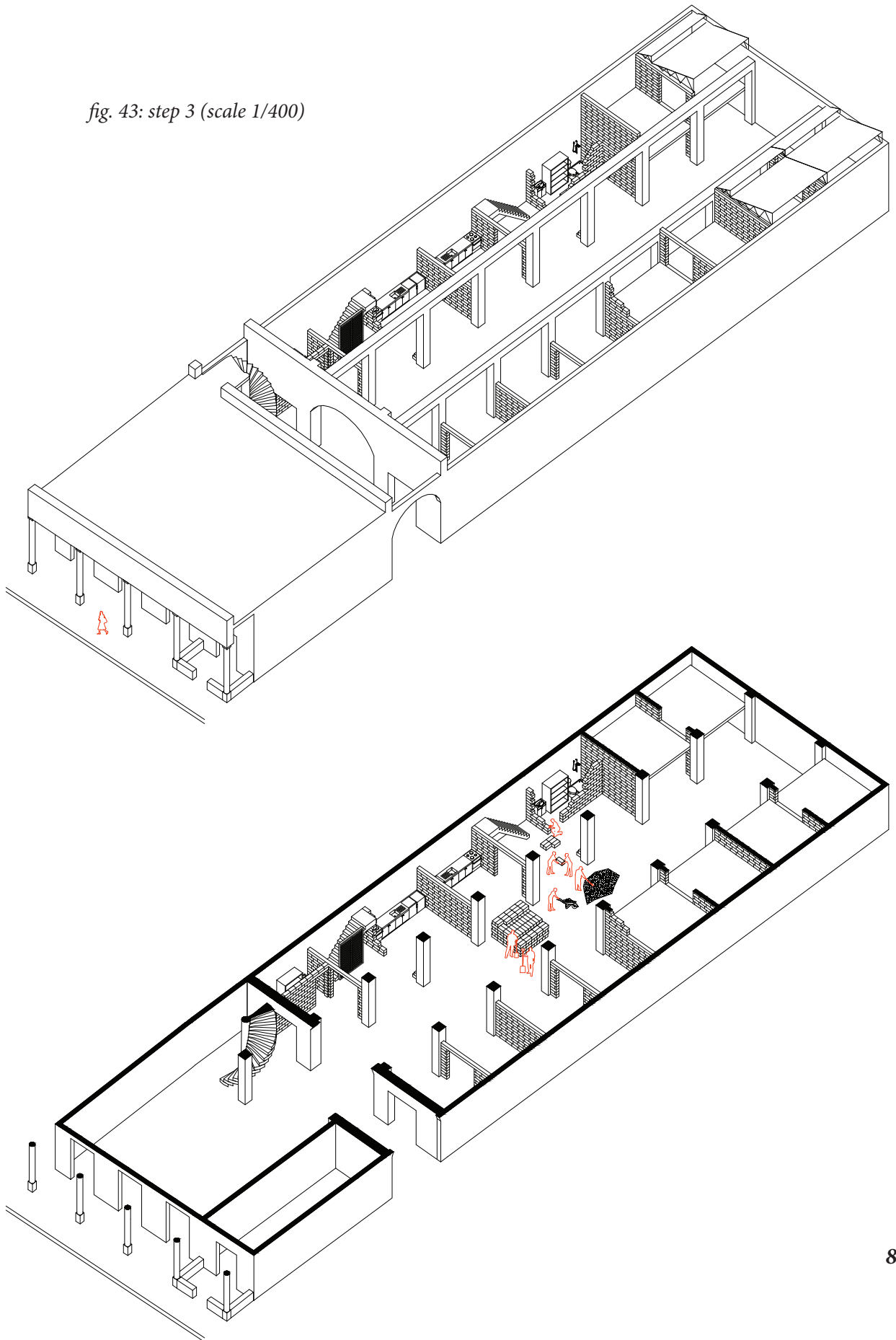


fig. 44: step 4 (scale 1/400)

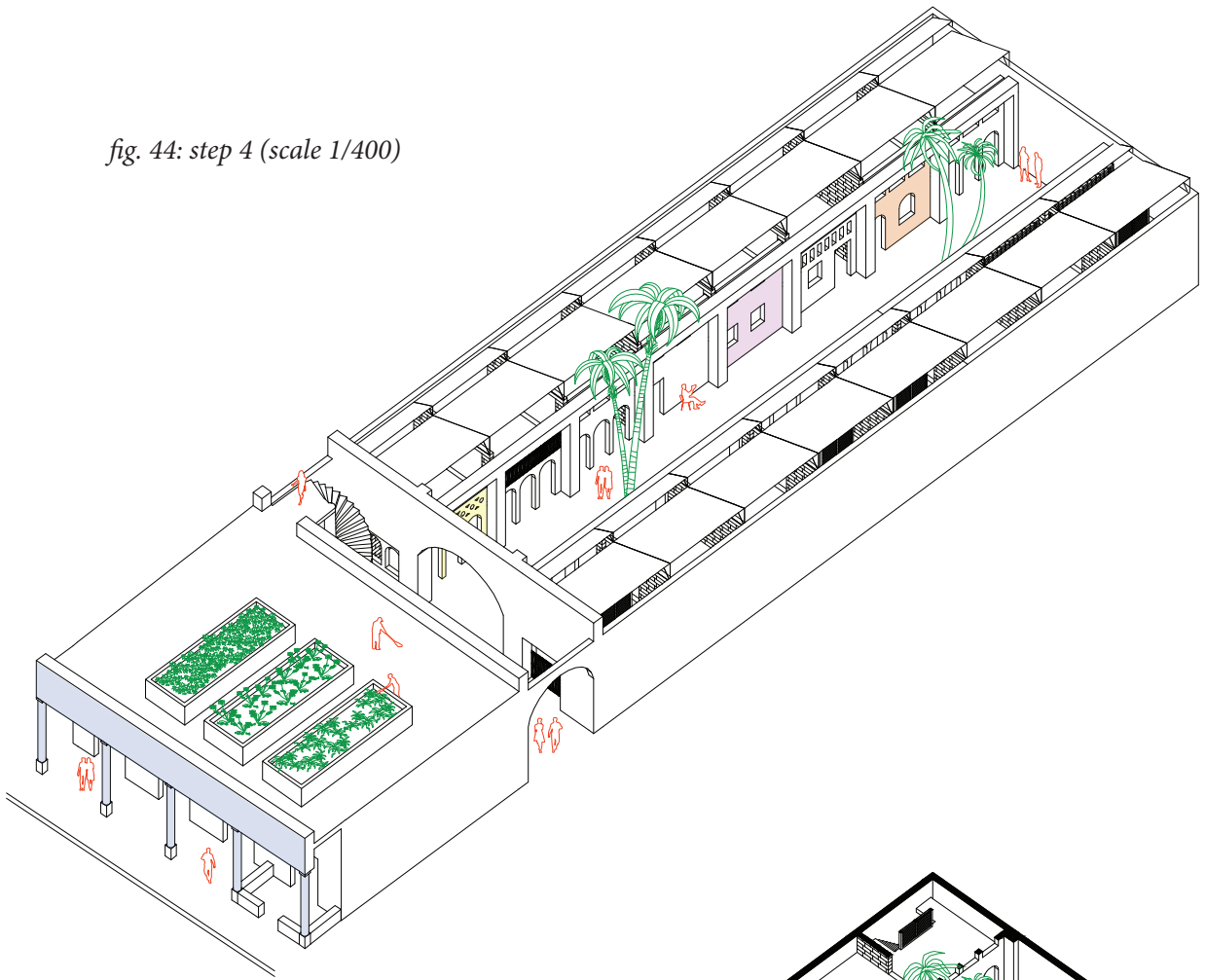


fig. 45: ground floor plan of possible use of the entrepreneurial space: cooperative restaurant (scale 1/200)



PHASE 4 – HOUSING UPGRADING AND DENSIFICATION & ENTREPRENEURIAL OPPORTUNITIES

In the interior of this city block, and many other blocks in the neighborhood of El Cerro, there are some low-rise but densely built areas with a lot of informal construction. This phase proposes a densification of housing, while combining it with small entrepreneurial opportunities and more different and qualitative collective spaces. The character and qualities of the pasillo's (alleys) is kept in mind, the connection to the Calzada del Cerro is upgraded and unbuilt decompression zones are provided: the area around a couple of existing trees is upgraded to a collective garden that can be used as an urban farm.

The planning process happens like the previous phases in the commoning area, with the help of experts. Construction is carried out by the microbrigade and finished by the inhabitants themselves.

This intervention is like an interiorization of the streetscape. From the level of the street, many different layers of collectivity are crossed until the private space. The access to the interior housing units is enlarged and spaces for emerging businesses and start-ups are created. In a deeper collective level, induced by a change of material and the literal crossing of a (small) threshold, housing is organized around collective spaces. A seating element with a magnificent tree can become the central point of neighborly activities and social gathering.



fig. 46: collective space





fig. 47: section DD' - collective spaces & thresholds in housing & entrepreneurial areas (scale 1/100)

fig. 48: collective spaces & thresholds in housing & entrepreneurial areas groundfloor plan (scale 1/200) ▼





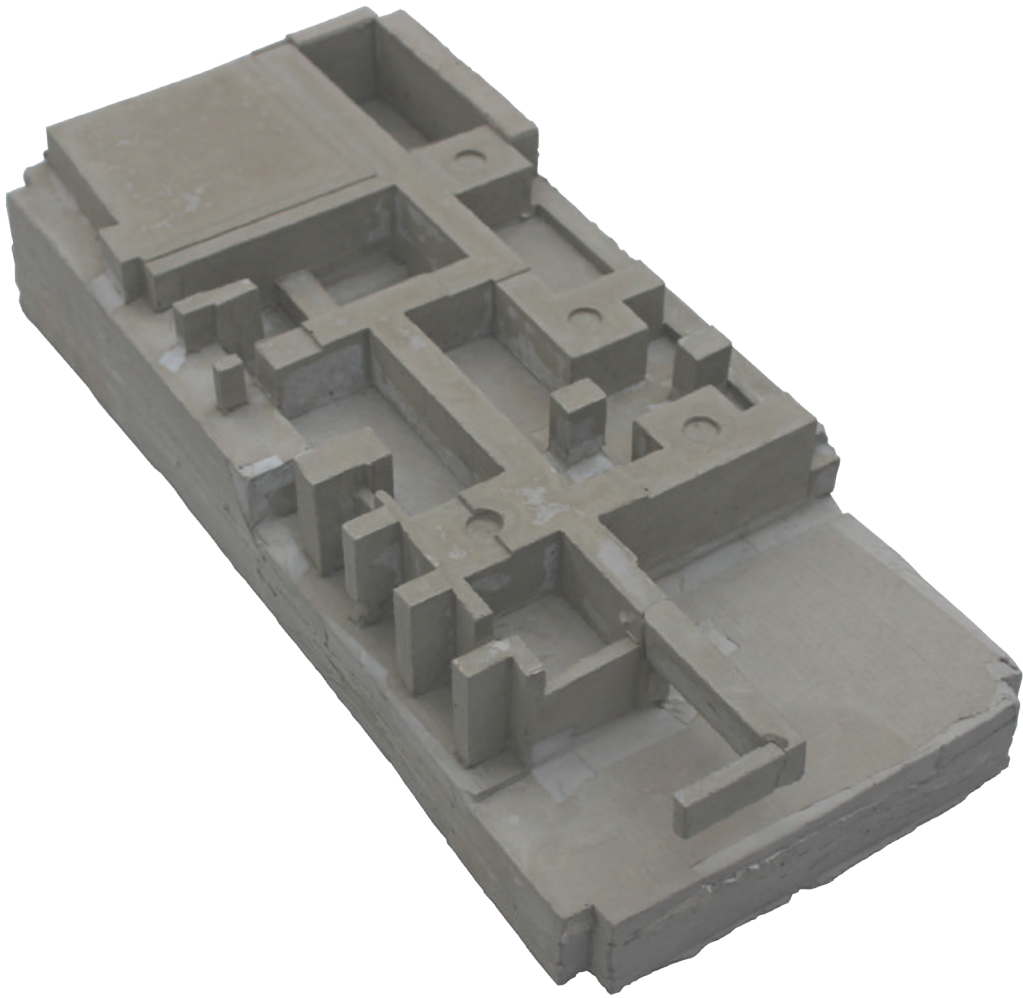


fig. 49: model of the negative space showing the different thresholds and spatial configurations



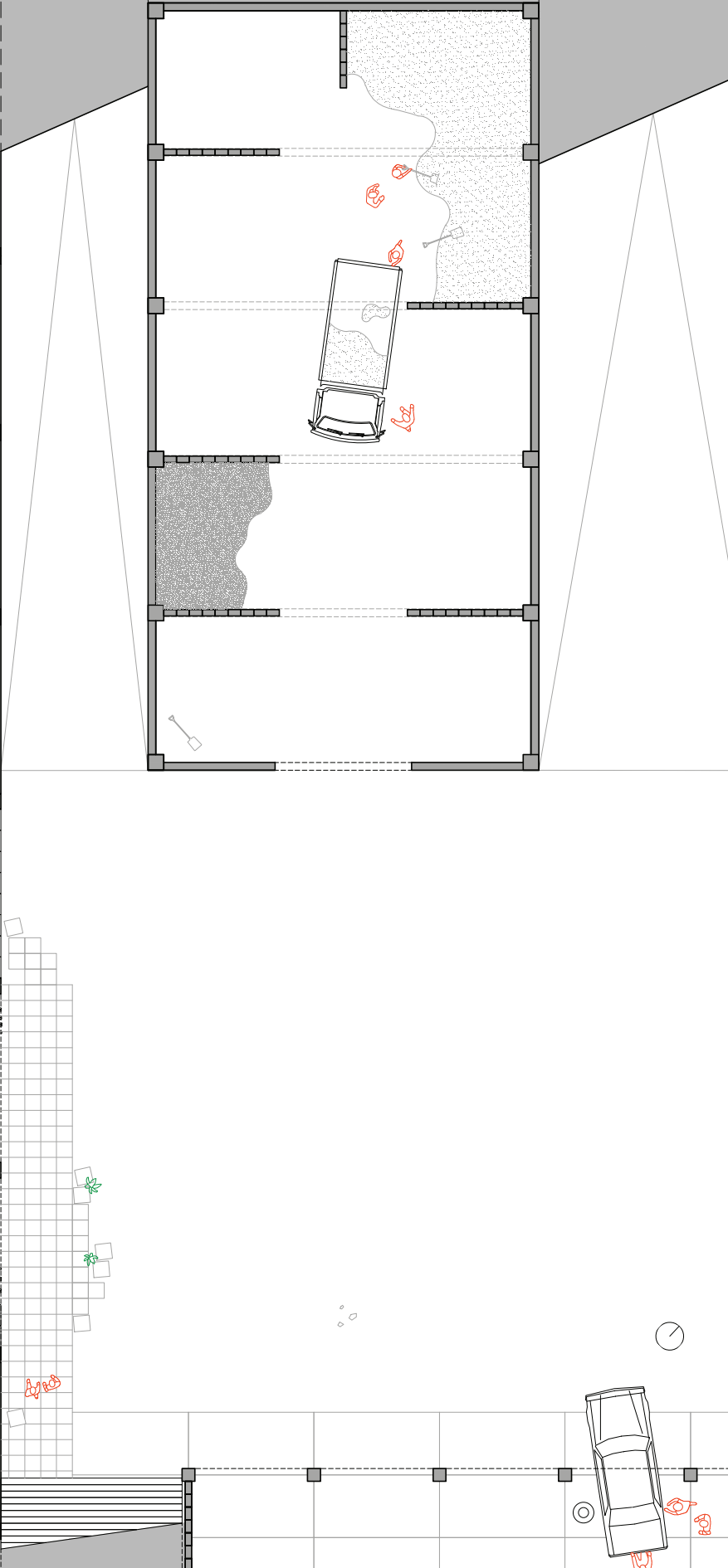
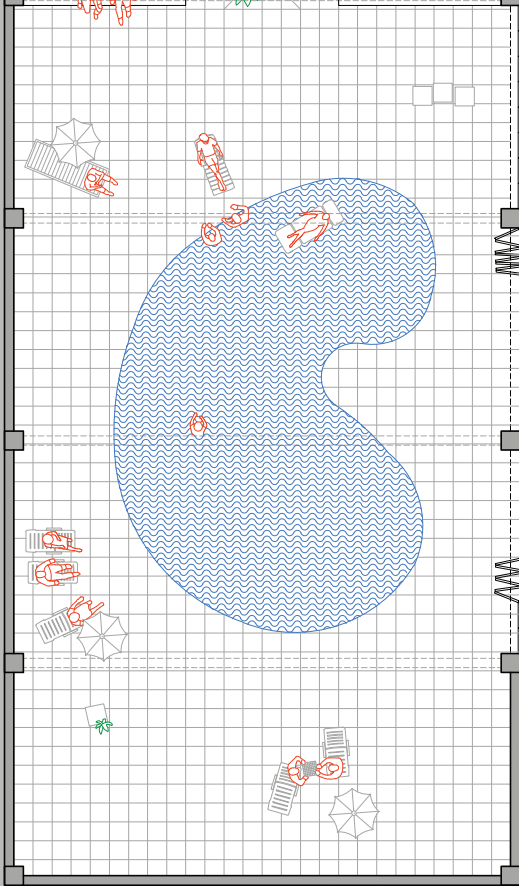
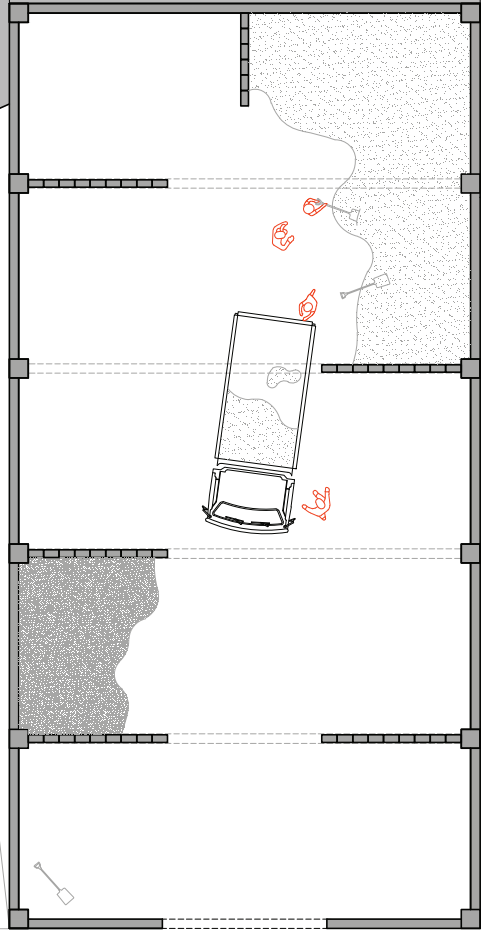
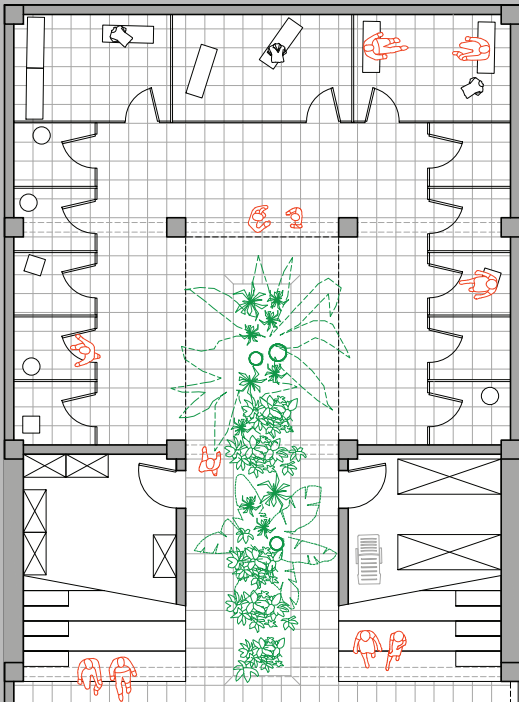
PHASE 5 – HOUSING + LEISURE

The new entrepreneurial possibilities are a vital and exciting part of the current dynamic Cuban climate and allow many inhabitants new opportunities to make a better life.

For this fifth phase, I propose to combine a housing typology with leisure: maybe a cooperatively owned swimming pool? Sadly, until now it is not possible to start a commercial cooperative of this kind. However, since the government already showed a lot of interest in the concept of cooperatives and admitted that they wanted to work step by step with the new reforms, it is likely that further reforms will happen sooner or later. The cooperative sector can be successful in the market without falling into the capitalist trap of selfishness and still promote social values. Since leisure is something that aims at the interest of a whole community, it fits quite well in the concept of social values and “sustainable socialism”. So for this last intervention I assume that starting a swimming pool-cooperative will become possible.

Inhabitants can form a cooperative like in the previous phases and combine the pool with some commercial activities like a cafeteria and restaurant. They could organize activities like swimming classes or pool parties. By constructing a pool in a former warehouse, it subverts this former meaning of a work mentality and introduces the opposite meaning: pleasure. In order to change the feeling of exclusion in a community or neighborhood, it is important to provide not only housing and work, but also the possibility (and right) to have fun.

*fig. 50: plan -1 of the swimming pool, adjacent to the production center from phase 1 and ►
workshop spaces from phase 2 (scale 1/200)*



OVERVIEW



fig. 51: complete plan -1



fig. 52: complete groundfloor plan









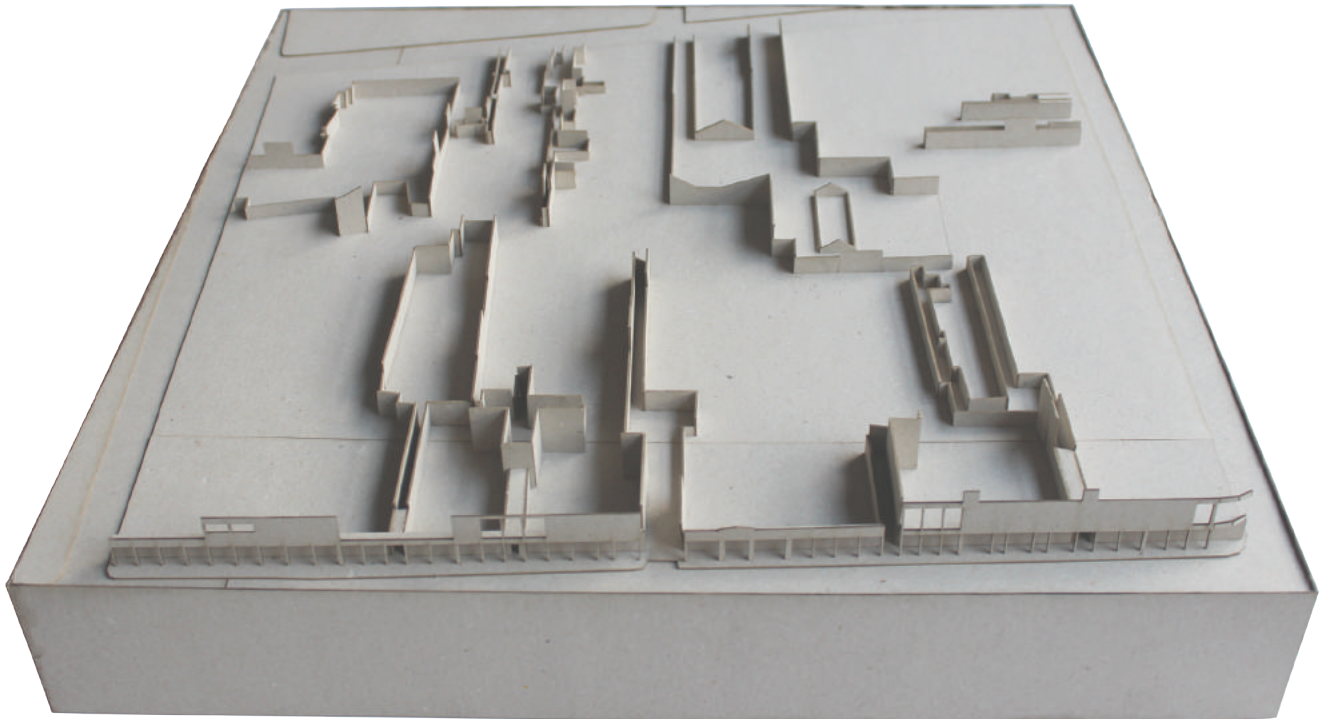
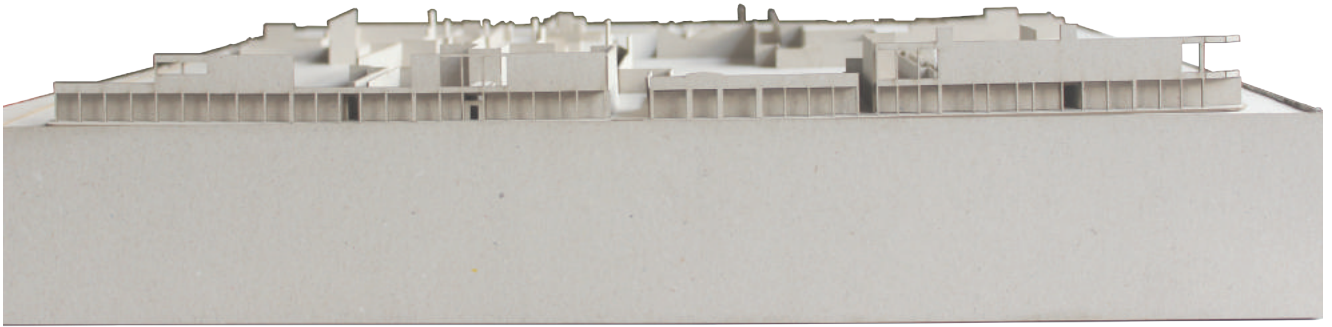


fig. 53: model of the open space accessible from the street in the city block before my architectural intervention

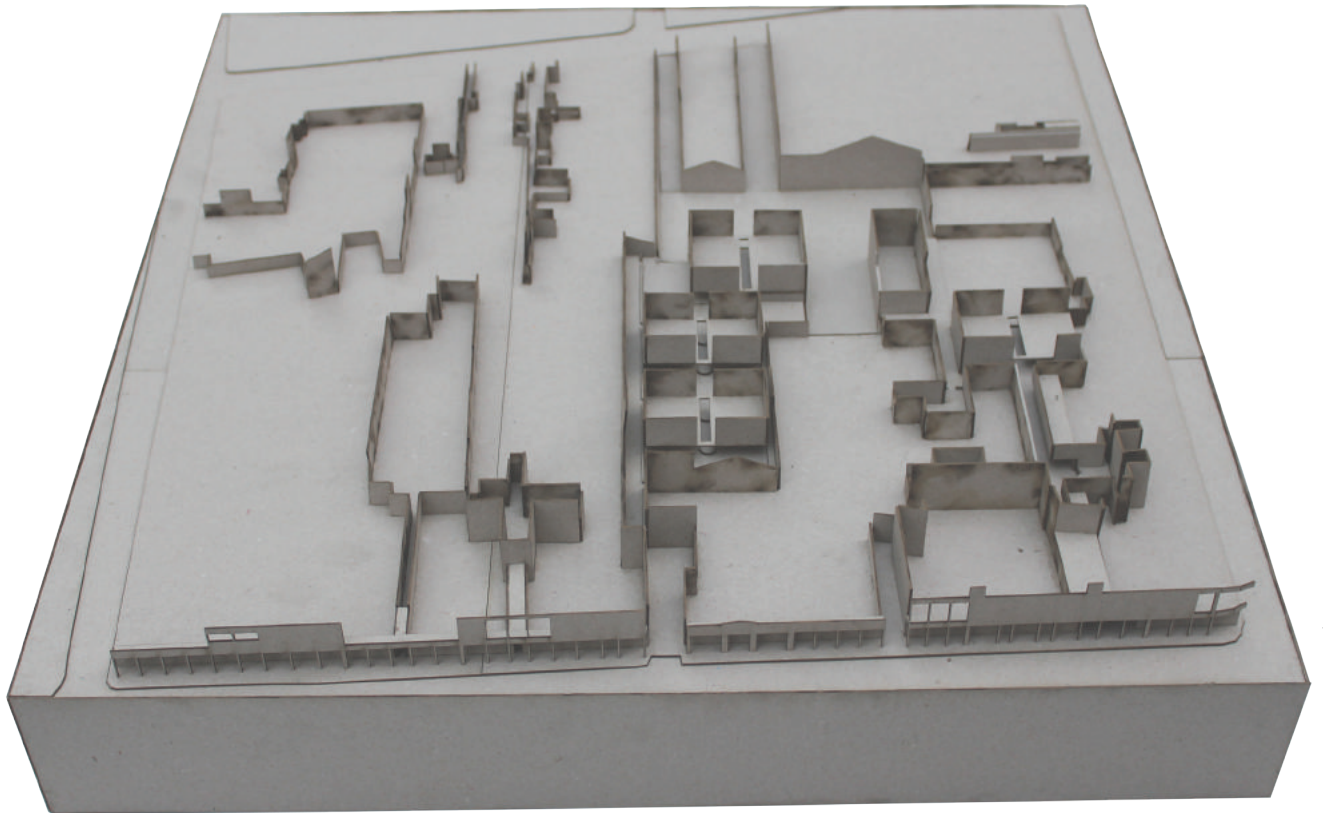


fig. 54: model of the open space accessible from the street in the city block after my architectural intervention

EPILOGUE

In the phasing of the interventions I tried to stay as close as possible to the reality and how to achieve the most economic process. This process includes monetary payment and it is not possible to deviate from that in the current system.

However, there are other possibilities to deal with this situation. Imagine a society where you can pay with other means than money? People in Cerro do not have a lot of money, but what they do have are abilities, knowledge, skills and time. The upgrading of the neighborhood could follow the ideal of trading skills for other skills or knowledge/education. The peer-to-peer model proposed by Michel Bauwens is an interesting vision: this model follows the idea of the commons and is based on the capacity of people to work together as equals to create value. Everyone can contribute to this society of commons. There could be many possibilities to introduce new systems like this without the need of money that contribute to a deeper level of collectivity and community. Cubans have been innovative, resilient and resourceful for years, so I think they could come up with some amazing ideas. It is not possible, though, to estimate until what point new systems like these would really catch on, so I just wanted to insinuate this possibility as a final gesture.

FIGURE LIST

figure 1: Picture revolutionary compatriots from <https://www.thoughtco.com/the-cuban-revolution-2136372>

figure 2: Picture Marielitos from <https://cri.fiu.edu/events/2015/mariel-exodus/>

figure 3: Picture Fidel & Raul from http://www.standaard.be/cnt/dmf20161126_02593143?pid=6026726

figure 4: Picture Obama & Castro from <https://www.rt.com/usa/336481-obama-cuba-castro-speeches/>

figure 5: map provided by CUJAE

figure 6: map provided by CUJAE and adapted by Aaron Swartjes

figure 7: Photograph by Aaron Swartjes

figure 8: Photograph by Aaron Swartjes

figure 9: Photograph by Aaron Swartjes

figure 10: Photograph by Aaron Swartjes

figure 11: Photograph by Aaron Swartjes

figure 12: Photograph by Aaron Swartjes

figure 13: Photograph by Aaron Swartjes

figure 14: Photograph by Aaron Swartjes

figure 15: Photograph by Aaron Swartjes

figure 16: Photograph by Aaron Swartjes

figure 17: Photograph by Aaron Swartjes

figure 18: Photograph by Aaron Swartjes

figure 19: Drawing by Aaron Swartjes

figure 20: Photograph by Aaron Swartjes

figure 21: Photograph by Aaron Swartjes

figure 22: Photograph by Aaron Swartjes

figure 23: Photograph by Aaron Swartjes

figure 24: Photograph by Aaron Swartjes

figure 25: Photograph by Benedikt Brester, taken from BRESTER, B. (2012): “Housing Policy, Neighborhood Development, and Civic Participation in Cuba: The Social Microbrigade of Santa Clara”

figure 26: Diagram taken from BRESTER, B. (2012): “Housing Policy, Neighborhood Development, and Civic Participation in Cuba: The Social Microbrigade of Santa Clara”

figure 27: Stills of video taken from <https://www.youtube.com/watch?v=0SfWYfEwXUc&t=5s>

figure 28: Stills of video taken from <https://www.youtube.com/watch?v=crMF9hTqweE>

figure 29: Drawing by Aaron Swartjes

figure 30: Drawing by Aaron Swartjes

figure 31: Drawing by Aaron Swartjes

figure 32: Drawing by Aaron Swartjes

figure 33: Drawing by Aaron Swartjes

figure 34: Drawing by Aaron Swartjes

figure 35: Drawing by Aaron Swartjes

figure 36: Drawing by Aaron Swartjes

figure 37: Drawing by Aaron Swartjes

figure 38: Drawing by Aaron Swartjes

figure 39: Drawing by Aaron Swartjes

figure 40: Drawing by Aaron Swartjes

figure 41: Drawing by Aaron Swartjes

figure 42: Drawing by Aaron Swartjes

figure 43: Drawing by Aaron Swartjes

figure 44: Drawing by Aaron Swartjes

figure 45: Drawing by Aaron Swartjes

figure 46: Drawing by Aaron Swartjes

figure 47: Drawing by Aaron Swartjes

figure 48: Drawing by Aaron Swartjes

figure 49: Images by Aaron Swartjes

figure 50: Drawing by Aaron Swartjes

figure 51: Drawing by Aaron Swartjes

figure 52: Drawing by Aaron Swartjes

figure 53: Images by Aaron Swartjes

figure 54: Images by Aaron Swartjes

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NOTES

COLLECTIVE PATCHWORK, PATCHWORK OF COLLECTIVITY

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