4 Materialising Change: The Reconstruction of Huaraz

Walking in the surroundings of Pumacayán, I met Rogelio, one of the neighbours who, according to Javier and other advocates of the archaeological site, has been invading its foothills in the years since the earthquake. Now in his mid-fifties, he has lived in the lower part of Pumacayán's foothills his entire life, even before that event. He was born there, in the same house where he currently lives. Or almost the same one. Rogelio changed his old one-storey adobe home into a three-floor construction made of *material noble* – a combination of concrete and clay brick walls – *built with anti-seismic techniques*, he exclaims proudly.

Rogelio's father built the original mudbrick house more than 70 years ago, after moving from Mancos and buying that piece of land belonging to a large hacienda on the then-outskirts of the city. He was one of the many outsiders who migrated to Huaraz after the flood to work in the emerging tanning and leather industry. This wave of new residents settled in the area, expanding the city's borders past Pumacayán.

Rogelio decided to change the original house's construction some years ago after one of the main columns supporting the ceiling collapsed at night. 'I went out, desperate and crying, to look for sticks in the street and ask for help because the roof was falling on me'. He became heavily indebted to finance the construction, but thinks it was for the best. The new house has brought him stability and a safe place to live. With the extra space, Rogelio also opened a small shop, where he sells groceries to his neighbours. That is why he is unwilling to leave the place, despite having been threatened with eviction several times by authorities and being informed about a future relocation that has still not happened. 'As a *dueño* [owner], do you think I'll accept being dumped out? I'm going to leave when they pay me a fair price for my house! With that, I'll leave and buy something somewhere else', he exclaims.

My talk with Rogelio reveals some of the issues that a majority of *Huaracinos* have experienced in the last decades. The changes in building materials, threats of relocation and the recognition (or not) of land titles and building rights have been central aspects defining the urban reconfiguration of Huaraz – especially after the 1970 earthquake. The efforts of Juan Velasco Alvarado's government to create a role-model city from the rubble left by the disaster would go on to clash with several obsta-

cles: an old urban society reluctant to transform their old colonial city into a modern project, as well as massive migration that made any attempt to guarantee housing to the whole spectrum of the population almost impossible to achieve. Land seizures would become a common practice, as would threats of eviction. With time, Huaraz would turn into the *cosmopolitan* project that people refer to today: a city comprising diverse migratory groups from different parts of Peru, and based on new forms of construction that appeared throughout the years. The reconfiguration of the urban area would bring conflicts and frustrations, but also new ways of cohabiting in the city.

Furthermore, the transformations experienced in this urban area would also lead to new forms of coping with the extreme events threatening Huaraz's *zona roja* (red zone), an important area of the city exposed to the possibility of a sudden glacial lake outburst flood – as in 1941. Despite the zoning efforts of CRYRZA and other state agencies to prevent the area affected by the landslide from being resettled, the dramatic housing deficit experienced by the city for decades after the earthquake would result in a continual urban expansion across these affected areas. Significant numbers of families arrived seeking housing and jobs, and would seize any plot they could find. Soon, land close to the Quillcay River – the part of Huaraz most exposed to an imminent GLOF from the lakes of the Cordillera Blanca – would experience rapid proliferation of new construction. It would begin with any material that inhabitants could find, which would then lead to mudbricks and more desirable materials like concrete and clay bricks.

Just like stones and adobe, *materiales nobles* would become protagonists of the reassembly of cities like Huaraz, and a pivotal material of the urban ecologies in the Andes. Like stones, concrete and clay bricks would aspire to withstand the test of time, capable of enduring extreme events. The earthly conditions of clay and concrete would place these materials at an interesting midpoint between stone and mudbricks. They might not have the same ancient connotation as the former, but they would be considered more resistant and stable than the latter – at least against extreme events like earthquakes. However, they would also be regarded as non-traditional materials and, thus, despised by groups of the population calling for a re-establishment of the *Huaracina* architectural tradition. The urban transformations inaugurated by the use of this noble materiality would become a constant source of dispute and controversy, but also one of the few strategies capable of ensuring a more stable urban future for a large part of the population.

This chapter analyses the material transformations experienced in Huaraz in the past decades, especially as a consequence of the 1970 earthquake. Building on interviews conducted with elderly *Huaracinos* survivors of the earthquake and the new inhabitants whose families arrived from other areas after the events, the chapter aims to present the temporal configurations that urban changes have produced in cities like Huaraz. By analysing the relationships between neighbours living on the

banks of the Quillcay River, the chapter explores how security can be enacted under highly uncertain conditions. Moving beyond critical (Foucault 2009) and individual-centred (Giddens 1991a) approaches to security, it concludes by reflecting on how the diverse alliances that people create with different materialities can lead to heterogeneous understandings of what it means to be secure. Certain expressions of risk denialism observed in the exposed area are not the result of ignorance or a lack of information. Instead, they are strategies to create alternative forms of security – a stability that relates not only to avoiding the consequences of a possible flood, but also to the possibility of articulating a liveable future in a highly unstable and precarious urban reality.

Strangers in their own city

As we saw in the previous chapter, Huaraz is a city that has experienced radical transformations over the past decades. The destruction left by the events of 1941 and, most notably, 1970 was followed by urbanistic efforts to create a city based on modern standards of planning, justice and equity. But it also led to fierce disputes with survivors over what they considered the loss of their old, idyllic *serrana* city.

The urban transformation that Juan Velasco Alvarado's government wanted to implement after the 1970 earthquake considered both the redistribution of urban land tenures and the redesign of urban areas based on ambitious zoning efforts. Centrally planned *unidades vecinales* (neighbourhood units) came to replace the traditional *barrios* (neighbourhoods), aiming to establish a more efficient division of the city and contest the racist and class-based exclusionary policies prevalent in the traditional Andes (Bode 2001). With the *unidades vecinales* legally established, the governmental agencies CRYRZA and ORDEZA in charge of the reconstruction hoped for a well-organised and controlled expansion of urban settlements in order to avoid further unregulated urban sprawl in areas highly exposed to extreme events (Carey 2010).

But despite the enormous efforts mobilised by regional and national authorities to put the ambitious plan into practice, the reconstruction of cities like Huaraz was difficult and highly contested. In just a few years, the city experienced dramatic changes: the formerly narrow cobblestone streets were replaced by wide, paved avenues to avoid the lethal consequences of building collapses during a future earthquake. Moreover, the massive construction of two-storey concrete houses structured around the *unidades vecinales* brought new airs of urban equity to an Andean world shaped by centuries of racial and cultural discrimination. Yet the new *unidades* did not express the same sense of belonging and identity as the *barrios*, and were rejected by Huaraz's traditional population from the start. As one of the survivors said at the time, "'barrio" means people who have the same ideals, the same habits and activi-

ties. "Neighborhood units" are simply blocks of houses' (Bode 2001, 217–18). On top of that, the project had insufficient capacity to relocate the many people in need, which led to a substantial housing deficit that dragged on for several years.

By the mid-1980s, a considerable part of the population still could not count on stable housing, resulting in a residential shortage that remains difficult to address even today. Fifteen years after the earthquake, the precarious living conditions of many people in Huaraz showed that the government's reconstruction plan, albeit ambitious and well-intentioned, did not achieve its primary goal of turning Huaraz into a model city of social equity and progress. Associations including the Committee for the Defence of the Interests of the Victims of 1970 (*Comité de Defensa de los Intereses de los Damnificados de 1970*, CODEID), a social organisation founded in response to the slow progress of housing allocation for the victims of the earthquake, made CRYRZA and ORDEZA as the agencies in charge of the reconstruction responsible of this situation, emphasising how their poor performance 'generated, with a delayed effect, a wave of invasions and violent actions of which consequences are difficult to control and predict' (CODEID 1985, 1). The association already emphasised at the time the necessity of legal reforms to ensure urgent measures such as 'property titles clearance, expropriation payments, valuations of adjudicated properties, value reversals, completion of the adjudication process, etcetera' (CODEID 1985, 2). In other words, a way of accessing housing by fair means was desperately needed.

The massive migration from rural areas to Huaraz after the earthquake led to unregulated urban expansion that the authorities could not control. According to Ricardo Villanueva Ramírez (2021), the city already had an urban area of 340 hectares by 1977, which was twice as large as in 1962 and three times more than in 1948. The urban trend that started during that decade maintained its course: by 2018, the city had an area of 775 hectares – six times bigger than in 1948 – which only strengthened the urban patterns from the previous decades. This massive expansion took place mainly in the northern part of the city, connecting the districts of Huaraz, Independencia and a small part of Jangas further north. The number of inhabitants also increased over the years: today, the city has a population of about 150,000, which is five to six times larger than in 1970. The number of dwellings, moreover, tripled during the same period with more than 48,000 houses to be found in Huaraz nowadays (Branca and Haller 2021).

Until the early 1960s, the area close to Quillcay's riverbank was mostly uninhabited. According to Villanueva Ramírez (2021), only nine per cent of the 1941 landslide scar showed signs of construction. The massive boulders left by the outburst flood served as a constant reminder to residents about the potentially fatal consequences of living so close to the river. In the first years after the earthquake, the city's expansion into vulnerable areas seemed to be under control. In 1971, CRYRZA defined a strict zoning restriction following the extent of the 1941 flood. The *unidades vecinales* would relocate survivors and new inhabitants from areas close to the Quillcay river-

banks to Huaraz's historical centre in the southern part of the city, as far as possible from the high-risk areas. But this plan soon unravelled.

Rapid urban expansion took hold wherever it could, even in areas highly exposed to outburst floods. The vertical configuration of Huaraz around a steep geography and several altitudinal floors (Branca and Haller 2021) made it very difficult for new arrivals to find free land in the lower areas close to services and jobs. The scarce access to central land plots, together with the poor implementation of the restrictions defined in CRYRZA's master plan, led to large-scale occupation of the areas swept away by the 1941 landslide. The zoning plan was also contested by the *Huaracinos*, who saw these limitations as an effort by Juan Velasco Alvarado's revolutionary project to eliminate their historical privileges and bury the colonial city for good (Bode 2001; Carey 2010). By the end of the 1970s, one-third of the landslide scar was occupied by new construction. Juan Velasco Alvarado's dream of creating a Peruvian model city from the ashes of the earthquake's destruction ended in jeopardy, undermined by Huaraz's unregulated and explosive urban expansion.

Today, the urban sprawl covers two-thirds of the area affected by the 1941 landslide, a full 12 per cent of Huaraz's urban land use (Villanueva Ramírez 2021). Every day, 15,000 to 20,000 residents plus a constant mass of people transit across that busy area. What began out of necessity for new migratory groups soon turned into a natural and permanent expansion of the city. The exposed area nowadays includes other types of construction, including commerce, services, restaurants and non-residential buildings. Even governmental offices involved in emergency management are located there today. COER's headquarters, where all the first aid equipment for the region is stored, is one such example. A fundamental part of city life takes place in the *zona roja*, and changing that reality would require a massive relocation of thousands of people and commercial buildings – a challenge that no politician or administration at any level is willing to deal with.

The drastic urban changes experienced in Huaraz in the last 50 years brought not only new migratory groups to the city but also new construction materials and techniques. Besides the radical urbanistic changes that Velasco Alvarado aimed to introduce by replacing the massive colonial-style mudbrick houses and their interior patios with more compact, concrete family units, other types of constructions also started to appear. New multi-storey red brick buildings, pejoratively called 'coastal constructions' (*construcciones costeñas*) by elderly *Huaracinos* as a direct reference to the type of buildings commonly found in popular neighbourhoods of coastal cities like Lima, also broke with the architectural tradition of the region. The use of the famous *materiales nobles* – as in Rogelio's case – was, according to many *Huaracinos*, a direct consequence of the arrival of these new inhabitants, especially those coming from the coast. This transformation inaugurated the city's cosmopolitan condition, turning it into a place where, as we saw at the beginning of this book, diverse migratory groups would cohabitate in what survivors and elderly *Huaracinos* considered a

chaotic mishmash of cultural expressions and architectural styles. Visiting the city ten years after the earthquake, Barbara Bode (2001, 448–51) describes the nostalgia that enveloped her when finding that 'the concrete city finally took shape'; a city where 'lights burned dimly from lampposts' and 'rock-and-roll music on transistors … bombarded the night. … Only when looking up to the same breathless Cordillera Blanca did time appear to have stood still', the author recalls.

These days, *Huaracinos* affirm that the city is facing a cultural crisis, a loss of identity initiated by the urban transformations following the 1970 earthquake. The changes that Barbara Bode sees in the new chaotic, 'modern' city (Bode 2001, 447) betray every element that made the old Huaraz so unique, and her views are shared by the local population. Survivors feel like 'strangers in their own city' (*extraños en su propia ciudad*)[1], victims of the 'social disaster' (Oliver-Smith 1986) that began after the earthquake and permanently transformed their hometown, with no chance of changing it back.

However, these shifts do not just relate to the goal of creating a modern Huaraz. They are also allegedly linked to social and economic stagnation due to the types of settlers arriving in urban areas after the disaster – an 'excess of rurality' that, according to old *Huaracinos*, jeopardised the reconstruction of the city. As Javier León León (2016, 48–49) suggests regarding the case of the new Yungay:

> Many of the inhabitants of the new city, those who came from the countryside, do not manage, nor do they try, to adapt to city life … and continue with their *campesino* customs, occupying the public road as part of their property, where they raise their dogs, sheep, pigs, chickens, etcetera. They throw rubbish, deposit their materials and firewood on the pavement, at the door of their houses, without caring about the bad appearance …, while their children, who are being born in this city, continue with the habits of their parents as if this way of life were natural.

Subaltern groups, especially those coming from rural areas, came to be portrayed by urban ruling groups as a threat to the stability of the city and its cultural legacy, responsible for the current 'lack of jobs, rising living costs and housing shortages' (Schreiber Rodríguez and Neyra Rojas 2009). The 'barbaric outburst' that Yauri Montero defines as a common driving force in the Callejón de Huaylas was personified – again – under the figure of the rural migrant. Just like during the Atusparia rebellion in 1885, where rioters came down from the mountains to Huaraz 'like an avalanche' (Thurner 1997, 71), people from rural areas were once again associated with the forces of nature, a 'popular outburst' coming from the countryside to the city (Matos Mar 2004; in Rasmussen 2015, 20).

1 Testimony from a survivor, in the documentary *Huaraz en el Tiempo* (Huaraz Across Time), directed by Juan Manuel Quirós Romero (2018).

Despite the reluctance of the older *Huaracinos* to accept Huaraz's fate, a new city would emerge, bearing with it the traces of its past. The heterogeneous realities that the new urban space articulated would lead to novel practices and materialities for cohabitation, even in zones threatened by the same hazards that destroyed the city in the past. The new inhabitants, forced in many cases to live in areas exposed to outburst floods and under precarious conditions, would go on to become one of the many protagonists defining what Huaraz is today – a cosmopolitan city, the chaotic yet vivid capital of Ancash. They would play a part in the complex society configuring the new Huaraz, even if they do not conform with elder *Huaracinos'* notions defining *proper* inhabitants of the city.

What is it like to be part of the new city under conditions of exclusion, precarity and risk exposure? How do people living in areas exposed to a possible glacial lake outburst flood manage to develop different forms of inhabiting the urban space? And what type of temporalities emerge from those urban projects?

Living with the river

The sound of the rushing water is a constant in the room. One forgets about it occasionally, internalising it, making it part of the environment without questioning it too much. But it returns at some point. It is a gentle – or rather threatening – reminder that the river, the famous Quillcay River, is only a couple of metres away. It's right there, where the room ends. Far from the calm hum of a peaceful water source, Quillcay's is a permanent roar, a continuous huuuusshhh – or perhaps ffffhhhhh, gggghhhh or jjjjhhhh? – that reverberates deeply across the room. It is low enough to produce a slight vibration but high enough to distinctly sound like something is flowing. Constantly. Non-stop.

The room we are in, a neighbourhood community centre, does not help to reduce the anxiety caused by the noise. It is a 20-square-metre space with no windows, only a heavy metal gate that leads to the street opposite the river. The lack of a window onto the river makes the water's noise even more chilling. It is perceived as a present threat that cannot be seen, only heard. The feeling of disorientation clashes with the purpose of the shared space, where locals come to celebrate social events, including birthdays, religious festivities and funerals. The neighbourhood's *patrono*, El Señor de los Milagros, is located there, visited by the residents who light candles for him. It is a newly built room made of clay bricks, which seeks to unite the community and provide a safe space for gathering and support. Perhaps the lack of windows hopes to achieve precisely that. Separating the room from the river helps to add some distance between it and the threatening presence – at least visually. The sound of the rushing water remains, though.

'The last time the river rose, it was so strong that the houses were shaking', Catalina Nuñez states, with a worried but halfway resigned voice. When the river grows and carries more material than usual, you can feel the boulders hitting the concrete wall behind the houses, she explains – a protective barrier built right in front of the river to prevent the water from eroding the soil (see Figure 10). It is the only infrastructure the neighbourhood has these days to cope with the river's force, and it reduces the chance that the ground beneath their feet will suddenly collapse. A major flood, however, would erase the whole settlement in a matter of seconds.

Catalina is the president of the *junta de vecinos* (neighbourhood committee) of El Señor de los Milagros, a complex of a dozen houses located just over Quillcay's southern riverbank in the centre of Huaraz. The settlement is the result of a land occupation that took place in October 1988 – the same month as celebrations for the neighbourhood's namesake, El Señor de los Milagros. The occupation began when Catalina's relatives arrived along with others at the riverbank in the middle of the night to build their houses; it was the only free plot of land they could find in the city centre. 'My uncle used to tell me that a lady he bought food from on the bridge always mentioned that business was very bad and she could barely pay for her room. So he tried to bring together people like that, those without money', Catalina explains.

Figure 10: Señor de los Milagros neighbourhood on the southern bank of the Quillcay River (Usón 2022)

Originally from Pira, a small village about 50 kilometres from Huaraz in the Cordillera Negra, Catalina's family moved to the city in 1970 due to the devastation of the earthquake in their hometown. There was no work in the village, and her family's house was destroyed. Catalina's grandparents came with their children – Catalina's mother, her aunt Manuela and her uncle Damián – looking for work anywhere. Her grandfather found sporadic jobs as a builder, making mudbricks that were later used to rebuild the houses destroyed by the earthquake. During those first years, they lived in small huts that they built with *materiales a mano*. Later, they started renting a small room for the whole family.

After years of living in overcrowded conditions, the adult Damián and his sister Manuela, along with seven other families, decided to occupy the south side of River Quillcay – an unsettled strip of land approximately ten metres wide by 100 metres long. There, they improvised housing with the scarce *materiales a mano* they found: corrugated iron sheets, wooden sticks, tree branches for the roof and several blankets to cover the bare soil. All available materials were used to protect themselves from the cold and the first rains of the season. The takeover, or *invasión* as Catalina defines it, was not the first settlement in the area. In the aftermath of the 1970 earthquake, several families had arrived at the riverbank to construct modest houses, just like Catalina's family did 20 years later. By the time her family arrived, those first settlements had already become a proper neighbourhood of mudbrick houses, and the lands that the new settlers occupied had been used as parking slots and a pigpen. Manuela, Catalina's aunt, remembers how difficult the relationship was initially with those first settlers, who probably felt threatened by the loss of extra space to the new *invasión*. 'On the third day, they poured hot water and uric acid on us. They threw a stick of firewood on my mother's head', she says. But the newly arrived families resisted and brought new members to increase their own numbers. It was a rough beginning for a settlement that, nevertheless, endures to this day.

Forty-seven people now live in El Señor de los Milagros. There used to be more, but some have passed away and their children – now adults – have moved to find greater stability in other cities. Some of the houses are empty and there is pressure from other families to occupy them. Housing is scarce in Huaraz's central areas, and a place like El Señor de los Milagros is one of the few that many families can afford. Since the land they occupy belongs to the state, residents do not pay rent. When a new family moves in, they only have to pay a certain amount to the old tenants based on the construction material of the house. They also pay a small membership fee to the *junta de vecino*, which is used to cover the association's expenses or to build common areas, like the community venue where Catalina, her aunt Manuela and I are gathered. If a neighbour is sick or passes away, the community members must pay an additional amount to help that family with associated expenses. Living in the neighbourhood, in this sense, is not only a good option to save money on rent. It is

also a way of ensuring that, in case of an accident, one can count on the support of a caring community. But all this comes with big risks.

The border of Huaraz's Quillcay River is the part of the city most exposed to floods from the Cordillera Blanca. The river is the confluence of streams originating from three different lakes threatening Huaraz: Palcacocha, Chuchillacocha and Tullpacocha. Any outburst in those lakes could be severe enough to sweep El Señor de los Milagros away. Even smaller events, like increased run-off due to heavy rain, can pose a threat due to the amount of material the river may carry. Piles of boulders and tree branches are commonly spotted along the riverbank after the stream rises, threatening to erode the protective wall reinforcing the soil beneath the houses.

Catalina and all her neighbours are aware of this situation. 'We know it's risky to live by the river, we know. But we have nowhere to go', she argues. They do not have the means to rent a house or buy a property in another part of the city. Although the Municipality has mentioned several times the possibility of relocating them to a safer area, there has been no serious initiative so far. 'Since I can remember, I have always heard them talk about relocation, but to this day it has not happened. Not even the mayor can say that this has to be done, nothing', she explains. They have also received eviction threats several times, but she and the neighbours know that the Municipality cannot throw them out without offering them alternative housing. 'They have always wanted to get us out, but … we are recognised. We have a kind of recognition … an identity document that recognises us. That's what [the previous presidents] have left me. And thanks to that, we defend ourselves whenever they come'. The document Catalina refers to is the record they received when her uncle and other neighbours registered the settlement as a neighbourhood organisation one year after the takeover. It is their 'birth certificate', Manuela mentions, laughing – the only guarantee they have of not being kicked out until they receive a definitive housing solution somewhere else. However, the fear of being evicted is always present.

Despite the Municipality's reluctance to offer tangible alternatives, the neighbours of El Señor de los Milagros have received some support from the state. A few years after they settled on the riverbank, they convinced the central government to install the retaining wall protecting the soil from the river stream. According to Manuela,

> It was during Fujimori, that time. They came and said, well, you have been lucky; the wall is going to be from here where you live to the last house, that's all, that's it. A blessing from God came for this wall to be built. Concrete, iron, workers came, engineers came, tractors came, everything. And thank God they put them there. Otherwise, what would have happened to us? Because every time it rained, the more the river came. It washed away the trees, the stones, everything.

Figure 11: Inside El Señor de la Soledad neighbourhood
(Usón 2022)

There was no public policy of reinforcing the riverbank at the time, so the wall came to be seen as 'a blessing from God', an extra hand the government lent to El Señor de los Milagros and its neighbours. This was a common strategy of Alberto Fujimori's dictatorship during those years – an authoritarian, neoliberal regime that provided direct support to local residents from a central level, seeking to foster the idea of a government *with the feet on the ground* (Rasmussen 2017). It was a territorial approach that aimed to erode the legitimacy of local governments and gather the state's power while reinforcing a clientelist condition between the state and the population (Tanaka and Trivelli 2002; Remy 2005). To make anything happen, a connection with central governmental officers was necessary.

By reinforcing the exact boundaries (no more or less) of the settlement at the time, the government prevented further occupations from popping up along the river. However, it did not restrict residents from expanding their current construc-

tion closer to the river's edge. As Catalina put it, 'once they'd put up [the wall], many people started building their houses. It was as if they'd said, "You can [build] here"'. After the wall was installed, a whole new row of houses was built between the river and the initial constructions (see Figure 11). This new area was possible because of the stability offered by the concrete barrier. The wall, in this sense, gave residents two forms of security: it expanded the piece of land available for housing by preventing the water from eroding the riverbank, and it gave the impression that the government was allowing them to stay there – a sort of informal regularisation that residents used to their benefit. The wall, combined with the title recognising their neighbouring association, were the small signs the neighbours counted on to feel that their settlement was not entirely illegal, after all.

With time, other things would give residents the feeling that theirs was a stable, although temporal, residential alternative. Perhaps one of the most important events was having access to basic services like water and energy. '[At the beginning] we had no electricity, no water, we drank from the river and used candles. And they didn't want to give us [utilities] either. … A good time must have passed, about four, five years or more, just recently', explains Manuela. Just like the construction of the wall, residents like Catalina and Manuela see access to basic services as a sort of favour the companies did for them. As Catalina puts it, the water company CEDAPAL 'helped them out' (*nos ayudó*), even though it initially refused because the residents lacked property deeds. The new network gave every household access to clean water 24 hours a day. It is, however, far from a complete solution. The settlement currently lacks sewage connections for every house. Only two formal bathrooms have been installed in the front. The rest of the constructions have improvised bathrooms connected to pipes leading to the river. A similar situation occurs with electricity. The 19 families living in the neighbourhood are 'hung up' (*colgadas*) to one single electricity meter, as Figure 11 shows. The multiple cable connections distributed along the houses often overload the grid. It is quite common for the lights to go out in the evening when energy consumption increases. It is also a very dangerous solution that causes overheating and could therefore quickly start a fire. But for the residents, this is not a final answer either. 'It's just for a time; it's not definitive', explains Manuela.

Waiting – and building in the meantime

Although they constantly portray their situation as a temporary solution, something 'not definitive', as Manuela puts it, people at El Señor de los Milagros have turned their neighbourhood into something more than a transitory settlement. They have lived there for more than three decades already; many residents were born there.

Despite the possibility of being relocated at any moment, neighbours of El Señor de los Milagros have done everything they can to create a more stable living condition.

One of the most obvious signs of this, which stands in stark contrast to the provisional condition of the occupation, is their investment in better building materials. The improvised huts of *materiales a mano* built during the early days of the *invasión* were soon replaced by modest one-storey mudbrick houses. With time, and as long as their economic situation allowed it, some families started replacing the old mudbrick walls with *material noble*: a combination of red clay bricks and concrete.

The advantages of *material noble* are shared among neighbours in the area. Despite being worse insulators against the cold, brick walls are considerably slimmer than mudbricks, thereby encroaching less on the interior space. Besides, adobe constructions are seen as rural buildings, *rústicos* (rustic), whereas houses of red bricks are considered to have a higher status. When asked why she changed from adobe to clay bricks, Bianca, a neighbour from El Señor de los Milagros, tells me, 'mainly to make it more presentable and to make it look like a better place'. Most of the neighbours also mention the security that bricks provide compared to adobe. 'We wanted to make it a bit stronger, so it could last over time', remarks Jeyson, another neighbour from a nearby area, whose family changed to clay bricks. Despite the fact that almost none of the houses built with this material have seismic retrofitting like reinforced columns or cross-braces, people believe that a house made of clay bricks is more likely to withstand seismic tremors.

But perhaps the main argument for building with *material noble* is the capacity to expand the house vertically. Unlike adobe, combining clay bricks and concrete allows buildings to have several storeys. Some *Huaracino* homes are even five storeys high. The motive for this vertical expansion is mostly family. Many householders see the construction of an additional storey as the capacity to offer their children a place to live. This is what Bianca tells me when asked about this topic:

> – And do you intend to continue building?
> – Of course, later.
> – So, you still have the columns [of the house] open.
> – yes, still, to keep on increasing (*para seguir aumentando*).
> – And why would you like to have more floors?
> – So that my children, all four if possible, can live there in the future. So that the family can stay together.

'Leaving the columns open' (*dejar las columnas abiertas* or *al aire*) is a common construction strategy in the Andes and almost every popular neighbourhood in Peru. It means leaving the roof of the house unfinished and the structural columns, with the steel rebars sticking out of the concrete, ready to build the next floor once the family has saved enough money. This building strategy gives the impression that

houses in cities like Huaraz are never fully finished, always under construction – one of the reasons why upper-middle-class *Huaracinos* consider the city an urbanistic mess. Although a common explanation for this phenomenon is related to housing taxes, which allegedly increase when a house is 'finished', the reasons for keeping the columns visible are due to more than just fiscal relief. Only when there is enough space to provide housing for all the children, or when families realise that they do not need more space as their children begin to move out – and then only if they have the money – do they close the columns and build a permanent roof. In most cases, however, the upper floor is left as an open space covered by provisional polycarbonate sheets, providing sufficient light and protection against the rain to build storage areas, laundry rooms, kitchens or even a space to keep dogs or breed birds, rabbits or guinea pigs. It is a construction strategy that connects to the rural origins of many Huaracino families by providing an outdoor space, compensating for the lack of gardens or internal patios in urban housing.

According to Elżbieta Jodłowska and Mirosław Mąka (2019), whereas clay bricks can be found in nearly every Peruvian city, the use of this material in Huaraz is exceptional. They relate its ubiquity to a mimetic strategy that aims to emulate the façades of wealthier houses and structures shown in the media. It is, however, a new form of mimesis, one that seeks to deal with what the authors and people in Huaraz in general define as the cosmopolitan model inaugurated after the earthquake. As the authors remark, 'the old Huaraz, *criolla* and *mestiza*, was a white city, built of adobe blocks plastered in white. What identity, then, does the brick city of Huaraz represent? It undoubtedly represents the heterogeneous group of inhabitants who arrived from Lima and other Peruvian cities and foreigners with no roots in this city' (Jodłowska and Mąka 2019, 653). The same status that the material provides, the authors continue, leads inhabitants to leave the red brick uncovered, without plastering or painting it, to show the prestige of moving to a more stable materiality – 'the basic element copied from the cosmopolitan model'. Replacing the rustic tradition of the adobe with the industrial origin of the brick means, in a way, leaving the earthly state of the rural and the indigenous (Orlove 1998). It is a form of overcoming a rurality inherited from parents and grandparents – while keeping some of its elements, like the open areas on the roof. 'It does not matter if the construction work is not undertaken again for years – or ever. What matters is to expose this sign of dynamic openness for the future of its owner' (Jodłowska and Mąka 2019, 651), the authors suggest. Leaving the columns open, in this sense, gives a clear message to neighbours and family, affirming the intention to keep building. A roof would only close that option and fix the status of the house to the current number of storeys.

Despite the clear preference of urban inhabitants for clay bricks over adobe, not everyone in El Señor de los Milagros is considering switching materials. As Manuela puts it, 'I don't know if we will be here for good, if we will stay, or if some government will come in, if some mayor will take us out. I don't know, that's the truth. That's

why some people don't build [with *material noble*]. Perhaps they also say it's badly spent (*mal gastado*)'. She and Catalina would like to keep expanding their houses and have enough space for their children and their families, but they are also concerned about the consequences of such a decision. Building with *material noble* is a significant cost that families only consider if they think they can afford it – when they have the money or, alternatively, when they are confident that they will be able to pay off a loan from a relative or bank in the long term. Building a new house in a neighbourhood that can disappear at any minute – whether through a government eviction or flooding – is a risky choice that not everyone is willing to make.

The materialities of El Señor de los Milagros show that different temporal rhythms cohabit there. On the one hand, neighbours know that every intervention, whether provided by the electric and sanitary companies or implemented themselves in the houses they are inhabiting, are temporary solutions for a settlement that might soon be removed – even though they have been there for more than 30 years. Thus, neighbours of this settlement live in an ongoing temporary state: their neighbourhood, although partially recognised, should not be inhabited due to its risks. On the other hand, this form of impermanence has been a constant part of residents' lives. Catalina has spent most of her life there after her family decided to take over the site when she was aged eight. Others were born there, and living in that settlement is the only reality they know. Even knowing they might need to leave at any minute, they have created a life there, next to the river.

This form of longstanding provisional life can be related to the notion of liminality that studies on migration – and especially about the lives of those in refugee camps and of asylum seekers – have promoted (Andrews and Roberts 2012; Thomassen 2016; O'Reilly 2018; Grimaldi 2019). Studies in this regard define the liminal condition as a form of in-betweenness that marks a before-and-after, a betwixt and between (Turner 1967), a transitional state hoping to be trespassed and overcome. The fundamental operation of the liminal is the transit itself rather than what is built and created along the way.

Yet, what the provisional condition of residents in El Señor de los Milagros shows is less about a transition to something else than about a form of obduracy created during that temporary stage. People living in El Señor de los Milagros are not transiting through a sort of threshold; they are creating a temporal existence on their own terms, in the margins. Living at the edge of the river is not a movement to somewhere better – it never was. People moving to that part of the city were aware of the dangers that the location could bring. The decision, however, was the result of necessity and a lack of other housing possibilities. Remaining there is the fruit of despair, mixed with a shred of hope that relocation to a better place, after 30 years, will happen.

Similar to the suspended time *Yungaínos* had to live through after the earthquake and avalanche completely destroyed their hometown, the lives of people in El Señor

de los Milagros are structured around expectation. Life for people living at the margin of the river, however, is not suspended; it has kept flowing as usual. They have not needed to overcome an exceptional situation – their disaster lies in the future. This disposition towards the future as something that needs to be waited for – what Javier Auyero (2012) defines as the politics of waiting – deeply shapes the lives in the peripheries. 'Waiting appears to be "in the order of things" for the poor. It is something normal, expected and inevitable. They are disposed to recognise that they have to wait and thus to submit to it, because that is precisely what they are regularly exposed to', the author affirms (Auyero 2012, 14–15). To have access to a safe dwelling in a country where housing politics are almost non-existent is a permanent exercise of stasis, expectation, disappointment and frustration. To wait is to hope for a better future for their children, a place they can inherit when the parents are gone. But it is also to build a life in the meantime; the construction of more stable houses that, due to the uncertainties of the future, may disappear at any moment.

Displacing the risk

Although the current scenario is not very promising for the families of El Señor de los Milagros, Catalina is not a fatalist. Instead of losing herself in anguish that a flood could destroy her and her neighbours' homes at any moment, she has actively worked to make living with the risk of a flood as bearable as possible.

As the president of her *junta de vecino*, Catalina has tried to prepare her neighbours as much as possible in case a flood alarm occurs. She affirms that nobody from the Municipality came to offer them talks or training about what to do in case of flooding. However, she has managed to contact people from other state agencies to organise educational events. These activities have comprised two workshops – one where they were told what to do and where to go in the case of a GLOF, and a second one in November 2021 where they were shown a 3D computational model of Palcacocha, Huaraz's most famous, and most threatening, lake. As a neighbourhood, they have also carried out evacuation drills, practising with older adults to gauge the pace at which they would need to evacuate so that everyone could reach the safe zone before an event impacts the city. 'We did it as if it were for real. We even did it with wounded people, with everything', she remarks excitedly and proudly.

Catalina's commitment to emergency preparedness and response is inspiring. She wants to keep organising talks and workshops – she even asks me if I can give her the contact information of the authorities I have talked with, so she can keep requesting support. She is also aware of the risks of being in charge of evacuating the neighbourhood, but she takes it as a real engagement to her community. 'That's how it is when you are part of something; that's what you have to do. I have to support the neighbours'. It is a model stance not only due to her strong personal commitment

but also in the face of high levels of unpreparedness and risk denialism observed in the areas surrounding El Señor de los Milagros.

While interviewing people living in areas at risk of flooding in Huaraz, I talked with a couple sitting on Gamarra Avenue – one of Huaraz's main streets, near El Señor de los Milagros and very close to the river. The man, in his sixties, confidently told me that they were not the proper people to talk to about flood risks because they lived in another area. When I asked where exactly, he answered that it was 50 metres south of where we were currently sitting, on the same large avenue. He added that the location of his house was a safe area because it was an *urbanización* (a legally recognised neighbourhood) and not an *invasión*. However, all current flood models set the limits of a possible event much farther south than his residence. Furthermore, his house is located within the area destroyed by the 1941 flood. Despite these facts, the legal recognition of his neighbourhood gave him sufficient confidence to think that his part of the city was safe from any danger.

After that encounter, I realised that believing in this form of security is far from an isolated case. For many people, living in a legally constituted area – an *urbanización* – guarantees security that their houses will not be impacted by a disaster such as a flood. What *urbanización* entails, however, varies considerably depending on with whom one speaks. For some people, *urbanización* indeed refers to a legally constituted neighbourhood with a clear recognition of land titles and construction certificates. However, for other people, *urbanización* implies regularised access to utilities like water, sanitation and electricity. The same occurs with other types of infrastructure, such as paved streets and the creation of riverside parks. Bianca, the neighbour from El Señor de los Milagros, believes that the other side of the Quillcay River – the north part – is less dangerous 'because the houses are not attached to the edge. That is why there is a park. So, the relocation would be only for those houses next to the river'. Just like basic services, elements like parks give citizens the feeling that the territory is more inhabitable and, therefore, more stable and secure. The place is provided with a sense of permanence that intersects with discourses of durability while reducing the feeling of instability. The urban becomes permanent and overcomes a temporary condition, like the insecurity that *invasiones* can produce.

Besides legality and the presence of urban infrastructure, the exact location of the houses also plays a fundamental role in defining the levels of security people feel. In front of El Señor de los Milagros, on the other side of the street parallel to the river, is the Malecón Sur neighbourhood. Just like Manuela and Catalina's parents, many people living there arrived in the neighbourhood as children when their parents moved from the countryside to Huaraz looking for better opportunities. People have been living in the same houses where they grew up, sharing it with their siblings and building additional storeys to accommodate new family members. However, unlike in El Señor de los Milagros, the neighbours there tend to present a fairly ambiguous relationship with the flood risk. Although they are aware that their area

is within the *zona roja*, they are confident that a flood would not impact their houses. During an informal conversation, Roberto, one of the neighbours living in front of El Señor de los Milagros, tells me that his house is not a problem because it is 30 metres from the riverbank, unlike the houses located directly on the edge. He sees El Señor de los Milagros as the truly threatened area, the settlement that would be washed away if a flood occurred. But he feels that his house is fine; that the first row of houses at the river's edge protects it. Thus, relocation is completely out of the question for him. Nicanor, a man in his sixties who has lived in the neighbourhood for several decades, feels the same. He is confident that the approximately 50 metres separating his house from the river, and the two rows of houses in between, would impede any flood from reaching his home. He feels protected by those structures, even though his house is located within the area impacted in 1941. For him, relocation is similarly unthinkable.

This form of displacing the flood risks in the area has been a central difficulty in creating an effective response culture amid flooding. The same residents know they are not sufficiently prepared, should an event occur. Américo, a neighbour from El Malecón Sur, is more aware of the risks that living in that area entails, but he considers himself highly unprepared to deal with an emergency – something that he relates to a generalised lack of interest among the population. 'Sometimes authorities do an earthquake and flood drill, and nobody goes out. Everyone is happy in their homes; people are like, sure, whatever. But when it happens, that's when you see how you will react, what you should do', he affirms. The residents do not even know what to expect from the government in such a situation – an uncertainty that is combined with strong feelings of mistrust toward authorities. In the words of Elena, another neighbour from El Malecón Sur, 'there is no help, no help at all from the government. They put everything in their pockets and forget about the rest'.

It is difficult to estimate 'how well prepared' people living close to the Quillcay River in Huaraz truly are. Although several programmes and initiatives in Huaraz have tried to develop a preparedness culture among the population, as we will see in the following chapters, there are no quantitative studies of risk perception and preparedness for the area, no numbers about which neighbourhoods are more and less aware of the threat or how to react amidst an emergency. It is also very difficult to make such an estimation, because the area close to the river is one of the busiest commercial zones in the city – markets, shops and offices are disseminated throughout the *zona roja*. Consequently, the daily flows of people coming from other places in the city are very high, making any assessment of preparedness very challenging.

Many residents say that the Municipality has spoken directly with them to explain what to do in an emergency. Some say they have participated in workshops and talks, while others argue that they have received visual information such as maps or flyers. Despite that information, there are substantial differences in how people define secure areas. Some are based on the limits prescribed by a municipal flood haz-

ard map. Others, as we saw, take into consideration the legality of the sites on which they live. Access to water or energy defines the security of those zones, as does having buildings between their houses and the river. Urban materials, in this sense, can produce diverse forms of security that interact with each other.

People living directly at or close to the riverbank, especially those who lack property deeds or construction certificates, tell me that they are completely willing to be relocated. Many would do it privately, but lack the resources to buy a new house or plot of land. Some are already saving money, planning to leave the area as soon as possible. Most would like to remain in Huaraz and close to the city centre, in order to still have access to jobs and services. But they are also willing to move to other areas on the city's outskirts if the government offers that option. They know, really and truly, how dangerous it is to live where they do. But they do not have the means to change that reality.

Just as in contexts of extreme environmental pollution (Auyero and Swistun 2009), the fear of being evicted without a tangible relocation solution can be even more alarming than the fact of living with an existential threat. In this sense, visions of safety and stability in precarious living scenarios are necessarily entangled with the insecurities that this precarity brings. In this context, any form of stability is welcome, even when people like Catalina and Manuela know it is just 'temporary'. They want a secure future, but security means more than protection against floods. It means a legally recognised place they can leave to their children. 'The only thing we want here is for them to give us security. To be told to stay or to go, but with a title, so that as a mother, I can think for my children. Because one is not eternal, and [I want to] leave something for them', declares María Jesús. They want to live in a safe area to create a stable future in spite of the precarity they face. Their concern is understandable: How to make life projects supported by precarious materialities robust enough to endure time?

Materialising security

Throughout this chapter, we have seen how the project to create model cities from the debris of the earthquake, pushed forward by the revolutionary government of Juan Velasco Alvarado, was soon put at stake. The reluctance of original *Huaracinos* to accept the urban transformations promoted by agencies like CRYRZA and ORDEZA led to constant friction between the government and citizens, eroding any support that officials could lend in cities like Huaraz. Furthermore, the explosive migration experienced in urban areas as a consequence of the earthquake in rural zones hindered the possibility of allocating housing to all the new urban residents. Looking for housing solutions, new inhabitants slowly occupied areas close to the Quillcay River that are still zoned as unsuitable for dwelling. Huaraz experienced consistent urban

expansion throughout the 1941 landslide scar, shattering the dream of creating a city based on modern urbanistic standards along the way.

Construction materials played a fundamental role in this process of urban transformation. Elements like concrete and clay bricks led to new forms of encounters, *tinkus* that perpetuated the figurations taking part in the arrangement of cities like Huaraz. Fearing that the new architectural styles would forever erase the possibility of getting their old city back, the urban *Huaracina* elite energetically rejected the new urban materialities brought by the reconstruction: the government's solution of compact concrete houses, and the *materiales nobles*, which a large part of the population used as an alternative. Materials like concrete and clay bricks continue to be sources of dispute and conflict, but they are also one of the few affordable solutions the population can count on to create a semblance of security in a highly precarious and uncertain environment.

The case of Huaraz is an interesting example of security production that contrasts with classical definitions of the term in the social sciences: the idea of security as a governmental practice of control, and the understanding of it as an ontological, or individual, impulse. According to Michel Foucault (2009), security is one governmental operation that, unlike sovereignty and its orientation towards the territory, or discipline and its orientation towards individual bodies, is oriented towards the population as a whole. The population needs to be secured – secured against itself and internal enemies, but also against external threats like foreign invaders, earthquakes or floods. Producing security, according to Foucault, requires diverse forms of control: practices that aim to produce secured spaces, treat the aleatory condition of uncontrollable events and create standards of accepted normalisation. All these practices are strategies the governmental apparatus applies to deal with the multiplicity that population entails. They are forms of shaping the very notion of population – a heterogenous social group that, despite its differences, can be grouped and quantified *from above* by statistic-driven experts (Desrosières 2002). 'As an artifact of a particular way of counting', Michelle Murphy (2018, 103) suggests, population 'bundles up bodies into a single tally, creating distance and abstraction for a managerial gaze that is then poised to ask, "What should be done about *them*?" It is a formulation that allows the anonymisation of lives into deletable data points'. Security, under these terms, is a form of dealing with the management of the massive, anonymous construction that population entails, putting into concrete practices the compelling impulse to define the standards required to keep society as a safe – or rather salvable – arrangement.

In its ontological sense, security presents a quite different understanding. According to Antony Giddens (1991a; 1991b), ontological security is an individual, inherently psychological, response to the incommensurability that reality involves. 'Ontological security has to do with "being" or, in the terms of phenomenology, "being-in-the-world". But it is an emotional, rather than a cognitive, phenomenon, and it is

rooted in the unconscious', states the author (Giddens 1991b, 92). The confidence that ontological security provides is the capacity to feel a continuous self-identity when dealing with the constancy of socio-material environments and the actions taking place in those surroundings. Security, in this sense, is what allows individuals to rely on persons and things, creating a direct relation with the notion of trust. To feel secure, we need to trust in the other. Risk denialism, under these terms, is not a form of ignorance but a strategy to cope with environments without feeling exposed and lost amid the ambivalences and uncertainties that the world may present.

What the case of Huaraz – and its heterogeneous practices and materialities to create safe and secure environments – shows is that there is always a combination of both impulses – ontological and societal – when it comes to security. Security is more than governmental attempts at control and normalisation. It is also more than individual attitudes driven by emotional responses to the environment. Security entails diagrammatic arrangements, normative approaches delimitating what is secure – like the zoning restrictions imposed by CRYRZA to avoid urban expansion into the 1941 landslide scar. But it also implies machinic assemblages, the socio-material relations that people forge with their direct environments – connection to basic services like water and electricity, together with the alleged protection that houses closer to the river may provide to buildings located behind them. The relationship between residents and materials such as concrete and bricks creates alliances to cope with precarious uncertainty, sometimes mediated by the state, sometimes emerging organically. There are evident tensions between what is enounced as secure and how security is actually enacted. The flood hazard zones defined by CRYRZA were soon crowded with families constructing new places to live. In many cases, people living in the *zona roja* hold contradictory positions about the security of living in those areas. But rather than ignorant or uninformed behaviour, what these tensions between enunciated versus materialised security reveal are the possible strategies employed to cope with the dramatic consequences that life in a highly threatening environment could bring.

Similar to the findings of other studies on risk misinformation and misunderstandings – whether referring to pollution and technological disasters (Petryna 2002; Vaughan 2004; Auyero and Swistun 2009) or to climate change (Norgaard 2011) – denying risk is neither an irrational phenomenon, nor an individual one. It does not necessarily have to do with a lack of information or preparedness. As Kari Marie Norgaard (2011) suggests, denial is mixed with worried emotions of security loss and helplessness, feelings that can lead to articulating security through other means. Those feelings connect with practices and materialities aiming to control those emotions. Finding stability by building four-storey houses to show how prepared a family is to face the future is a clear example of this. The security that materials like clay bricks provide might not be enough to resist the onslaughts of a flood, but it can certainly create a stable future – at least in the short term.

Similarly, having property titles or construction certificates does not necessarily make a house more secure than others against a flood. However, it creates a clear distinction among residents: their situation is stable, unlike an *invasion* of the river's edge.

The cases highlighted in this chapter show that several temporal arrangements coexist in the practices and materialities aiming to produce a sense of security in Huaraz. As neighbours from El Señor de los Milagros show, looking for security implies breaking up with the provisional status that characterises their settlement. Security requires surfing the unstable conditions that temporariness produces. By fortifying the soil separating their houses from the riverbank, changing the materialities of their homes, or having access to basic services, residents living at the river's edge can build a feeling of stability that the location of their homes cannot ensure. The provisional condition of their houses is briefly paused by the material solidity that elements like concrete and clay bricks provide. Those elements do not reduce the risk of a major flood coming from one of the three lakes into Huaraz, but at least they provide residents with legal recognition that can be used to minimally secure their living.

These precarious temporalities of waiting and stability, however, often clash with the temporal constructions that accompany the visions of the traditional and modern city. The idea of the modern Huaraz, a city designed to cope with the danger inherent to the Andean environment, strongly contrasts with the actual city, the cosmopolitan one, which is highly exposed to a possible outburst flood from one of the three lakes threatening it. But the materials used in neighbourhoods like El Señor de los Milagros also strongly clash with another city, the old colonial one destroyed by the earthquake, the one that lives in the memory of survivors. These three cities – the old, the modern and the cosmopolitan – are three visions in constant tension, fed by the memories of an urban elite incapable of letting their old city go, and also the improvised forms of inhabiting an urban space that new *Huaracinos* had to develop.