

This is a preprint of the following chapter: Giulia De Cunto; *Bondings Between Urban Fabric And Capacity Of Collective Resilience: The Case Of Talca Historic Center*, published in: *Historic Cities in the Face of Disasters. Reconstruction, Recovery and Resilience of Societies*; edited by Fatemeh Farnaz Arefian, Judith Ryser, Andrew Hopkins, Jamie Mackee, 2021, Silk Cities; Springer, reproduced with permission of Springer Nature, Switzerland AG 2021.

The final authenticated version is available online at: DOI [10.1007/978-3-030-77356-4\\_20](https://doi.org/10.1007/978-3-030-77356-4_20)

## BONDINGS BETWEEN URBAN FABRIC AND CAPACITY OF COLLECTIVE RESILIENCE: THE CASE OF TALCA HISTORIC CENTER

Giulia De Cunto

### **Abstract**

This paper addresses the issue of the relationship between community's ability to develop mechanisms for collective response to the catastrophe, and the pre-existing settlement model, presenting as a reference the case study of the historic centre of Talca, destroyed by the earthquake that hit south-central Chile in 2010.

Before the earthquake, the historic centre of Talca was the core centre of the city and it was characterized by a certain heterogeneity of artefacts, inhabitants and activities. All around the centre, a series of satellite neighbourhoods began to appear, starting in the 1980s, mainly born from private enterprise without a clear public design, characterized by strong mono-functionality, clear distinctions by income brackets, large commercial buildings and large road infrastructures.

The reconstruction has encouraged the development of these new districts, while the centre is being reconstruct in an uneven way: in part it has been destroyed, partly interested by densification interventions. Even though the historical nucleus is not so clearly recognizable today, the liveliness of the centre's public life has succeeded in resisting, for a while, through the mobilization of the inhabitants in defence of some symbolic buildings. Particularly interesting is the process that led to linking the building of the Escuelas Concentradas to have the same function and form that it had before the earthquake, through a mobilization around the value of public and inclusive school.

The results of the study highlights the connection between settlement pattern and ease of relationship among the inhabitants, how a process of collective awareness in the post-catastrophe is closely linked to

the pre-disaster scenario, as amply emphasized in the literature, how complexity of the daily practices and relationships that develop in the historic city are, at the same time, a tool for mitigating social risk.

**Keywords:** reconstruction – collective resilience – urban policies – Talca – 27F

## 1. Introduction

On the 27<sup>th</sup> of February 2010 an earthquake with 8.8 magnitude, followed by a tsunami, known as 27F, strongly affected central-southern Chile, the epicenter of the earthquake was recorded in Cobquecura, in the region of Bío-Bío, which together with the Maule was the most affected. There were 521 deaths and 56 missing persons. The material damage to the houses was of 370'000 destroyed or damaged houses and 2 millions of affected people (Gobierno De Chile, 2010).

The day after the catastrophe, President Bachelet declared the state of calamity of the two most affected regions and launched an internal campaign to raise funds to face the emergency, which managed to finance 30 thousand emergency housing. From March 11, the presidency of the Chilean Republic passes to Sebastián Piñera, who as soon as elected was facing the emergency for a catastrophe of such magnitude and that managed the reconstruction chasing efficiency and speed. The working method for drafting the Plan General de Reconstrucción was to entrust the decisions to the existing Ministries and to the institutions already present in the territory, while a Committee for Reconstruction was in charge of directing and coordinating the plans drawn up by each Ministry. The physical reconstruction of a large part of the destroyed building heritage was the responsibility of Ministerio de Vivienda y Urbanismo (MINVU). Its specific plan aimed to move from emergency to reconstruction as quickly as possible, in line with the policy from the beginning carried out by the Government. At the local level, the reconstruction plans for each affected area, were not necessarily drawn up by the Municipalities, very often they were delegated to third parties, even private ones, and were of an indicative and non-binding nature. This basically produced differentiated effects on the territory, from a municipality to another.

In the case study of Talca, capital of the Maule region, the city has undergone substantial transformations beyond the control of the public actor, which have emptied the historic centre and fed the city spread all around.

This paper investigates what the inhabitants of the historic centre have lost and felt in this process, what meanings some of the collective actions taken by the inhabitants in defence of some symbolic places

could take and what effects these transformations have produced in the collective dynamics of the future city.

The study was conducted through direct observation of the spaces, a series of field interviews to activists, academics and local politicians and a bibliographical research concerning the sociological aspects of the disaster and the literature produced on the specific case of Talca.

## **2. Talca case study**

### **2.1. Talca before the earthquake**

Talca is the most important urban centre in the Maule region ( central Chile), of which it is also the capital. The city was founded in the middle of the eighteenth century in the central valley of the country, between the Cordillera and the coast, in the communication corridor today corresponding to Rota 5, following the usual geometric mesh composed of *manzanas* (lots) of 120x120 m. At the beginning of the 19th century the city began to take on relevance on the national scene thanks to the political fervour generated by the struggles for Chilean independence. In the course of the century it passed from being an urban centre, linked to the church, to a small town full of services, commercial activities due to agricultural exportation and a lively cultural life. At the beginning of the 20th century three important interconnected factors marked a great growth of the city: industrialization, campaign-city migrations and reconstruction after the 1928 earthquake (which had destroyed more than 75% of the existing buildings).

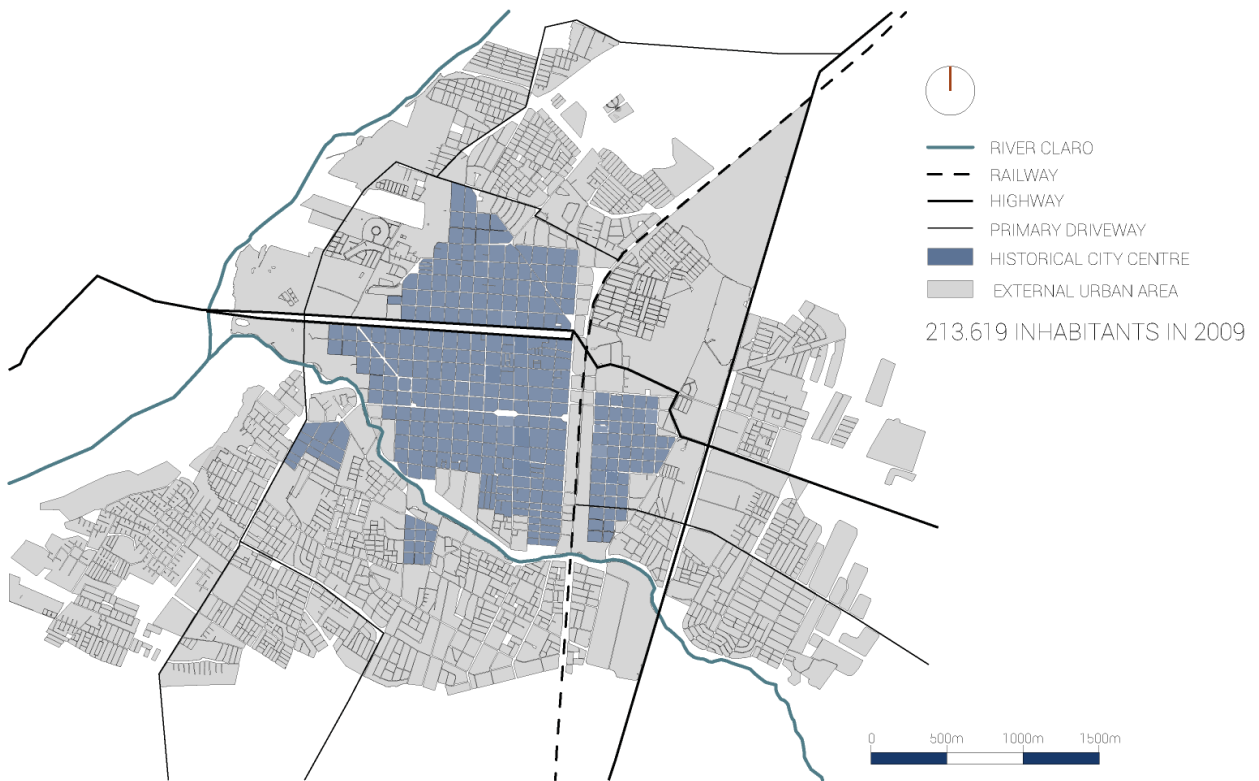
The new industrial establishments positioned themselves around the limits of the historical centre, it was above all manufacturing productions encouraged by state resources, which involved the use of technologies sufficiently developed for the time. The industries attracted workers from rural areas that increased the demand for housing and services. In the midst of this process the 1928 earthquake arrived, the reconstruction was a long process, which attracted new workers, but at the same time that took charge of answering the request for accommodation of the new arrivals. In fact, inside the historic centre numerous public housing complexes were built modifying its structure, dividing the measure of a *manzana* into smaller housing units. As a result of this structural change, due to the layout of the new seismic regulations (which favoured the tiling of the buildings, creating two-storey curtain walls) and given the freedom in the architectural design that the reconstruction legislation left, the historic centre changed its face (Bustamante Silva, 2011), but it re-born more populated and more heterogeneous than before.

Substantially the structure of the historical centre did not undergo radical changes until the new earthquake of 2010 but, outside of it, the city began to expand horizontally starting from the Seventies, when the urban policy of the Military Regime established that the urban ground it was not "a scarce commodity" and its price had to be fixed by the real estate market (Letelier, 2015). Thus, new large-scale

urban objects arose such as shopping malls, highways, mega-parkings. On the outskirts, neighbourhoods were built for low-income families and, in distinct sectors around the centre, neighbourhoods for the upper-middle class. Different and non-connected interventions, all designed according to a new logic: it is not public planning that drives but private interest. This new city, with its new conception of mono-functional spaces, ended up designing a space of segregation, a series of "non-places", which contrasted with the fifteen neighbourhoods of the historic core, where urban quality continued to be high, despite the change of political vision. The historic centre, which in 2010 represented only 20% of the urban area, was still the centre of public investments, services and cultural activities; public space, in particular green, kept high standards and above all the social fabric continued to be strongly heterogeneous (Letelier & Rasse, 2013). The 2002 census indicated that half of the inhabitants of the historic centre belonged to income groups D and E<sup>1</sup>, families in economic difficulty or in poverty. For these families living in the nerve centre of the city was a precious resource: it meant having direct access to the opportunities that are physically positioned in the centre, as well as a possibility of integration given by the diversity of social backgrounds that coexisted in the same place, combining diversity of models, of information, of experiences (Letelier & Rasse, 2013). As in the rest of the Chilean cities in Talca, there was a problem of housing deficit that led lower-income families to live in sublet or in conditions of *allegados*, that is people living in houses belonging to friends or relatives, without a formal recognition of this condition.

---

<sup>1</sup> Socio-economic groups are classified in Chile as: AB high class (average monthly income per family 4.386.000 Chilean Pesos corresponding to 5911.77 €), C1a upper middle class (2790.10 € monthly per family), C1b emerging middle class (€ 1851.98 per family per month), C2 typical middle class (€ 1091.78 per month per family), C3 lower middle class (€ 677.98 per month per family), D vulnerable (€ 413.80 per month per family), and poverty (€ 212.96 per month for family). Source: <http://www.emol.com/noticias/Economia/2016/04/02/796036/Como-se-clasifican-los-grupos-socioeconomicos-en-Chile.html>



Map of Talca, 2009\_ Author's elaboration

## 2.2. Earthquake and reconstruction

On the night of February 27, 2010, an earthquake capable of altering the inclination of the earth's axis by eight centimetres, upset central Chile but, to create even more damage, was the subsequent tsunami that struck the coasts from the fifth to the ninth region. An earthquake among the five most intense ever recorded, 8.8 degrees on the Richter scale.

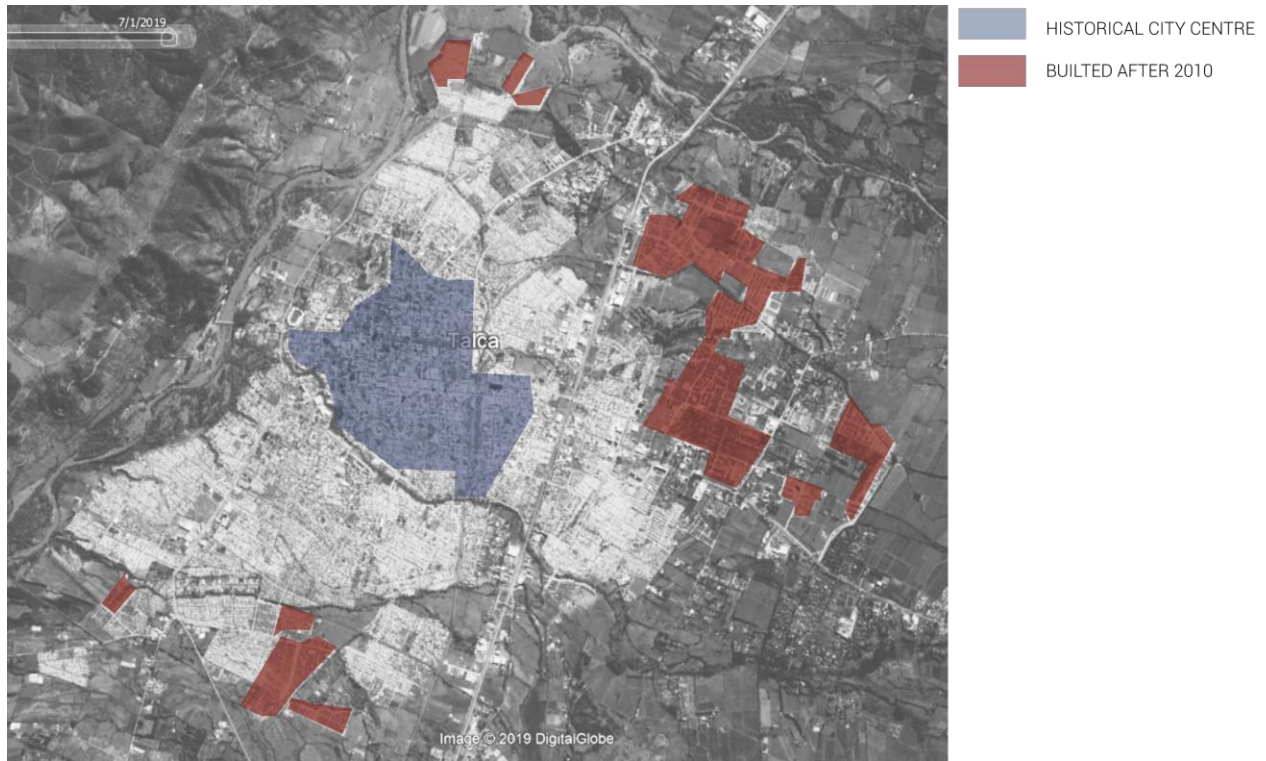
The city of Talca was among the most affected by the earthquake, 24.2% of the population saw their homes destroyed or fortresses damaged (Ministerio de Planificación, 2010). To record the highest level of damage, also for reasons of building degradation, was the historic centre. In the official land registry of the damage considered by MINVU (Ministerio de Vivienda y Urbanismo) the damaged houses are 3'500 and the people affected 8'457 (El Bosque S.A. & Polis Arquitectura Urbana, 2013). According to studies carried out by the Universidad de Talca and by the NGO Surmaule should be made a correction of the damage balance that would bring the damaged houses to at least 6'000 and the families affected not owners of the houses to about 2'000 (Letelier, 2015).

After the first emergency, the debate on reconstruction in Talca started from the citizens. A discourse with increasingly political content was emerging, supported by some NGOs and associations in the area, which proposed a different way of thinking about reconstruction, with respect to the government's focus on speed. This counter-discourse materialized with the proposal by the Talca College of Architects and some technical associations to form a Local Consortium that would take over the reconstruction plan of the city, a proposal that was first moment well accepted by the administration. However, after a week the denial came, with the news that Talca's plan would be developed, as in other cities, by a real estate group<sup>2</sup>, in this case El Bosque. The initiatives that sought a change of perspective, with respect to the reconstruction in progress, went on and were ever larger, it was never a mass movement, but what then became known as *Movimiento Nacional por la Reconstrucción Justa*, succeeded in overcoming the regional boundaries up to bringing to the parliament instances that claimed a right to the city that was not protected. The PRES (Plan Maestro de Reconstrucción Estratégica Sostenible) of Talca, in the meantime, was drafted as intended by the private society and, besides not being binding, it only indicated some specific projects such as the recovery of the central market building, the establishment of a park on the river Claro, a road repaving and as the only two urbanistic addresses a recovery program of the historical building with a continuous façade and a densification in some sectors of the centre. The historical building program, for the centre's typical buildings recovery, did not have a very favourable outcome, in fact very few inhabitants chose to reconstruct according to the suggestions given, while the densification program was seen by the Municipality as an opportunity to redevelop and builders as an interesting opportunity, significantly transforming some parts of the city.

Little of the historic centre has today been reconstructed and those who rebuilt it, did so as they preferred. Instead, the city as a whole grew after the earthquake outside its historical nucleus and on the model of the neoliberal city that was already developing before the earthquake. Many of the inhabitants of the centre have therefore moved to the new neighbourhoods outside, because the economically accessible real estate offer for the lower classes has moved to the newly built neighbourhoods. If it is true that these inhabitants have today, in some cases, a more technologically valid house than the previous one, it is also true that they have had to give up the integration opportunities given by the previous location and access to services and culture that living in the historic centre offered them. Although after the Talca earthquake lost much of the public space that characterized the centre in the past, public life has continued for some time to resist in the battles of citizens for a more careful reconstruction and in defence of some symbolic places of the city, such as the one concerning the buildings of the *Escuelas Concentradas*.

---

<sup>2</sup> From an interview with Stefano Micheletti, ONG Surmaule, Universidad Católica del Maule, (25/10/2017)



Configuration of Talca, 2019\_ Author's elaboration

### 2.3. Citizens Action In defence of the Escuelas Concentradas

In one of the central lots of the historic centre of Talca, were located the public women's and men's schools Escuela Superior de Niñas President José Manuel Balmaceda y Fernández and Escuela Superior de Hombres Carlos Salinas, known in the city as Escuelas Concentradas, because here, historically, since 1928, different parts of society have been concentrated<sup>3</sup>. While the educational system in Chile tended to be increasingly privatized, the Escuelas Concentradas offered a good level of public education and above all an opportunity for integration that reflected the qualities of the place where they were located.

The 2010 earthquake severely damaged these two buildings and, when parents and teachers realized that the reconstruction of these buildings would not start soon, they began to organize themselves, to meet local politicians, to seek the support of NGOs, to collect signatures so that they would not be demolished. In the meantime, the mayor Juan Castro had expressed the desire to allocate the school lot

<sup>3</sup> From an interview with Patricio Uribe, in charge of the reconstruction in Talca SERVIU Maule from 2014 and activist of NGO Fundación Superación de la Pobreza. (18/10/2017)

to a civic centre, which combined with the reactivation of the adjacent market would have constituted "an important centre of development for the regional capital" (Letelier & Boyco, 2013). PRES's indications were to move the school by suggesting, for that land, the design of a new infrastructure. The citizens sought the support of the Ministry of Education, succeeding in obtaining a repair fund that allowed the beginning of the works in September 2012. In October, the works stopped but this case did not rise concern in the first place, considering it a normal construction site delay. The surprise came when, through various media, the citizens learned that the mayor announced that he would vote in the Council to revoke agreements with the Ministry of Education and that he intended to demolish and rebuild schools to have a more modern one. The Municipal Council of February ordered the actual demolition of the buildings but the movement of parents and teachers, which had by now succeeded in involving even those not directly concerned, succeeded in blocking the works by submitting the case to the Talca Court of Appeal, then turning to the Supreme Court and starting to make contact with the National Monuments Council. In fact the real victory came through the strategy of having the Escuelas Concentradas recognized as a national monument in April 2013, thus obtaining that the reconstruction should take place in a manner consistent with the existing one and above all that the school could neither be delocalized nor change its intended use. Today there is a reconstruction project and the funds allocated to restart schools but the works have not yet started.

The community that formed around the defence of school buildings was able to keep the mobilization alive for about three years but above all to animate the public space in front of the schools. This space has indeed remained as a reference in the current life of the semi-deserted historic centre. Strolling through the Cienfuegos square, a market is located, it is possible to meet groups of youngsters talking, smoking, playing, an unexpected sense of normality characterizes this space, despite the imposing building on the bottom of the square shows evident signs of the earthquake's destruction.





### 3. Findings: collective action as a tool for reconstruction

The mobilizations of Talca's historic centre citizens in defence of Escuelas Concentradas have not only had a political value in the post-earthquake scenario. Indeed, this collective action reveals some aspects of no small importance: first of all the citizens of the historic centre were able to clearly recognize the social value that the schools represented for the city and to mobilize effectively to defend it, demonstrating not only capacity of self-organization but also a level of consciousness with respect to collective problems that cannot be taken for granted. Secondly, the mobilization led to the recognition of the Escuelas Concentradas as a National Monument, not only for the architectural value of the building but for the symbolic value that these spaces had assumed for the community of reference, opening a reflection on the meaning of conservation and transformation in a post-earthquake context. Starting from these considerations we will below investigate its roots and implications.

### 3.1. Settlement model and collective opportunities

As previously mentioned, in the process of rebuilding the city of Talca, many of the inhabitants moved from the historic centre to the new residential districts. Particularly affected by this phenomenon were the families who did not own their own house. Those who lived before the earthquake in condition of tenants and *allegados* had only access to reconstruction subsidies for construction in new sites during reconstruction. The real estate offering accessible to them, was outside the consolidated city, where real estate companies had already acquired land before the earthquake. Even for property owners families, it was not easy to rebuild their homes where they were and with the characteristics they had before the earthquake: most of the destroyed houses had a large size and the state subsidy did not allow them to rebuild while maintaining this feature. Some of these families then decided to slowly rebuild one part at a time, others decided to rebuild a smaller house, others to move and dwell totally different houses from those they had before, outside the historic centre (Letelier & Rasse, 2016). Of the families that received a subsidy for the reconstruction in Talca, one in four was relocated (Ministerio del Interior y Seguridad Pública, 2014). A substantial part of the inhabitants went from living a complex, layered and characterized by strong functional and social *mixité* settlement model, to a simpler and more schematic one, made up of houses in series, large road arteries, large commercial objects and little integration. In the city new configuration, would it be possible for the inhabitants to implement a mobilization like the one in defence of the Escuelas Concentradas?

The answer to this question is not absolute, but there are important reflections that could give us the strong doubt that this is not the case. The complexity of urban forms also highlights a complexity in the processes that generated them, in the activities that keep them alive and therefore in the relationships, opportunities and practices that they underlie. Implementing an urban model that aims at homogeneity, offering standard housing solutions and reconstructing based on the needs of the housing offer alone, also means giving up the values of complexity, favouring exclusion. As Richard Sennett writes:

*"Exclusion ... also involves simplifying the look and construction of the place so that the place fits one kind of person, but not others. Mixed forms and uses invite mixed users. While in a stripped-down environment, the more form becomes simple, clear and distinct, the more it defines who belongs there and who does not."* (Sennett, 2018)

In the case of the Escuelas Concentradas the historic centre community of the defended the value of integration: it was a community accustomed to live in an area of integration that defended the opportunities that can be found in growing up and being educated in a context of diversity . The communities that are settling down, the young people who are forming themselves, in the spaces of

segregation, may not find spontaneous to defend a value that does not belong to the place in which they live.

This aspect appears particularly relevant in the context of the post-earthquake because the tendency to simplify is a risk that is easily linked to the need to provide quick answers to the settlement problems generated by the earthquake, it is in fact recognized that the earthquake generates processes of acceleration of the obsolescence of central areas (Letelier & Rasse, 2016).

The same risk that the inhabitants of Talca run in the loss of complexity during the transition between pre and post-earthquake, is the same as that the inhabitants of L'Aquila, a city in central Italy, strongly devastated by the earthquake in 2009, are living. L'Aquila before the earthquake, in the last 50-60 years, was already experiencing a process of urbanization of the peri-urban area outside the historic city, which in the meantime was also slowly being emptied of administrative functions and services. After the earthquake, a joint set of circumstances meant that this phenomenon accelerated (Olori & Ciccozzi, 2016). Decisive was the prolonged safety measure (red zone) that has forbidden the historical centre's fruition to its inhabitants, with various modifications this lasted about ten years. To this, was added the fragmentation of emergency solutions and their uneven location on the territory. In particular, the experimentation of the CASE modules contributed to the proliferation of the widespread city: a model of emergency housing not entirely temporary but not planned as new complex settlements, located in areas not yet urbanized and therefore clearly outside the primary urban nucleus and its opportunities. These buildings are in fact built with permanent foundations but they are thought of as a temporary solution for the earthquake victims, during the period in which their houses are being rebuilt. A temporary housing, but permanent on the territory and not removable, of which it is not clear which is the destination after the emergency (Forino, 2012). Even if only temporarily, but still with the risk of sedimentation, some of the inhabitants of the historic centre of L'Aquila find themselves in the same condition as those of the old town of Talca, in the reconstruction process they have not only lost their homes but also the profound essence of their collective life.

### **3.2. The value of continuity**

Starting from the mobilizations in defence of the Escuelas Concentradas, it can be observed how the possibility of triggering similar processes of urban mobilization is linked to the pre-existing social context of the historic centre of Talca, characterized by a substratum of relations built in over 150 years of history (Gac & Micheletti, 2013). Literature on disasters in the sociological field, generally agrees in affirming that *“every disaster is the result of a previous development of specific dynamics and social choices, which have implications in the moments resulting from the impact of the post-emergency and*

*reconstruction*"(Lucini, 2017). There is therefore a direct relationship between before and after the disaster, even if the impact of this on the structure of the place causes a rupture, a discontinuity, on the level of the social customs of the community and on the physical plane, in the forms of the built environment.

In the processes that are triggered between the before and the after the catastrophe, the construction of a link between the past and the future is played, both on the immaterial and on the material level. On the immaterial level, communities may be able to reorganize and respond to the difficulty. Fois and Forino (Fois & Forino, 2014) define the "*reaction from below, spontaneous, to an external shock*" as community resilience, connecting the response to the catastrophe with the autonomy of the community, with local resources and with the capacity to organize. It is not automatic that all communities develop a capacity for resilience, the possibility of implementing this process of "*self-repair*" (Spagnuolo, 2017) in this space of discontinuity, depends in fact on the possibility for the communities to have access to the resources that they need, from knowing how to exploit ties, from maintaining networks and more generally from the awareness of being able to make decisions for itself.

On a physical level, professor Cavalli studies (Cavalli, 2005), show how communities deal with discontinuity mainly by operating a removal mechanism, in some cases of the past before the catastrophe, reconstructing with new forms and with the will to start again from a promising future, on the other removing the catastrophe, with the will to rebuild everything as before on the ideal of a glorious past. Then there is a third way, the "*selective reconstruction*", which implies the faithful reconstruction only of certain symbolic elements around which to reconstruct the collective identity. In this case, discontinuity becomes an opportunity to redefine identity but taking into account both the past and the future of the place. The choice to keep some elements as memory, takes place intentionally and is part of the process of recovery.

In the case of the Escuelas Concentradas, around this building and the collective values that this represented, the community of the historic centre has reconstructed its link between before and after. They wanted to bring back, into the future configuration of the city, a key element of their past, thus elaborating the catastrophe, choosing to keep that precise architectural element as it was. This brings us back to a reflection on the value of material heritage in the context of reconstruction. The clash between transformation and conservation of buildings is the discourse that captures the scene of most debates on reconstruction but, usually it concerns buildings or even just built elements of architectural value. When in the reconstruction question ourselves on whether and what to maintain of the material heritage it would be rightful to ask ourselves what is the collective and symbolic value that that heritage assumes, not only from the point of view of architectural value but also in its functional and symbolic characteristics. The inhabitants of Talca wanted the schools to remain exactly what they were from a substantial point of view,

in fact they did not ask only for their physical recovery but above all for the recovery of their original functions.

### **3.3. Conclusions: complexity in settlement models as a measure of reduction of social risk**

Post-earthquake reconstruction often works as accelerators of socio-territorial dynamics already in place in the territory (Olori & Ciccozzi, 2016). The central areas of the cities of Talca and L'Aquila, which had already been affected before the catastrophe by phenomena of emptying the meaning of the historical centres, in favour of the city spread around, underwent an extreme of this dynamic with the earthquake. This impoverishment of the role of the centre, which coincided with the lack or too slow physical reconstruction of this, has strengthened and enlarged the widespread city. The settlement pattern made up of complex forms of the historic centre, whose value in relation to the quality of life of the inhabitants was clarified in paragraph 3.1, was abandoned in favour of simpler settlement patterns, which does not encourage integration and collective action. The processes of spontaneous activation of the community linked to physical space, as in the case of Talca's Escuelas Concentradas, constitute a valuable resource in post-catastrophe scenario in countering the effects of this territorial dynamics. At the same time this spontaneous processes allow establishing a connection between the life of the place before and after the catastrophe, and they should therefore be encouraged.

However, the possibility of implementing this kind of collective response is closely linked to the previous situation in the territory, in terms of relationships quality and social organizations. In the contexts in which reconstruction is conducted with simpler settlement models than those characterizing the city before the earthquake, the future possibility of developing mechanisms of collective resilience in response to the catastrophe is also reduced. Maintaining complexity in the reconstruction, constitutes therefore a measure of reduction of social risk in anticipation of new possible disasters.

## **References**

Bustamante Silva E., 2011. Evolución y desarrollo urbano del centro histórico de Talca, Universidad del Bio – Bio Facultad de Educación y Humanidades.

- Cavalli A., 2005. Tra spiegazione e comprensione: lo studio delle discontinuità socio-temporali. In: Borlandi M., Sciolla L.(eds). *La spiegazione sociologica. Metodi, tendenze, problemi*. Il Mulino.
- El Bosque S.A., Polis Arquitectura Urbana, 2013. Pres Talca, Comuna de Talca, Región del Maule
- Fois F., Forino G., 2014. The self-built ecovillage in L'Aquila, Italy: community resilience as a grassroots response to environmental shock. *Disasters*, John Wiley & Sons.
- Forino G., 2012. Riflessioni geografiche sul disaster management all'Aquila. *Semestrale di Studi e Ricerche di Geografia*, Roma - XXIV, Fascicolo 1, January-June 2012.
- Gac D., Micheletti S., 2013. El riesgo y el derecho de (re)construcción social de la ciudad. Los sin tierra en Talca. UCMaule - Revista Académica N°44.
- Gobierno De Chile, 2010. Plan de Reconstrucción Terremoto y Maremoto del 27 de febrero de 2010. [https://www.preventionweb.net/files/28726\\_plandereconstruccinagosto2010.pdf](https://www.preventionweb.net/files/28726_plandereconstruccinagosto2010.pdf)
- Letelier F., 2015. Talca. Relocalización de familias damnificadas en Talca, in Columbia-Chile Fund De Columbia Global Center Santiago Y Conicyt, *Learning from 27 F. A comparative Assessment of Urban Reconstruction Process After the 2010 Earthquake In Chile*. <https://globalcenters.columbia.edu/sites/default/files/content/santiago/PUBLICATIONS/Learning%20from%2027F%20gm.pdf>
- Letelier F., Boyco P., 2013. Talca a tres años del terremoto: aprendizajes colectivos para la acción en la ciudad. *Temas Sociales*, SUR Corporación de Estudios Sociales y Educación.
- Letelier F., Rasse A., 2013. El proceso de reconstrucción de viviendas en el centro de Talca : fotografía a dos años de la catástrofe. *Revista Invi 77 Interior.indb 139*.
- Letelier F., Rasse A., 2016. Política de Reconstrucción y Desplazamiento: el caso de las familias de bajos ingresos del centro de Talca. *Revista de Urbanismo N°35*, Departamento de Urbanismo – FAU - Universidad de Chile.
- Lucini B., 2017. Il terremoto a L'Aquila, la resiliencia sociale e territoriale nel post sisma. In Mela A., Mugnano S., Olori D.(eds) *Territori vulnerabili. Verso una nuova sociologia dei disastri italiana*, Franco Angeli s.r.l, Milano.
- Ministerio del Interior y Seguridad Pública, 2014. *Diagnóstico estado de la reconstrucción terremoto y tsunami 27 de febrero de 2010*. Delegación Presidencial para la Reconstrucción, Santiago. <http://www.observatorioreconstruccion.cl/wp-content/uploads/2014/06/Informe-27F.pdf>
- Ministerio de Planificación, 2010. *Encuesta Post Terremoto: Principales resultados. Efectos en la calidad de vida de la población afectada por el terremoto/tsunami*. [http://www.desarrollosocialyfamilia.gob.cl/pdf/upload/3\\_ENCUESTA\\_POSTTERREMOTO\\_RMS.pdf](http://www.desarrollosocialyfamilia.gob.cl/pdf/upload/3_ENCUESTA_POSTTERREMOTO_RMS.pdf)
- Olori D., Ciccozzi E., 2016. L'Aquila città in frantumi: la ricostruzione come acceleratore delle dinamiche socio-spaziali. In Castriganò M., Landi A.(eds) *La città e le sfide ambientali globali. Sociologia urbana e rurale*, Franco Angeli, Milano.
- Sennett R., 2018. *Building and Dwelling: Ethics for the City*, Farrar.
- Spagnuolo S., 2017. Le alluvioni un disastro ambientale annunciato: il caso di Benevento. In: Mela A.- Mugnano S.- Olori D. (eds) *Territori vulnerabili. Verso una nuova sociologia dei disastri italiana*; Franco Angeli s.r.l, Milano.