

Sociospatial ties and postdisaster reconstruction: An analysis of the assemblage in the mega-fire of Valparaíso

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Funding information

ANID/CONICYT-FONDECYT Regular, Grant/Award Number: 1181429

Abstract

Disasters affect sociospatial links in a dynamic and unstable meshwork of aspects that are reconfigured. In this sense, accounting for this complexity is central to analyze the transformation of the sociospatial linkage of the affected people and communities. Addressing from community environmental psychology, we propose the concept of assemblage to guide a situated reading of subjective, material, and community aspects present in a reconstruction process after a disaster. Following a qualitative methodology, using spatially referenced narrative interviews ($n = 16$) and thematic analysis, it is described how these links are presented in a community that lived the mega-fire of a part of the city of Valparaíso in Chile. The results describe that the experience of being a community is a variable flow within a process defined by an ever-emerging configuration of spatial, technological, personal, social, and sensory characteristics. We conclude by pointing out the qualities of the communities when considered from an assemblage perspective.

KEYWORDS

assemblage, community, reconstruction, socionatural disasters

1 | INTRODUCTION

Experiences of socionatural disasters play a key role in the life of a community (Cox & Perry, 2011), as they have an effect on place identity and place attachment (Berroeta & Pinto de Carvalho, 2020; Ruiz & Hernández, 2014) that is not limited to the occurrence of the event, instead of casting a shadow over the reconstruction or demolition process (Silver & Grek-Martin, 2015). The loss of a place due to a disaster is a source of stress, pain, and disorientation (Ruiz & Hernández, 2014), but can also encourage communities to resist in a variety of ways (Scannell, Cox, Fletcher, & Heykoop, 2016). The collective effort and the social support constructed during the recovery process facilitate psychological restoration (Li, Sun, He, & Chan, 2011), just as attachment can facilitate people's reconnection to a place and its uses, along with promoting decisions linked to reconstruction (Cox & Perry, 2011).

In consequence, the impact on a community goes beyond the individual level: It results in sociocultural, socioeconomic, and political changes (Miller & Rivera, 2010) that, as pointed out by Cox and Perry (2011), configure a new reality framework created by the disaster. In the territories hit by them, socionatural disasters and their associated interventions articulate a variety of elements derived from such wide-ranging domains as the material characteristics of the place, the neighbors' level of organization, available connectivity, and/or the social policies implemented. Therefore, we propose that environmental transformations resulting from disasters affect socio-spatial ties in a dynamic framework that can be regarded as a set of unstable configurations of spatial, discursive, symbolic, geographic, corporeal, architectural, and affective aspects triggered by the disaster.

In this context, understanding the impact of a disaster requires an approach that transcends psychological perspectives focused on the strength of emotional bonds or the symbolic relationship formed by experiences and beliefs, or discursive points of view centered on the speech- and text-based performativity of social practices. In this regard, sociomaterial perspectives, according to which human and non-human processes or entities belong to the same level of relationships, affection, and reciprocal configuration (Law, 1999), seem to us a suitable framework for understanding how disasters configure communities' experience of them. We consider that addressing both material and nonmaterial aspects is essential for analyzing the complexity of the reconfiguration of the sociospatial ties of people affected by socionatural disasters.

It is essential to understand these bonds to guide the planning of prevention and reconstruction efforts informed by the territory's tensions and response dynamics, so as to respect communities' rights, meanings, and ways of life (Berroeta, Carvalho, & Di Masso, 2016; Berroeta & Pinto de Carvalho, 2020; Scannell et al., 2016; Scannell, Cox, & Fletcher, 2017).

In this article, we argue for the pertinence of a form of environmental community psychology to analyze the production of sociospatial ties in contexts of postdisaster reconstruction. We use the concept of *assemblage* to propose a situated reading of subjective, material, and community-related aspects of the relationship that people hit by a disaster establish with their place of residence. The article presents results from a research project (number anonymized) that, using a qualitative methodology, describes these bonds in a community affected by a massive fire that engulfed part of the city of Valparaíso, Chile.

2 | SOCIOSPATIAL BONDS

Environmental community psychology, as pointed out by Montero (2004), lies between environmental and community psychology and explores the interaction between sociophysical dimensions and community dynamics. This connection between two disciplinary fields is approached in two ways: First, by generating an integrative reflection that starts from a community's meeting point; second, by analyzing the epistemological assumptions of the constructs "space," "environment," and "community space" in these two fields, exploring the overcoming of the subject-space dichotomy (Berroeta, 2007; Berroeta & Pinto de Carvalho, 2020).

We attach a classic definition of community, based on the link with a geographical territory (Gusfield, 1975), thus forming a symbolic community, in which its members are integrated by belonging to a geographical space, establishing emotional ties, personal intimacy (Chavis & Newbrough, 1986; Cronick, 2002; Rappaport, 1980; Wiesenfeld, 1996), giving importance to local territory for the construction of the knowledge (Bishop, Sonn, Drew, & Contos, 2002; Dutta, 2016).

From this definition of community, we can dialogue with conceptions that propose an assemblage in the definition of community with the natural place where they are located. (Kasper, 2008; Sanguinetti, 2014).

In this regard, we consider that the environment–community link entails a differentiation with respect to the traditional—and predominantly sociocognitive—psychological approaches, adopting a transactional subjectivist perspective (Guba & Lincoln, 1994). This distinction is linked to the core principles advanced by Wiesenfeld (2001), who views the connection between environmental psychology and community psychology as follows:

We cannot conceive of the existence of human beings without a spatial point of reference, nor can this space exist without people (...) we cannot conceive of the environment as an objective reality, separate from our way of accessing it; instead, the intersubjective reality that people construct in their social interaction (...) multiple contexts and experiences generate a variety of meanings related to the environment, and these experiences are historical and dynamic. (p. 7)

Although the literature providing a conceptual analysis of the articulation of these two fields is limited (Berroeta, 2007; Berroeta & Pinto de Carvalho, 2020; Manzo & Perkins, 2006; Wiesenfeld, 2001), numerous applied experiences have been reported. In general, the processes of place attachment and those of communities have been explained from a variety of conceptual standpoints, all of which—to varying extents—revolve around people's belonging to their environments and their active or passive participation in them (McMillan & Chavis, 1986; Proshansky, Fabian, & Kaminoff, 1983; Scannell & Gifford, 2010; Silver & Grek-Martin, 2015; Vick & Perkins, 2013; Vidal & Pol, 2005).

The person–environment bond has been explained from a variety of conceptual perspectives: Sense of community (McMillan & Chavis, 1986), place identity (Proshansky et al., 1983), and place attachment (Altman & Low, 1992), whose limits are so diffused (Vidal, Valera, & Peró, 2010) that the recent psycho-environmental literature (Casakin, Hernandez, & Ruiz, 2015; Lewicka, 2011; Scannell & Gifford, 2010) has largely chosen to use the concept of “Place Attachment” to refer to the whole set of psychological ties that people establish with places.

Following this “psychologicistic” position, we can distinguish the predominance of two approaches in the literature: One, empirical positivist and one holistic, the latter being more closely related to qualitative perspectives. In the empirical positivist tradition, place attachment is defined as “an affective bond that people establish with a certain place, where they tend to remain, feeling comfortable and safe” (Hidalgo & Hernández, 2001, p. 274). This affective bond can be developed at several levels, involving places such as one's home, neighborhood, or city (Vidal et al., 2010), although research has generally focused on the neighborhood (Hernández, Hidalgo, & Ruiz, 2014). These studies tend to employ scales, whose items commonly refer to respondents' emotional attachment to a place (Hernández et al., 2014). These studies have been largely aimed at examining the significance of the place rather than its meanings (Stedman, 2003); that is, they have stressed the subjective importance and strength of people's emotional connection to places, but revealing little about what places mean (Lewicka, 2011).

The second holistic view of the person–environment bond (Altman & Low, 1992) suggests that space attachment comprises the affects, emotions, feelings, beliefs, thoughts, knowledge, actions, and behaviors associated with a place, which can vary in terms of scale, tangibility, or specificity; actors (people, groups, or cultural collectives); social relationships (interpersonal, community, or cultural, with which people connect through the place); and time (past, present, and future, which are of a cyclic nature, with recurrent meanings and activities). From this perspective, place attachment is defined as “the symbolic relationship that people establish with a specific space through culturally shared emotional and affective meanings (associated with said space), which lays the

groundwork for the individual and group understanding of the environment and people's relationship with it" (Low, 1992, p. 138). This means that the symbolic relationship with spaces is formed through experiences and beliefs. Research conducted from this perspective is chiefly qualitative and, in contrast with the cognitivist approach, has sought to understand how places acquire significance. Lewicka (2011) distinguishes two qualitative approaches in this tradition: A group constituted by a varied repertoire of verbal techniques (e.g., in-depth interviews, focus groups, and free association) and a second group of studies that employ graphic techniques (e.g., photographs, maps, and cartographies).

As we have noted (Berroeta, Pinto de Carvalho, & Di Masso, 2017), this "psychologicistic" tradition has been recently complemented by an emergent discursivist branch in psychoenvironmental studies, which is mainly interested in the discursive processes whereby the meaning of places is produced. On the basis of constructionist premises, it is assumed that our analysis of people's affective bonds with space must focus less on internal, stable psychological structures and more on the linguistic practices through which people create, negotiate, and challenge the descriptions and assessments of the person-space relationship. In this regard, we follow the suggestions made by Bonaiuto and Bonnes (2000), for whom the analysis of the person-place relationship opens up a range of new possibilities if one explores the discursive and rhetorical strategies used to construct a variety of versions of the person-environment relationship, along with its associated social, moral, and political implications. Di Masso, Dixon, and Durrheim (2014) systematize this discursive perspective that is directly applied to the person-environment bond.

From this perspective, place attachment is regarded as a culturally available resource deployed in specific interaction contexts to express the self-environment relationship and—especially—to conduct social actions and generate localized effects with a political value. In brief, the discursive perspective understands people's affective attachment to places as a social practice that configures, is realized, and is performed through speech and text. Nevertheless, these two approaches (psychologicistic and discursive) are insufficient for addressing the main criticism leveled at psychoenvironmental studies by Lewicka (2011): Place has not been studied as a core aspect of sociospatial bonds. This influential author notes that it is necessary to analyze relevant settings as a starting point for a theory of place. Adopting such an approach poses several epistemological, theoretical, and methodological challenges regarding how to tackle certain elements of place when analyzing aspects that foster or hinder socio-environmental reattachment experiences in people and communities that have dealt with the environmental transformations due to catastrophes. We take on this challenge by regarding the relationship among subjectivity, territory, and community as an assemblage. Therefore, we understand the territory-subjectivity-community relationship from the perspective of a relational ontology, since, as proposed by Massey (2005), this relationship is constructed upon the basis of multiple trajectories that occur simultaneously and dynamically. This multiplicity makes it possible to recognize other voices and histories, thus challenging the hegemony of a single world view.

3 | POSTDISASTER SOCIAL TRANSFORMATION PROCESS AND THEIR IMPACT ON SOCIOSPATIAL BONDS

As we have pointed out, residential changes or habitat transformations have a direct impact on the bonds that people establish with places, leading to breakdowns and disruptions that affect the experience of temporal, social, and spatial continuity (Fried, 1963; 2000; Scannell et al., 2017). Several studies have indicated that place plays a psychological role in dramatic environmental changes, as feelings of loss emerge (Ruiz & Hernández, 2014) in connection with psychological distress and solastalgia (Eisenman, McCaffrey, Donatello, & Marshal, 2015), though these are accompanied by positive feelings of social unity and optimism (Silver & Grek-Martin, 2015). In this regard, Brown and Perkins (1992) coined the concept of place attachment "disruption" to refer to the negative outcome of situations linked to the loss of a place. Likewise, Fullilove (2004) suggests the term "root shock" to represent situations in which the network of the person-place relationship breaks down, affecting health. Also, Fried (2000)

and Manzo, Kleit, and Couch (2008) establish that these changes are defined as feelings of pain and loss (Fried, 2000) or loss of one's social networks (Speller & Twigger-Ross, 2009). Although the literature mainly indicates that these changes are negative (Devine-Wright, 2014), Manzo (2014) states that they can also be positive when people leave a place with which they have generated a negative bond (Manzo, 2005).

Differences in quality between the old and the new residential environment, opportunities for establishing relationships and meeting self-esteem needs, and control and community change systems (Heller, 1982; Manzo, 2014) are key aspects of the evaluation process conducted by people hit by disasters. Therefore, for instance, a forced move due to a disaster is a negative emotional experience that can help strengthen people's assessment of their attachment to the place and the community being left behind (Berroeta, Ramoneda, & Opazo, 2015), just like reconstruction policies only focused on people's housing satisfaction do not necessarily ensure a better quality of life (Berroeta et al., 2015). Di Masso, Dixon, and Hernández (2016) propose that environmental evaluation is also a political process of an ideological nature in which the participation of displaced people and communities in the decision-making about their relocation is essential for the process of appropriating and connecting with the new environment (Berroeta et al., 2016). Consequently, the disruption of the link with the place is an individual affectation that alters the community dynamics of belonging and participation and is a potential trigger of disempowerment processes.

4 | THE SUBJECTIVITY-TERRITORY-COMMUNITY RELATIONSHIP AS AN ASSEMBLAGE

Thus, ties to space can hardly be regarded as merely subjective processes; rather, they are also associated with political and ideological matters and even with the qualities of the spaces affected and the conditions of the new habitat. It may seem obvious that affection and reconstruction dynamics after a disaster occur within a network of complex relationships, where several factors can fully transform the trajectory of a person or group as a result of the catastrophe. We consider that the notion of assemblage is a good conceptual instrument for dealing with these processes of complex affection and reciprocal variation among subjective, social, and spatial aspects.

The word assemblage is the translation of the French word *agencement*, a term that refers to the action of matching or fitting together a set of components (*agencer*), as well as to the result of such an action: an ensemble of parts that mesh together well (DeLanda, 2016). It encompasses a range of meanings that include "to arrange, to dispose, to fit up, to combine, to order" (Law, 2004, p. 41). As a community—a composition of social ties, norms, values, and identities—and the environment itself—with physical vectors, material formations, and space configurations—an assemblage is made of different things which are put in relations and enact some local reality in that process. The difference with community and environment is that an assemblage does not have a nature that is social or natural in itself; rather, it is both social and natural, semiotic, and material, linguistic and objectual, human and non-human. In fact, the notion of nature or the social, and how they are put in practice, emerge and are an effect of how different entities form some relations in and assemblage. An assemblage/*agencement* consists of multiple, heterogeneous parts linked together to form a whole: An arrangement that creates agency and in which agency is possible (Müller, 2015). From this perspective, entities—human or non-human—and their capacity to create action or be sensitive to the process of affection are a production of an arrangement of relations in which all of them emerge.

For Deleuze & Guattari (1987), there are no predetermined hierarchies or single organizing principle before different entities—for example, persons, physical vectors, walls and their dimensions, the flux of light and wind—enter into interaction. All of them, entities and the agency that they express, are an effect of their relations and, at the same time, covariate and change through their contact and expressions. Of course, there exist some stable or configurations with which assemblages are in relation. Deleuze & Guattari (1987) call them *strata* or *territories*, which are captured or hard to move modes of knowing or developing practices in the world. Assemblages are the

processes of decoding or deterritorialization through which strata transform or mutate into something different. Strata are also assemblages, so assemblages are in relation to and mutate into assemblages. In that sense, hierarchies between these elements, for example, what counts as a human or as an element of the context or scenario, is a product of how social and material complexes enact them as such entities (Müller, 2015). As Deleuze & Parnet (2007) point out:

It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them across ages, sexes, and reigns—different natures. Thus, the assemblage's only unity is that of cofunctioning: It is a symbiosis, a "sympathy." It is never filiations which are important but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind. (p. 69)

In other words, assemblage is a mode of ordering heterogeneous entities which assume some expression and/or agency, working together for a certain period (Müller, 2015). Place and relative ordering of it—a sense—emerges as and through a multiplicity of entities in relation.

This mode of understanding relations or arrangements between persons and place, that is, how individuals and space emerge together as they emerge through their interactions is not too different from what has been called the material-semiotic approach. From this perspective, an element acquires its qualities and capacity to act in relation to other elements which it mediates, expands, or enables to act. For example, processes of reconstruction after a socionatural disaster, like an earthquake or a fire, are only possible when humans and other elements share their capacities, possibilities, or any processes that appear to be evident only when an interaction occurs. As Law and Mol (1995) point out:

They are constituted in the networks of which they form a part. Objects, entities, actors, processes—all are semiotic effects: Network nodes are sets of relations, or they are sets of relations between relations. Press the logic one step further: Materials are interactively constituted; outside their interactions, they have no existence, no reality. Machines, people, social institutions, the natural world, the divine—all are effects or products. (p. 277)

Human agency is a distributed agency provoked by a meshwork composed of different natures that goes beyond the somatic resources of the individual (Callon, 2016). In the same vein, place, environmental disasters, or the transformation of the environment, are altogether compositions in which establishing the limits between human society, institutions, culture, technologies, economy, and nature itself becomes difficult (Rodríguez-Giral, Tirado, & Tironi, 2014). From this point of view, the ability to exercise an action is a property of entities related to others, that is, it is the ability to compose: Agency is something that exists between subjects and things that come in contact with one another. Thus, becoming in community, creating an environment, generating a transformation, or initiating a reconstruction process are actions that emerge from the relationship between several entities that take part in the progressive establishment of the activities that constitute said situations.

In this regard, the aspects that are conventionally understood to be discursive or symbolic components of a problem are part of only one of the processes that configure the situation as such. The same notion of meaning can be redefined as the study of how it is built, taking its "original nontextual and nonlinguistic interpretation [of] how one privileged trajectory is built, out of an indefinite number of possibilities" (Akrich & Latour, 1992, p. 259). Defining meaning as a trajectory of linguistic or social elements as well as material, technical, or spatial ones encourages us to move away from the traditional ways of exploring socionatural catastrophes or disasters as processes imbued with an exclusively social or cultural meaning; instead, we should regard them as complex histories or becomings whose reality is defined through heterogeneous relationships established between subjective, social, and spatial aspects. Conceiving the meaning in this way expands the field of action of community

environmental psychology to multiple processes at multiple levels, assuming a translocal position of the territory (Greiner & Sakdapolrak, 2013).

5 | STUDYING DISASTERS IN CHILE

Chile is frequently subjected to a variety of disasters that produce deep urban transformations. Working on the assumption that disasters are not natural (Lavell & Maskrey, 2014), communities' level of exposure is defined by several aspects such as economic status, gender, ethnicity, age, disability, immigration status, culture, power relations, and economic-political systems, among others (Wisner, Blaikie, Cannon, & Davis, 2004). Nevertheless, hegemonic approaches to disaster management naturalize the phenomenon ("natural" disaster), reducing the human component to economic and individual aspects.

The strategies used by the Chilean government to tackle reconstruction have been varied and erratic (Tapia, 2015), constructed and applied in a context of neoliberalism as a civilizing model (Harvey, 2005). This model has had various effects in Chilean society, especially in the ways of living together, building subjects from individualizing, competitive, charitable and welfare logics (Berroeta, Reyes, Olivares, Winkler, & Prilleltensky, 2019). The reconstruction efforts after the latest disasters in Chile have placed under the same logic, not seeking to strengthen communities in the search for collective wellbeing, but rather compensating and stabilizing the postdisaster social and economic order. Various authors have brought to the fore the problematization of these neoliberal approaches (Berroeta et al., 2017; Sandoval, Gonzalez-Muzzio, & Albornoz, 2017; Tapia, 2015), especially revealing that the absence of the community dimension from the postdisaster reconstruction processes results in social ruptures, negative changes in place attachment and sense of community, and stigmatization of the community affected.

6 | RECONSTRUCTION STRATEGIES AFTER THE GREAT FIRE OF VALPARAÍSO

The great fire of Valparaíso (April 12–16, 2014) is regarded as one of the most massive in Chilean history. The disaster affected 1,042 ha in the higher, infrastructure-poor areas of the city of Valparaíso, between the El Litre, La Cruz, Las Cañas, Mariposas, Merced, Ramaditas, and Rocuant hills, damaging the homes of 2,910—more than 11,000 people in total.

The Reconstruction Plan, designed for the 2014–2021 period and targeting the city, neighborhood, and home levels, involved commitments by the Ministry of Housing and Urban Planning to "address the effects of the fire and overcome the preexisting vulnerabilities and deficits that the catastrophe highlighted" (MINVU, 2019, p. 1).

The city-level reconstruction plan is aimed at improving connectivity and accessibility; in addition, it involves studies for detecting and mitigating risks in the area hit by the fire. At the neighborhood level, the plan involves trust-building projects (street lighting improvements, pedestrian facilities, reconstruction of community areas), public works (construction of squares, staircases, safe areas, sports fields, and byroads), neighborhood mobility and accessibility (improvement of pedestrian evacuation in the areas hit hardest by the fire), and security (containment walls in steep areas, sanitation facilities, access to drinking water, and stormwater retention vaults). At the home level, the plan focuses on encouraging self-building. The families affected had to choose from a number of permanent housing options. To access these housing options, the families had to be in the victim register and have an approved home project, if they wished to build on their own land. Own-land construction was aimed at homeowners whose properties were deemed "irrecoverable" and comprised three choices: (1) Delayed subsidy payment: For homeowners who started building using their own means. (2) Payment according to building progress: For people who required State aid to reconstruct their homes. Two modes were generated in this category: Self-building with a personal project and model home construction. (3) Payment according to building progress and

densification (condominiums): Aimed at homeowners who required State aid to rebuild their homes, which included other family groups with coownership rights.

By July 2019, the choices listed above have been initiated at all three levels. At the city and neighborhood level, the completion level of the projects had reached 60% and 80%, respectively. At the home level, 97.8% of the own-land construction projects had been completed (MINVU, 2019).

7 | METHOD

7.1 | Design

The study employed a qualitative methodology, taking into account the process of dynamic and contextual constitution of phenomena; thus, it was sensitive to cultural, situated, historical, and sociopolitical aspects and regarded knowledge as a creation resulting from researcher–researchee interaction.

7.2 | Participants

The selection criteria for participants were: Being of legal age, having been harmed by the disaster, having decided to continue living in the same place after the fire, and not having lost any relatives or loved ones due to the disaster. The participants were 16 neighbors, men and women residing in the Las Cañas, La Cruz, and El Litre hills. Their ages ranged from 19 to 56 years.

7.3 | Data production

Several data production techniques were used, combining visual and discursive elements. During the first stage (August 2018–April 2019), spatially referenced narrative interviews were held. Using a procedure known as spatial data referencing (Berroeta & Vidal, 2012), this technique adapts the narrative interview to facilitate the spatial location of the participants' narrations. This procedure is based on the metaphor of the zenithal gaze (Escobar, 2009), which condenses the notion of a view from above that yields a picture of the territory that does not include quotidian practices, simulating a world built to scale. The aerial photographs used do not show any details, but do display special elements (e.g., trees, urban amenities, and sidewalks); therefore, each interviewee is able to discuss his/her own experience using the picture provided. During the narrative interviews, the participants were asked to pinpoint all the spaces that they mentioned—with the interviewer's help—assigning them a correlative number that was noted in the audio recording. In this study, each interviewee received two aerial pictures of the territory (showing the urban structure before and after the disaster), both on a scale of 1:500, color-printed on a DIN A 3 page (297 × 420 mm).

During a later stage, between May and June 2019, we selected eight participants from the previous stage to hold walking interviews and produce participant photographs (Drew & Guillemin, 2014). These interviewees received automatic cameras and were instructed to take pictures of aspects that have fostered or hindered their reconnection to the environment. Lastly, in July 2019, a conversation group was established with the eight neighbors participating in this stage, who were asked to discuss the meanings of their pictures and then choose those that best represented the aspects that, in their view, foster or hinder reconnection. The photographs and reflections were used as research data, being documented, coded, and categorized. At all stages, the sampling strategies were diversity and convenience (Patton, 2002).

Focused ethnographies were conducted during each field visit. Knoblauch (2005) defines them as intensive records (as they take place at a specific moment) based on participant observation, which are complemented with other sources of information (semistructured interviews, statistical data, audiovisual material, and documents). These ethnographies included acute and collective sessions during which the information produced was analyzed.

7.4 | Data analysis

The information produced in all stages and phases was integrated and analyzed following the methodological and procedural principles of Thematic Analysis (Braun & Clarke, 2006–2012). This qualitative analysis technique is aimed at systematically identifying and interpreting recurrent meaning patterns in a textual or visual corpus, suggesting hermeneutic and nonclassificatory meaning units (unlike categorical analysis) while focusing on the meaning frameworks deployed by the participants. For the purposes of this article, we selected results that could be used to provide an analytic view of assemblage, not presenting results with the various emerging categories, but describing only one category—trajectory: from being affected by the fire to reconstruction—and the ways in which we have identified the assembly in it.

7.5 | Ethical aspects

The participants' confidentiality and anonymity were safeguarded. We employed an informed consent form that specified the aims and procedures of the study, the use of the data produced, and the participants' right to access the study

8 | RESULTS

In this section, we present an integrated view of the multiple sources of information used. This enables us to interpret the assemblage, that is, the way in which multiple subjective, social, and spatial relationships occur in connection with several discursive, territorial, emotional, corporeal, and technical conditions that restrict or legitimize circumstances and practices of signification produced between material and nonmaterial agents in the reconstruction process. In general terms, these are organized around four dimensions that consider different moments and emphases in the reconstruction process: The effect of the disaster, the emergence of the victim state, reconstruction, and the configuration of the space. In all of these, we understand that the meanings exposed obey more than symbolic events about the processes that are pointed out, and they constitute expressions of heterogeneous social and material articulations in which they emerge. In this sense, the results expose the meanings of the reconstruction, considering the notion of meaning in the exposed terms: As the privileged construction of trajectories among multiple possibilities, which integrate agents of diverse nature.

8.1 | The assemblage of affection by fire

The fire radically transformed the everyday habitat of the neighbors, modifying the natural environment as well as the neighborhood's and the community's historicity. The disaster not only changed the space but also the neighborhood's social and affective fabric:

I'd lived my whole life there and I know how much everyone had worked to get what they have, they're people I know because I grew up with them. (Woman, La Cruz hill, personal communication, April 13, 2019)

As the quote shows, fire transforms scenarios in which social relations are deployed and social relations itself. Fire constitutes a process of affection that crosses social and material distinctions: Both the life, links and personal and collective stories, and the place that is constituted by these are entirely modified. The affection for fire does not obey a causal and directional dynamic that implies the effect of a physical plane on a social one but occurs eminently on a relational plane between social and material processes. In this way, the recognition of participants' affection for the infrastructure inhabited before the disaster models the expression of their victimization, which is crystallized in the image of the *fire victim*, a condition configured through the interaction of institutional, social, technical, and spatial processes. Indeed, one of the key moments for initiating measures and actions for the benefit of victims required a combination of several elements: A description of the spatial conditions after the fire, narrations of people who lived in the area, and gestures of legitimization of these narratives issued by a government or institutional official. People living in the areas affected by the fire produced narratives which set out how the condition of being affected by the fire is configured, such as the following:

(...) you need to speak to the firemen, the department is in the Customs Office, that's where his office is. And there you should ask him to give you a document certifying that your house burned down, including the day and all the details. And you need to have it signed by that gentleman. (Woman, Las Cañas hill, personal communication, April 20, 2019)

(...) apart from this document, they had to certify their condition [as victims of the fire] with a certificate of homeownership or a resident sheet from the survey conducted by the municipality and the Service of Housing and Urban Planning. (Woman, La Cruz hill, personal communication, April 13, 2019)

They had to take a document accrediting their ownership of their home, all the property deeds, and then wait for the subsidy to be approved. But if they found that something was wrong, it was not approved. (Woman, Las Cañas hill, personal communication, April 20, 2019)

The condition of the victim is not given or emerges by being placed in a space transformed by the event of a disaster but must be produced. In this sense, the affection is assembled by the relationship between physical, historical, social, and technical processes. Obtaining the documents mentioned in quotes allowed people to apply for State aid. In this regard, the accreditation of the neighbors' victim status based on these documents emerges as a dynamic that shows how the social fabrics that make up community processes are articulated and mediated—in other words, transformed by more-than-human elements. Certificates or documents contain spatial conditions and the history of a place (e.g., property or its regulation before government officials), mediating how victimhood becomes real for several institutional and local bodies. In the examples, discursive aspects are insufficient for conveying the concrete reality associated with spatial transformation after a fire. Indeed, the acknowledgment of the “reality” of the victims of the fire is a product of the articulation of discourses, technical elements (a certificate or document), and the human and spatial processes taking place. Thus, a concrete artifact, a certificate, operates as an entity that confirms the reality of an event. Victimhood is assembled, that is, realized through the deployment of rather concrete practices, materials, and their relationships.

Thus, being recognized as a victim is a product of interactions between territorial conditions, the history of the person and the place, the person's previous links with urban regulation bodies, and new links with government bodies that are materialized in a document. The document operates as a checkpoint that every person or family must pass to be acknowledged by the subvention systems set up to address the situation. In other words, the document operates as an element that takes part in the construction of a new collective of people labeled *disaster*

victims, projecting the redefinition of their bonds with institutions, space, and other residents. By mediating the funding process for the formulation of home reconstruction modes, the document contributes to the construction of new capabilities. As expressed in the following quotation, another process involving a document—a survey conducted by a municipal entity, in-charge of housing management—enables the articulation of public financing and authorizations necessary for the start of the reconstruction process:

The papers... well, this is a survey of the residents done by the municipal SERVIU¹... All of them. They signed you up and that gave you the right to get reconstruction aid, money from the government.” (Man, Las Cañas hill, personal communication, April 20, 2019)

8.2 | Scales of the victimhood

Victim status emerges as a heterogeneous articulation. It is not assumed; rather, it must be produced through the interaction of spatial conditions, personal and community histories, and institutional criteria. Despite this general process, victim status is defined using several scales. Thus, on a collective scale, victim status enables people to access State aid that will be used in the reconstruction of the urban fabric of the areas hit by the fire. Nevertheless, at an individual scale, victim status concerns the particular trajectories that ground modes of subjective assessment of the territory, the victims' own status as such, and the actions that can be conducted in this regard. This subjective notion is configured by memories and discourses about family history before the fire and about the efforts made to build the lost home. If the general scale formulates the conditions of possibility for reconstruction, the dimension relating to social, historic, or subjective memory, as expressed by the interviewees, is linked to how victim status itself is assessed.

Many people lost stuff. For instance, an old gentleman... He had a huge two-story house that had two massive bedrooms on the second floor. He lost [...] I take care of this man, I took care of him for many years, he had an enormous house, from street to street, and he was left... Look at the tiny house he was left with. (Woman, Las Cañas hill, personal communication, April 20, 2019)

We talked when the fire was over. My mother had worked hard to get a house with three bedrooms, living room, toilet, and kitchen; a yard, a barbecue area, everything. She got all that after many years, and we all made an effort. So, after the fire, she said: “Hell, having to go through all that again...!” She was scared. She said: “No, you know? Let them [government bodies] take care of it. (Man, La Cruz hill, personal communication, April 13, 2019)

This quote shows how victim status adopts specific expressions associated not only with collective processes but also with historical and personal ones. On both levels, materiality—that is, infrastructural, spatial, and even technical conditions—constitutes entities that progressively configure the ways in which reconstruction occurs, in both its general and specific dimensions. In the cited example, history and space become inextricable from a tissue that generates both processes simultaneously: Family history is associated with space inasmuch as it is signified, valued, and adopts relatively stable forms due to the actions of the people associated. Space and its presence, what it does for and for the person, is exposed as an argument that supports the expression of affections related to the disaster. Subject and space are assembled, both, in an emotional relationship.

¹Housing and Urban Planning Services, the entity in charge of optimizing living conditions in cities.

8.3 | Reconstruction as trajectories

After the catastrophe, and like social and subjective processes, the characteristics of space emerge as agents in the decision-making process guiding the reconstruction. In the interplay between institutional offerings, spatial conditions after the fire, and the attitudes of the victims, three *reconstruction choices* were formulated: Self-building (or autonomous deployment of a blueprint and labor to build a home), a predesigned home offered by a building company (or acceptance of a company's offer in exchange of the State subsidy), or a home in another area (like the second choice, but in a place other than the one previously inhabited). The expression of an alternative consists of the progressive composition of a privileged trajectory built from the association between various components: Material, subjective, economic, social, and historical.

First, the conditions of the territory after the catastrophe acquire again a fundamental relevance. The fire affects all structures differently, generating a heterogeneous configuration in housing and shared infrastructure. This grounds people's and families' assessment of how to interact with said structures. In other words, spatial conditions after the fire and historical and subjective processes become articulated to define how the reconstruction will start. This assessment is a relationship between space and people. Both aspects progressively construct trajectories that define the reconstruction. As explained in the following quotation, which briefly explains how the spatial and material configuration after the disaster is integrated into the processes of a decision-making process.

(...) I think they were better off because the house, I mean... since it was a brick house, at least they had the foundations so they didn't have to start from scratch. (Man, La Cruz hill, personal communication, April 13, 2019)

Not only the initial relationship with space defines the trajectory; in addition, several other subjective and economic resources are involved. Thus, for instance, the skills acquired by people over their history, their knowledge about the soil and construction, their involvement with people capable of reconstructing their homes, their contacts with specialists and the timing of these interactions, and their health were all involved in processes related to their reconstruction choices. Likewise, monetary resources to complement government aid also influenced reconstruction trajectories. As can be seen in the following quotations in which, beyond an individual decision, self-construction emerges as a path that integrates and considers monetary and practical dispositions:

It was so, so complicated. It was all so hard, because when I thought about self-building, I thought, where am I going to find builders? There's none, they're all busy now. And that's all apart from the dreadful time we had before... (Woman, La Cruz hill, personal communication, April 13, 2019)

Look, no. I couldn't choose self-building, because I had nobody to do that for me. If my husband had been healthy... (Woman, Las Cañas hill, personal communication, April 20, 2019)

And in this extract, in which the same process is exposed, but indicating the existence of resources is intertwined with considerations of spatial comfort and consideration of the temporality of the processes involved:

He just went and built his house, less than half a year after the fire he already had his house ready, because he didn't want to wait, because he knew they were going to take long and he chose to get reimbursed later instead of, I mean, living uncomfortably. (Woman, Las Cañas hill, personal communication, April 20, 2019)

The selection of homes build by companies without moving to another urban area also emerged from the articulation of spatial and social aspects. The neighbors' history in the place, the connectivity with the city that their location afforded them, and nearby landscapes configured the decision to reconstruct their habitat in the same location.

Although it's close to Valparaíso—it takes me like 6 minutes to get down there in a shared taxi, it's really fast because it's a street—it's right in a place where there's more silence: there are cows, donkeys, it's like a field, and I know all the hills because I was raised here and it's very different. (Man, La Cruz hill, personal communication, April 13, 2019)

If you knew... from here, from my balcony, I can see the whole bay, all the way to Concón, Quintero, Playa Ancha. I can see the whole of Valparaíso. Everyone who comes here is amazed by the view. (Woman, Las Cañas hill, personal communication, April 20, 2019)

Because these are my roots, it's my space, my surroundings, I'm not going to change it. They say a bird in the hand is worth two in the bush. I've lived here all my life, my brothers are here, all my people are here. I could have left, I had the chance to get a home immediately but I said no, this is my place, even though I had nothing, I only had the infrastructure. (Man, Las Cañas hill, personal communication, April 20, 2019)

The trajectories associated with construction carried out by companies include historical, emotional, social, and even aesthetic or landscape-related aspects, which are irreducible to each other. That is, the *decision* to preserve one's habitat, despite the uncertainty and risk, is eminently linked to people's heterogeneous assessment of their place of residence and their affection for it. Space and history generate affection, which keeps subjects and the community in one place. The different expressions that the reconstruction acquires do not obey an autonomous or individual decision, or processes exclusively of rational valuation, but to the interaction and association of diverse components and processes, social, natural, economic, material, and aesthetic, that articulate progressively and define a path.

Reconstruction is an open-ended process whose conditions and modes of assessment are redefined in terms of the multiple relationships established between inhabitants, institutional processes, and the characteristics of space. Thus, several people express their status as *reconstructed* after defining the boundaries of their habitat, constructing their homes, and actualizing their ties to institutions through multiple rites. For instance:

They came into my house to see how things were. It was nice! It was nice for me how they gave me the house, as some authorities came. (Woman, Las Cañas hill, personal communication, April 20, 2019)

However, when said aspects related to institutions are not actualized, reconstruction is perceived differently: Even if the space has been reconfigured and acquires enabling conditions, the reconstruction is not perceived as complete, but as a problematic and still developing process. As expressed in the following excerpt:

Indeed, SERVIU and the municipality, when they certified the house, they should have done it with all the documentation ready: Electricity, water, all the basic things signed for, everything should have been given the okay, but it wasn't so. I went to the SERVIU office ready for a fight: "Hey, what happened here?—I said—, when the government changes, you'll go away, the reconstruction will end, and you'll get rid of all these responsibilities. I still don't have a water meter". We've had problems, staff shortages, lots of issues. A lot of red tape. (Man, Las Cañas hill, personal communication, April 20, 2019)

8.4 | Space is more than material

Thus, the same space is configured in more than material terms. In the reconstruction processes, the dimensions occupied by the houses, the territory itself, or the location of the familial or personal habitat are defined by processes of a social, normative, and political nature. After the catastrophe, space emerged as a stage for controversy in which the vectors that locate the home were defined by a variety of processes. For instance:

I had to put the house there, otherwise I'd have lost those two meters. And you know what the policeman did? He said: "Okay, let's make the division." Done. He gave that to him, there were no issues. But that caused some problems without neighbor, she doesn't look at us. (Man, Las Cañas hill, personal communication, April 20, 2019)

The fire eliminated the fences that delimited the neighbors' properties. The absence of these physical devices generated disorientation regarding place, belongings, and the relationships between houses, leading to problems when reinstating boundaries and greatly delaying construction. In this regard, space had to be reconfigured as a habitat based on the political and technical establishment of new dimensions. In this regard, the following quote expresses how the site must be recomposed in consideration of policy and institutional issues.

You can see they're still building. These are houses with issues due to boundaries, illegal occupations, no deeds. Those were left for the end because they had to do all the paperwork. (Man, Las Cañas hill, personal communication, April 20, 2019)

Lastly, articulations other than prior equipment associated with knowledge or economic resources, or affects linked to the relationship between history, families, or people, configured a new habitat through the choice to settle somewhere else and live in houses built by a company (Figures 1–4).

Throughout the participatory photographic process, the neighbors highlighted how links between local aspects and State support generated various expressions of reconstruction. For instance:

The residents express the reconstruction not only as the reformulation of local ties to space but as the articulation of the hills with the city and with urban life in general. That is, the assemblage between institutional and local processes transformed not only the places hit by the fire but also the wider sociocultural dynamics of the city's urban life:

No, the hill is different now. I think we needed a catastrophe to be actually seen, because ours was a very poor, neglected hill, the streets were all in a sorry state, they were quite narrow. Now there's a lot of public transport, more cars, it's like people grew up a little, in terms of money, I mean (...) and afterward there was a major shift, that's how I see it, people are more individualistic, it's like they don't care about anyone else but themselves...(Woman, La Cruz hill, personal communication, April 13, 2019)

The transformation of the place is an assemblage between aspects of heterogeneous nature. The configuration of the hill after fire mentioned in the quote exposes how their condition includes aspects that go beyond the exclusively architectural, economic, social, or cultural aspects. The hill itself, in its architectural, social, and cultural dimension, is only understandable in terms of the reciprocal interweaving of all these, as well as the articulation of other scales or dimensions, of an institutional, social, political and historical nature. The mention of material (streets, transport, cars) and cultural transformations (economic and individualization processes)—their assemblage—exemplifies how the transformation of spatial configurations relates to social transformations and how social associations transform how space is articulated and experienced. Affection itself takes on material connotations. For example, to stabilize the emotional processes associated with the transformation of space, loss, and emergent



FIGURE 1 Places still unreconstructed 5 years after the fire because they are not part of the institutional plan

social dynamics, the residents generated memorials that turn certain locations into affective spaces. In this sense, space is not only the support of affective practices but a platform in which these are exposed and perpetuated in consideration of the relationships sustained there. As are exposes in the following images.

9 | DISCUSSION

In this article, by addressing socio-spatial bonds, we described the necessary articulation between environmental and community dimensions from a material-semiotic perspective. This led us to consider that, in this case study, the experience of being part of the community is a variable flow within an always-emergent configuration of subjective, social, and spatial features, as Cox and Perry (2011) point out, the disaster shapes a new framework of reality. Thus, material aspects are penetrated by prereflective forces that constantly rearrange the lived experience of being part of a community, which is associated with a series of conditions of possibility of the discourses referring to it,



FIGURE 2 Reconstructed places with new connectivity infrastructure as a result of relations between institutional and local processes

territorial conditions that materially configure its space, corporeal conditions related to the involvement of bodies in participation dynamics, and artifacts of a technical rationality that restrict or legitimize circumstances and practices.

The notion of assemblage operates at ontological, methodological, and analytic levels. This situation poses an evident challenge; it is necessary to examine the emergent interaction between the material characteristics, the embodied relationships, and the linguistic constructions that produce the community. This allows us a strategy to try to understand the multidimensionality of the impact of the community as proposed by Miller and Rivera (2010). In ontological terms, the challenge involves abandoning the consideration of entities such as subjects, space, architecture, economy, and affectivity as natural and discrete issues. In this sense, it is possible to understand them as reciprocal coproducts whose emergence depends directly on how they are composed in a specific situation. This does not imply that they consist of events that do not allow us to trace how they are connected or linked to other processes or assemblages, but rather to attend to their specificity and the particularity of these processes in the

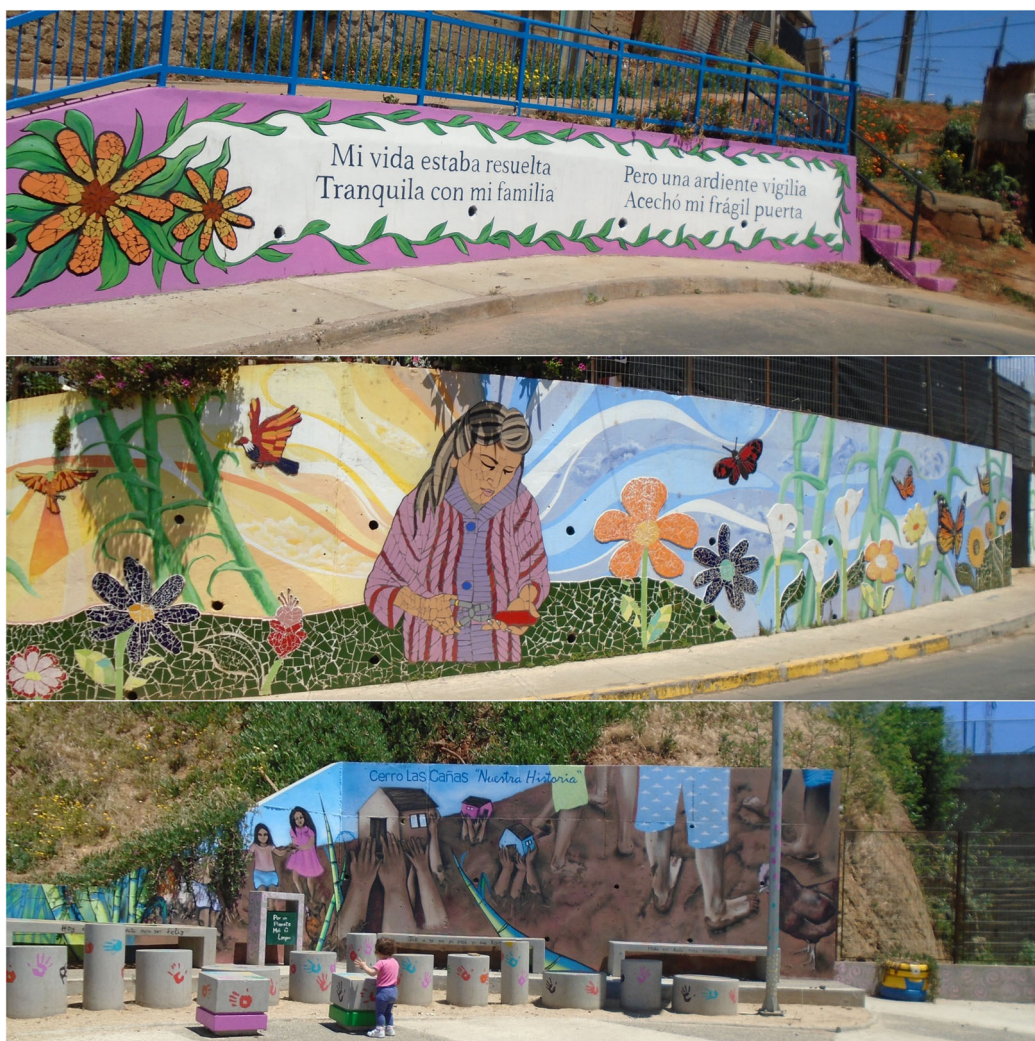


FIGURE 3 Memorials built by residents. The top picture reads: “My life was settled, calm with my family, but a burning vigil stalked my fragile door.” The bottom picture reads: “Las Cañas hill: ‘Our History’”

situation in which they emerge. Thus, for example, the condition of the victim, or space itself, must be considered from the trajectories that constitute them.

This leads us to the second challenge, of a methodological nature. In our study, this involved qualitative strategies that employed discursive, placed, mobile, and visual techniques, as well as an analytic procedure focused on emergent meaning frameworks (Di Masso & Dixon, 2015). The diversity of data production techniques seeks to account for the challenge of capturing the emerging interaction between material characteristics, embodied relationships, and linguistic constructions of the place.

Finally, the analytical challenge considers how to address the various layers or relationships that make up these processes, in the sense of how to accommodate them in the description of how the reconstruction is deployed. The four dimensions exposed in results sustain that the composition of the overall process of reconstruction is constituted through more than human and not only material relations. From this perspective, the analytical possibilities



FIGURE 4 Memorials built by residents. The plaques list the names of residents who died in the fires

provide only a perspective on how assemblies are composed. The integration of other categories or characterizations makes the understanding of their deployment more complex.

On the basis of these results and also on the proposal of DeLanda (2016), we hold that at least four characteristics of assemblages are pertinent to explaining the make-up of socio-spatial bonds in territorial communities outside of postdisaster reconstruction.

First, assemblages have a contingent and historical identity, which constitute dissimilar formations. Understanding community processes from this perspective involves regarding them as multiple compositions, different from one another, which set in motion several scales that interact—they are bonds that emerge in arrangements with no hierarchy or predominance, which function together to generate the specificity of each trajectory. A community operates as a formation of multiple assemblages that operate together and connect with each other, but which are all dissimilar. These complex relations occur in a translocal way (Greiner & Sakdapolrak, 2013), person–place relational trajectories shaped by activities that are neither local nor global, but within both daily spatial practices and institutional policies and guidelines that make up the place as a habitable territory.

Second, assemblages also comprise heterogeneous elements. Communities tend to be regarded as compositions of relatively homogeneous elements; that is, people and their relationships. However, identifying the modes of action that emerge when dealing with a disaster brings to the fore how, in the articulation of social relationships, there operate a number of entities that do not meet this definition: Documents, certificates, surveys, measurements, and boundary fences are some of the ways in which the social dimension acquires meaning and is constituted. Therefore, to the interrelationship between the socio-physical and community dimensions attributed by Montero (2004) to community environmental psychology, it is necessary to add the sociotechnical dimension.

Third, assemblages can become components of other assemblages. As we have observed, communities can be composed of several alliances or coalitions, become part of larger assemblages, or combine with other assemblages that affect the make-up of their own relationships. For example, this is what can be observed regarding how the State framework affects the ways in which reconstruction trajectories are constituted. In such situations, the State and community do not necessarily consist of antagonistic formations or, even, of matters of a different nature. Both consist of various ways of connecting social and technical components. Instead of presupposing a nature or ontology of one or another formation, the assemblage perspective connotes the possibility of describing how entities are connected to generate diverse actions or effects. This perspective coincides with what is proposed in the discursive studies of Di Masso et al. (2016) regarding the incidence of political and ideological processes on the dynamics of community participation.

Finally, in their constitution process, assemblages produce possibilities and limitations—a setting of current agencies. In their interaction with government entities, private resources, or other associations, there emerge new modes of interacting with themselves and space. Indeed, both configure each other as such relationships are created.

Lastly, the applied potential of this approach for analyzing postdisaster reconstruction processes seems fundamental to us. As Wiesenfeld (2003) suggests, many of the programs and initiatives aimed at populations affected by these phenomena have followed technical criteria, with no input from local knowledge; therefore, paying attention to the environment–community intersection is a chance to generate a more comprehensive view of environmental problems (Wiesenfeld, 2001) by prioritizing actions that give residents a leading role, understanding elements of power and territorial struggle, and highlighting the technical–political deficits of the reconstruction or relocation policies experienced by residents.

In this respect, we consider necessary to expose how inherited notions present in the design of approaches to address socionatural postdisaster reconstruction processes must be put in relation to the complexity of local processes that redefine the traditional meaning of roles, processes, and agencies, so as to respect the rights, meanings, and ways of life of the communities (Berroeta et al., 2017; Berroeta & Pinto de Carvalho, 2020; Scannell et al., 2016, 2017). This leads us to point that governmental apparatuses may be sensitive to the multiple local configurations to appreciate how specific territorial diagrams may be desired, and how disaster itself articulate new possible identities and relations with others. In a similar sense, socialities in affected territories establish relations with governmental tools giving them situated meanings that affect “top-down” processes, being necessary the development of assembled alternatives between different agents—and even natures—involved in the creation of reconstruction alternatives. Finally, it is necessary to expose how a socionatural disaster exposes vulnerabilities of the social but at the same time its potentialities to articulate relations with space and society itself. Assemblage perspective shows how any reductionist approach (on material or social aspects) avoids the complex relations that compose reality. Instead, from an *irreductionist* (Latour, 1988) perspective, assemblages show how subtle entities also articulate the social and social itself shape them with different effects.

If the actions performed continue to focus only on material aspects, establishing connections with new spaces is bound to be complex. Instead, government initiatives should be implemented through a community-based psychoenvironmental approach informed by the acknowledgment of meanings, practices, and materialities which configure communities, identifying their problems and needs.

10 | CONCLUSIONS

We have described nondiscursive (nonlinguistic) significant practices that influence the generation of the reconstruction process in a specific community. Materiality, placed bodies, and technical artifacts constitute properties and processes at the same level as discursive productions, creating, producing, and modifying community relationships as an indissoluble, unstable, and permanently emergent unit.

This analysis of articulation makes it possible to overcome the usual dualisms in the exploration of the person–environment relationship, regarding it as an articulation that defines the two terms involved straight away, and can, therefore, grant opportunities for community psychologists and urbanists to share key theories and empirical findings related to their shared interest in core urban issues (Neal, 2020).

In the field of values and principles of community psychology, we believe that the notion of assembly can make visible in a specific way how power and justice are expressed through different human and non-human devices, which produce oppressive or liberating articulations. Therefore, we visualize a close dialogue between these material–semiotic perspectives with the proposal of psychopolitical validity developed by Isaac Prilleltensky (2008). In this same sense, problematizing the construction of meanings by recognizing and analyzing the impact of the multiple elements that participate in the assemblage of the communitarian and the problems that community psychology seeks to change, allows the promotion of dialogues that denaturalize oppressive hegemonies.

ACKNOWLEDGMENTS

The chapter is part of the study that the first two authors carry out at the Center for Territorial Vulnerability and Informality Research (CINVI), University of Valparaíso. Funding agency, grant:ANID/CONICYT-FONDECYT Regular, 1181429.

PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/jcop.22431>

DATA AVAILABILITY STATEMENT

Data available on request from the authors. The data that support the findings of this study are available from the corresponding author upon reasonable request.

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How to cite this article: Berroeta H, Pinto de Carvalho L, Castillo-Sepúlveda J, Opazo L. Sociospatial ties and postdisaster reconstruction: An analysis of the assemblage in the mega-fire of Valparaíso. *J Community Psychol*. 2020;1–23. <https://doi.org/10.1002/jcop.22431>