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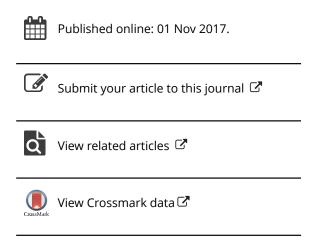
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The roads of immanence: infrastructural change in southern Chile

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ABSTRACT

In southern Chile, the building of roads has triggered profound sociomaterial transformation in indigenous worlds. In this article, we attempt to comprehend and conceptualize the capacities of roads to reconstitute radically a relationally constituted world, a world that is therefore in itself contingent. We suggest that the material alteration of indigenous worlds produce uncertain results, including possibly its own destruction. The arguments raised in this article indicate that the analytical and political problem of ontological self-determination can be advanced once reshaped in infrastructural terms.

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Consider a man felling a tree with an axe. Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. This self-corrective (i.e., mental) process is brought about by a total system, tree-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind. More correctly, we should spell the matter out as: (differences in tree)-(differences in retina)-(differences in brain)-(differences in muscles)-(differences in movement of axe)-(differences in tree), etc. What is transmitted around the circuit is transforms of differences. And, as noted above, a difference which makes a difference is an idea or unit of information. But this is not how the average Occidental sees the event sequence of tree felling. He says, 'I cut down the tree' and he even believes that there is a delimited agent, the 'self,' which performed a delimited 'purposive' action upon a delimited object.

Gregory Bateson (1972, 317, 318)

My brother Lorenzo ... He was very ambitious. He copied the winka a lot, whatever the winka had he had to have ... He had the means so he would get it ... After the road opened thirty years ago he began to go crazy (weiweicar): 'I want this, I want that'... He was the first to buy a chainsaw, and this was a mistake. Before that no one was familiar with chainsaws, no one. It's just an issue of starting it up and it sounds like a vehicle – impressive ... And he bought one ... A big mistake ... He started cutting down trees without restraint, without considering the consequences. He enjoyed cutting down trees. For him, having the motor running was such a big deal that he would cut down these entire large oaks, or for fun cut off branches. He cut down practically all the trees, especially the Patagonia oaks ... And everyone began to get chainsaws, and from there everything went crazy: they started to cut down branches without restraint, without considering the consequences, and they began to carry off the [entire] Araucaria forests, to make cabins out of the wood ... This was to transgress nature, transgress everything, because before no one would speak or [even] shout in the Araucaria forest, and [now] to come with a chainsaw ... According to the ancients ... This would scare all the newen, and drive out the ngen that were there in nature; it would frighten them, uproot them – and this was when everything went wrong. This was when the problem of nature's invasion began – and we were to blame for this problem. There was no restraint, and here we are. The earth isn't strong any longer, we Pewenche aren't strong, we don't think about how our grandparents and parents thought ... We're crazy ... Today we think about things ... About money – [even though] I don't have a job –, about buying: a television, a plasma [television], a truck, a car, getting a luxury home, this kind of stuff ... All things that the road brought.

Francisco



How should one understand the relation between a tree and the person who cuts it down? What kind of epistemology is best suited to thinking this relation? In the first epigraph to this article, we encounter two epistemo-logics from Gregory Bateson that are helpful for answering these questions. Bateson is attempting to illustrate different ways of conceptualizing the organism-environment relation. He writes, on the one hand, of a dichotomous logic that, in this case, would separate 'at the root' the subject who cuts down from the object cut down. On the other hand, there is an 'eco-logic' that situates the elements in the description, 'a tree and the person who cuts it down', as belonging to a chain of immanently connected differences.

In the second epigraph, Francisco – a fictitious name we have given to a Mapuche-Pewenche person from southern Chile – describes a relation between the tree and the person who cuts it down by integrating the chainsaw. Francisco does not distinguish so clearly as Bateson between an 'average western man' and those who are 'less average' and 'less western'. For Francisco, his brother is always his brother, even when he sees his brother alter his practices. The integration of the chainsaw makes possible the appearance of new modes of relation between the tree and the person who cuts it down. The chainsaw is, in effect, the technological material of the *winka*, ¹ the paradigmatic other in the Mapuche world. The chainsaw makes possible, without necessarily determining, the alteration of the relational practices that Francisco's brother establishes with the tree. Just as a blind person's cane can be considered an extension of that person's vision – to use another Batesonian analogy – Francisco seems to imply that the ax and the chainsaw are extensions of his brother. When one is substituted for the other, Francisco's brother 'goes crazy' (weiweikea) and begins to resemble the 'average western man' as imagined by Bateson. This process occurs by means of 'all [the] things that the road brought'. The contingent changes Francisco perceived in his brother and others cannot be fully comprehended unless we examine in depth the material metabolism that generates the introduction of road infrastructure within the Mapuche world.

In this paper we study some of the socio-material alterations triggered by the road. Based on ethnographic research in two different indigenous localities in southern Chile, this article explores the ontological possibilities opened up by roads. In the logic of Bateson's 'western man', a road is usually understood as infrastructure that transports materials and facilitates the flow and interconnection of diverse technologies and entities. Our ethnographies suggest a less obvious perspective on what a road can do: a road not only transports materials, but it also produces tensions, it transforms and multiplies the socio-material worlds in which it is introduced. What from a glance can easily seem like only a material connection between pre-existing worlds in reality involves socio-material metabolic processes that are extremely complex, uncertain, and unpredictable.

This article draws on recent anthropological debates that have rightly placed the road at the center of ethnographic inquiry. In these debates the road has come to be conceptualized as the paradigmatic infrastructure of the twenty-first century: the road at once facilitates the development of the so-called 'information society' and the realization of extractive activities that are fundamental for national economies (Dalakoglou and Harvey 2012). Anthropological explorations of roads (see Dalakoglou and Harvey 2012; Pedersen and Bunkenborg 2012) have demonstrated, among other things, that roads function not only as connectors and disconnectors, not only as organizers and stimulators, of different objects and subjects, but also as entities with the capacity to transform social and material relations, thereby generating new worlds. We therefore believe that it is possible – as we develop below – to conceive of the road not only as an inert entity that permits and empowers or even expresses the connection, exchange, and interaction among different subjects and objects, but also as an integral part of a relationally constituted system. As part of such a system, and indeed through that system, the road is reconfigured as it is integrated into a new community. The road should not be understood as infrastructure mounted on a landscape, as a mere addition to a landscape that exists 'out there'. Instead it should be understood as a constituent part of what Jensen (2015) calls 'environmental infrastructures': contingent relational systems that generate socio-natural and political articulations that are uncertain and unexpected.

This article makes two wagers that we feel are fundamental if we are to approximate the infrastructure of worlds lived by different actors, wagers that derive strictly from our ethnographical approximation to those worlds. The first wager is that the distinction between the world and its representation – or

between infrastructure and superstructure – must, one more time, be destabilized. This destabilization allows for an apprehension of life that more adequately approximates that which we have experienced ethnographically; rather than making dualistic distinctions (world-representation, infrastructure-superstructure), it applies practices that are consistently monistic (cf. Henare, Holbraad, and Wastell 2007). To make good on this wager, we root our argument in Latour's concept of 'infra-reflexivity' (1988). This concept accounts for a mode of reflexivity that is immanent to infrastructural assemblages. Our infra-reflexive ethnography attempts to avoid approximations that consider infrastructural materials as either mere expressions of pre-existing social and political structures or as the ultimate determinants of social life (see Hennion and Grenier 2000; Jensen 2015, 2016; Jensen and Morita 2016).

Our second wager takes into consideration that the inconstant relational constitution that seems to characterize the entities that participate in Mapuche life tends – when new socio-material elements are integrated into it – toward unpredictable alterations that are, nevertheless, self-determined by their infra-structure. We therefore propose that entities' ontological potential continually generates new, incommensurable worlds (cf. Nadasdy 2007; Povinelli 1995, 2001). Entities are permanently and differently actualized by distinct socio-material relations. Here we reject the possibility of discovering a semiotic continuity in which all beings are viewed as commensurably related (e.g. Kohn 2013). From the alternative perspective of incommensurability, we offer a cosmo-political reflection that demonstrates, following Marisol De la Cadena (2010), distinct and indeed equivocal conceptions of the material world and its agency (cf. De la Cadena 2015; Viveiros de Castro 2004).

To accomplish these aims, we offer an ethnographic analysis of the role of infrastructural ontological self-determination in specific transformations.² This idea of infrastructural ontological self-determination evokes – at least 'merographically' (see Strathern 1992) – epistemological debates around the systems theory first developed by Bateson and later developed by, among others, Maturana and Varela (1984) using the concept of 'structural determination'. This concept establishes that all changes to a system are structurally determined. As Maturana and Varela put it, in science as in daily life 'we can deal only with systems in which all their changes are determined by their structure, whatever it may be, and in which those structural changes are a result of their own dynamics or triggered by their interactions' (1984, 64, our emphasis). In what follows we are not interested in imposing such theories on our ethnographic materials. In the light of an ethnographic analysis of the infrastructural metabolism produced by a road, we suggest contrariwise that this idea of 'structural determination' seems to recover its conceptual force beyond systems theory's biologicist foundations, given that the materials of infrastructures, whatever these may be, are never univocal or definitive. As such, any inquiry into infrastructural transformations must be based on ethnographic analysis that tends to the specific material properties that constitute a given infrastructure and, in one way or another, its unexpected self-determination.

Southern Chile

The ethnographic experiences from which this essay derives took place in two indigenous localities – Mapuche and Mapuche-Pewenche – in Bío Bío, the historic 8th Region in southern Chile. Historically, the Bío Bío River has played a preeminent role in the relation between the Mapuche population and various foreigners. In 1641 it was declared to be the border separating the Spanish from the Mapuches, although it had already functioned as such from as early as 1598, after the historic defeat of the Spanish army in the battle of Curalaba (Millalén 2006). After this period, the Bío Bío remained the northern border of the Mapuche territories for more than two centuries, although allowing permanent interaction and trade across both sides of it (Boccara 2007). Instead of completely avoiding the contact between the entities that it set apart, the border worked as a porous sociomaterial delimitation that allowed a continuous contact between the sides it distinguished (see Bashkow 2004). This contact was exponentially increased, later, with the establishment of the Chilean state in the nineteenth century (Bengoa [1985] 2000). As can be deduced from the foregoing, relations between the Mapuche and foreign populations are long-standing. For many years, they enjoyed a declared and practical symmetry marked by the Bío Bío 'border' (cf. Foerster 2004). However, with the formation of the state and the formal dissolution

of the border, the flow across it increased abysmally, allowing Chilean settlement and the military occupation of Mapuche territories since the 1860s. As a result of this process, the Chilean state came to recognize the traditional ownership of only 10% of ancestral Mapuche territory.3 The scarcity of land and resulting demographic pressures provoked an extended rural-to-urban migratory process throughout the twentieth century, which some have described in comparative terms as the 'Mapuche diaspora' (Ancán and Calfío 1999). Today the majority of Mapuche live in urban areas of Chile. Those Mapuche remaining in their ancestral territories have had to contend, among other things, with the expansion of the agribusiness industry, forestry in particular, stimulated by the military dictatorship. Transnational timber companies, currently owns 2,201,581 ha that correspond to the ancestral Mapuche territory (Aylwin, Yañez, and Sánchez 2013). The Mapuche have also had to deal with the expansion of welfare and corporate subsidiaries after the return of democracy to Chile in 1990, a process that has been partially effective in reducing extreme poverty, but at the same time responsible for reinforcing a bond of state dependence, known in Chile as asistencialismo. Processes of assimilation and dispossession have provoked the articulation of a large Mapuche resistance movement. State response to Mapuche unrest has resulted in the incarceration of more than one hundred Mapuche for actions related to territorial recognition since the year 2000. Among these jailed, 50 have been accused and processed under the antiterrorist law inherited from the dictatorship (Bonelli and Vicherat Mattar 2017; Correa and Mella 2010).

Patterns of disempowering state support and repression are visible, albeit with some variations, in the areas where we have worked: the Pitril community in the Andean mountain range in Alto Bío Bío, and the Elicura Valley near the Pacific coast in Arauco Province. There have been interactions between Mapuche-Pewenche and Chileans in Pitril since the nineteenth century, though these have largely been sporadic and fragmentary. Pitril is set deep within the Andes and until some thirty years ago no road connected the Queuko Valley, where Pitril is located, to more urban areas in Chile. By contrast, the Elicura Valley has been a significant point of contact for Mapuche and non-Mapuche since the beginning of the conquest process, given its strategic position between two of that process's key nodes, Arauco and Purén-Lumaco. As the years have passed, and especially after Chilean independence and the progressive dissolution of the Bío Bío border, people of diverse provenance – including important numbers of German and Chilean settlers (colonos) – have continued to move through the area surrounding Elicura. 4

In spite of differences in the extent and intensity of contact, the people of both Pitril and Elicura offer relatively similar reflections on the alteration that their lives, their relations, and their worlds have suffered. Even when this alteration may be related to subordination, structural violence, and colonialism, such variables – contrary to expectations – are not discussed in the vernacular as primary causes. Although those variables are considered by Pitril's and Elicura's inhabitants, they are usually seen as subjugated to a specific infrastructural occurrence. As we shall see, the transformation is simply and plainly understood as having to do with the construction and improvement of a road. In light of this consideration, we attempt in this article to consider the road as an enigma to be deciphered ethnographically. We will only know what a road is if we explore what a road does and what its capacities are (see Deleuze and Guattari 1987).

Before starting this exploration, we should make an important clarification. Traditionally, in Mapuche rural life, roads (rüpü in the Mapuche language) have been a regular element in stories, proverbs and other narrative genres. Examples of this are stories about trans-Andean relations (Fernández 1999), the role ascribed to roads as a potential context for observing personal destiny (Course 2014), and especially the way many Mapuche narratives are related to trips that imply making or travelling by roads (González Gálvez 2016), or highlighting roads as places where meetings occur (Koessler-Ilg 2007). These roads, nevertheless, seem to be different from the roads built by the Chilean state, those who would provoke the infrastructural alteration of the Mapuche lived worlds. To understand this difference, it is necessary to draw a distinction between the new Chilean roads and ancient Mapuche roads. Contemporarily, Mapuche roads are simply referred as 'huellas' (paths, trails or traces). As this word indicates, these roads seem to be conceived of as the remnants of movements previously undertaken, which may, or may not, be followed in order to pursue a relation. In other terms, 'huellas' are the remains of previously established relations, whose creation was due to the deliberated action of establishing them (cf. Allerton 2013). Conversely, new roads, those imposed from the exterior, have the aspiration of easing the establishment of relations, standardizing and facilitating transit in order to achieve that. These roads are made to remain and rule movement, making unviable the emergence of personal constructions of alternative 'paths'. Eventually, and perhaps most importantly, these roads, in contrast to 'huellas', allow the permanent movement of 'foreign things', as we will see in the following section.

The road and foreign things

Today a rural road built in the 1980s connects the different communities of the Queuko Valley: Pitril, Cauñico, Malla Malla, Trapa Trapa, and Butalelbun. This road is very important for Valley residents, not only because it provided a large number of jobs during the many years of its construction, but also because many objects have arrived by the road that previously did not exist. In fact, the road has represented for many the possibility of attaining the benefits of Chilean life, such as the 'comfort' of salaried work, supermarket food, hot water, etc. Nevertheless, it has also represented, as an elderly man from Pitril signaled, the beginning of a great disordering: 'The road brought a great mess [trajino], it permitted the arrival of an endless number of "foreign things" [ka yewum]'.

Many Queuko Valley residents speak of the road as the entity that triggered the change in the 'mentality' in the younger generations. The road has enabled the incorporation of a variety of exotic entities into the Valley communities: construction materials for new houses, public schools, health clinics, business people, clothes, Chilean food, money, mobile phones, televisions and, more recently, internet and satellite television. This variety of 'foreign things' furthermore impacted the non-human inhabitants of the Valley. In the words of another Pitril resident,

This trajino has led to today's situation in which you see far fewer appearances around here. Many appearances decided to leave for elsewhere thanks to this trajino. For example, you don't see the wacako [water cow] anymore, or the culebrón [a great winged serpent], or that predatory bird called piuchen All those beings that we saw in the past have been leaving In fact, that same being that would visit me at night and suck my blood doesn't come around anymore ... Maybe it's all the injections they use on the new people ... Maybe that one, the witranalwe doesn't like the young people's blood anymore, it doesn't like blood mixed with injections ...

Interestingly, the arrival of the road implies, in practice, that the traditional 'huellas' fell into disuse, and these were the places where encounters with appearances usually took place. Thus, this withdrawal of 'huellas' and appearances can be seen as a response to the arrival of the road and its trajino, an event in which road infrastructure unexpectedly altered the indigenous sensory world. Following Rancière, we can say that the road has had a 'political' effect on the Mapuche-Pewenche world, insofar as it has produced a new 'distribution of the sensible', of the visible, the speakable, the sayable (2006, 121).5 With more precision we might say that what seems to be in play here is a redistribution of the sensible in which the road not only presents itself as a technology of connection, but also as a technology of distantiation (Pedersen and Bunkenborg 2012). This distantiation occurs, however, through the understanding of the preexisting sensible materials in the Valley road, where the 'appearances' autonomously decide to distance themselves from that other material supported and transported by the road. In a way, the road functions here as a border, but not like the colonial border mentioned above, as instantiated historically by the Bío Bío River. The road unexpectedly has the capacity to alter the virtual border that existed between the various beings inhabiting the Valley, between 'appearances' and humans. As a technology of distantiation, the road makes possible and triggers a double exit: the youth decide to emigrate to Chile's urban sectors, while the appearances decide to leave for other places that are unknown to the Valley's inhabitants. The latter exit produces an extension of the virtual world that shelters the appearances in their voluntary exile. To reformulate this point in Batesonian language, the road alters the immanent mind's chain of differences: that which generated socio-material informational unities in the world of the Valley before the road.

What the road can do to a rock



Figure 1. Rock.

The rock in the photograph (Figure 1) is situated alongside the aforementioned road that connects the Queuko Valley with the closest Chilean town, Ralco. Valley residents know the rock as possessing a great power or *newen*.⁶ In the Mapuche cosmo-logic, *newen* is the power, continuous but fluctuant (Course 2012), immanent to all beings inhabiting the indigenous world. Different entities can manifest this intrinsic earthly power: a place or a person, a tree or a river, or even a rock. Moreover, this power expresses particular immanent capacities that vary from entity to entity. Each being manifests this *newen* with a different intensity. There are entities whose power is practically imperceptible for others, making it difficult to interact with them. Other entities, such as the rock in the photograph, possess such power that their presence never goes unperceived.

In effect, this rock and its surrounds are vividly remembered by Valley inhabitants as an important place within Pitril's history. Specifically, the rock's *newen* permitted the inhabitants' ancestors – probably those with certain shamanic qualities – to 'see the future', to obtain visions of the Valley communities' future. This characterization will likely seem strange to the reader who identifies with the 'average western man' mentioned by Bateson in the epigraph. Rocks, for this 'average western man', are inert objects: they do not have power, they cannot bestow some capacity on another and, surely, they are totally separated from the human capacity to perceive the world. As it happens, in recent decades the power or *newen* of this rock has been altered. In fact, this rock is no longer known only as that place with *newen* where those with shamanic abilities accessed other dimensions and 'visualized' the future. Today this rock is no longer a *renü*, as those powerful shamanic meeting-places were called, but instead known as 'Pinochet's Rock' and on it can be seen and read the following (Figure 2).

In daily life, 'Pinochet's Rock' serves as a reference point to locate Pitril's residents, and it separates what are now known as Lower and Upper Pitril. But it is also an element that expresses the Valley's history and its drastic socio-material alterations. The rock commemorates the place's recent decades, obliging us to imagine and remember one of the cruelest dictators in Latin American history. Yet Pinochet is



Figure 2. The inscription reads 'Opening of the road. President Augusto Pinochet'.

remembered in Pitril as the first Chilean president to do something for the communities: he opened a road and employed Valley residents to make it.8 In the words of José, one of Pitril's residents:

This rock has a history, it's not just another rock. It's a holy rock where there was newen ... It's a really big rock, two machines couldn't move it ... It remained on the side of the road, they couldn't move it, because that rock was a renü where there was a lot of newen, where those with a lot of spiritual knowledge would go to learn how we were going to be in fifty years, in sixty, today ... When they built the road there, the machines started to break it, break it, break it, and trucks flipped over and people died, and they couldn't move it. The rock stayed so pretty, and it stayed there [in place] ... And they made Pinochet's thing [the inscription], it's like a monument that they made to Pinochet for everything he did, for the road, for the minimum wage he paid the people to build the road ...

The reference to Pinochet, the road, and the rock, can be considered as the mode in which infrastructures express, visibly, wider political projects (see Larkin 2013). However, it seems to us that the Pinochet administration, expressed in the inscription on the rock and in José's words, does not persist by the state's power to express itself infrastructurally, but it persists rather as a species of infra-structural determination of the Mapuche world's material power, namely, its newen.

This situation evokes Marisol de Cadena's description (2010) of indigenous protests over mining projects at Ausangate Mountain in Peru, a mountain considered by the indigenous to constitute a non-human entity – an earth-being known as tirakuna – with the capacity to drive people crazy, and even to kill them' (339). In Peru, as in Pitril, we are in the presence of entities that are far from mere 'nature' without force or agency. That said, while Ausangate has the agency and force of any human person, the renü empowers visionary agency, namely, the capacity to see the future. Yet the point we wish to emphasize here is that the rock's materiality indicates a distinct ethnographic event, insofar as it shows us something about the immanent transformation of the materiality of things without necessarily invoking indigenous mobilizations that call into question the univocity and objectivity of modern politics, for which rocks are inert rocks, and mountains inert mountains.

The case of Pitril's rock does not imply, from the start, an opposition between worlds. It can be seen instead simply as a testimony of the transformation of a material world affected by heterogeneous forces and materialities. Here we see a strong connection to Jensen and Morita's recent work (2016) on the need to develop an 'anthropology of decentered infrastructures'. Such an anthropology would not impose a priori the limit where materials end and imaginaries begin, nor would it be based in predetermined distinctions between subjects and objects. Instead it would consider subject-object formations as emergent properties of relational and material processes. From this perspective, the intercultural relations triggered by the road can be considered as *inter-socio-material relations* that alter – contingently and unexpectedly – different versions of self-determined sensible forces. These relations transform the Valley, as seen in the rock and the weakening of its *newen*. Today the rock's visionary capacity and its force seem to be paralyzed in time, appearing as an index of a past that existed 'before the road'. But this past remains alive, immanent in the rock that perseveres in its place.

What the road can do to mountains

Elicura Valley represents a parallel case. It is located two hundred kilometers southwest of Queuko Valley, and some twenty kilometers from the ocean. By 2010 it looked completely different than it had just a few years earlier. Situated along the road that unites the towns of Cañete and Contulmo, the Valley was not free, at least tangentially, from abundant contact with the outside world and its foreign things. However tangential the contact, it made it evident that the Valley lacked items that both towns – from a Chilean logic – considered essential for life. Among these 'essentials' were electricity, public lighting, sewage systems, and potable water. To these items were later added signals for mobile phones, internet, and television. In spite of this sense of lack, everything changed for the Valley quite suddenly – perhaps too suddenly.

Valley residents consistently explained this change with reference to an event that never ceased to be surprising: it was the improvement of the road in the Valley that set off a chain reaction. In previous years the different areas of the Elicura Valley were connected by a dirt road that had been insufficiently covered in gravel. After a few hours of rain the road would turn into a bog; after multiple days of rain the road would become a branch of the Elicura River. At the beginning of the 2000s, a dike was constructed to contain the river's swelling and the road was paved over. During the next ten years, electricity, internet, cell phones, and potable water arrived on the road and settled in. The road's importance is not just that it permitted the entrance of items that improved 'quality of life', but also that it provides the means of accessing this improvement. As in Queuko, road construction generated numerous jobs for Valley residents. Today the road continues to generate jobs in the form of road infrastructure maintenance and a program for emergency road works. The latter is essentially permanent as many workers spend the entire year clearing weeds from the roadside – notwithstanding the impracticality of such work.

Furthermore, the socio-material modification that enabled a greater, expedited, and more orderly transit between the Valley and the outside world impacted the area's pre-road constitution. The road became part of the Valley's 'environmental infrastructure', an infrastructure that is always relational and contingent. Reconfiguring the road – paving and maintaining it – reconfigured the environmental infrastructure. The latter reconfiguration is evident, for example, in the disappearance or invisibilization of entities that were previously part of everyday life, entities that abundantly populated the mountains through which Elicura River runs. As in Pitril, there was a migration of 'appearances' and other virtual beings that inhabited the mountains prior to the road's reconfiguration. In the words of an elderly resident of Elicura:

When we were children the *anchimalenes*⁹ were seen a lot, almost always on the hill ... At that time my father had a plot of land in the lowlands and every year he planted potatoes. At harvest time my siblings and I would go stay there. We put together a rough hut [rancha] and would stay there at night protecting what we'd harvested. It was then, at night, that the *anchimalenes* would appear ... Always at night ... They'd be some two hundred, two hundred-fifty meters away, like they were floating on the hill ... We'd all get scared and hide so that we couldn't see what was there ... These were the kinds of things that would happen before, but now they are hardly ever seen anymore ...

Similarly to Francisco's brother, the Elicura Valley – or, more precisely, its hills, the ancient habitat of *anchimalenes* – has been socio-materially altered since the road improvements, enabling a distinction between two temporal moments in the Valley and its hills. As an elderly Valley inhabitant said,

this *mapu* [land] isn't like the old *mapu*, because forty years ago, for example, the mountains that are here now weren't here. There were other mountains before, mountains full of *mognen* [life], a lot of life Another *vill mognen* [roughly, 'all that lives'].

In Elicura, the road alteration presents an additional dimension that has powerfully contributed to the redistribution of sense, as Rancière puts it. This dimension has radicalized the invisibilization of the *anchimalenes*, and 'native trees', and made new inhabitants appear, among them Monterey pine and eucalyptus trees. This dimension is connected to the introduction of practices, objects, and technologies associated with the lumber industry. This ensemble of practices-objects, is a particular example of the materiality of the indigenous worlds that has been altered, inasmuch as it manifests clearly the tension of the alteration that has been produced by the interaction of those 'foreign things' with the things that were there prior to the road. This tension appears by virtue of the fact that both agencies – foreign and indigenous – present mutually repellant logics. Whereas the relational constitution of the place observes a complex equilibrium of autonomy and respect among its constituent parts (see Course 2011), the 'foreign' takes the upper hand and transgresses this equilibrium.

The pre-road relations in the Valley might be described by the logic of 'good distances' (Foerster 2004), in which each entity attempts to avoid intervening in the subjective intentionality of others at the same time as that entity expects others not to intervene in its own subjective intentionality. On the other hand, the foreign practices and materialities – of which the lumber industry is among the most significant – attempt in their most common expressions to appropriate, and/or to objectify and de-agentialize, the other – human or non-human. This type of practice, especially when carried out by humans, tends to be labeled *winka*, or non-Mapuche, and is usually identified as a maximalizing eagerness, which the Mapuche rightly describe as 'materialist' behavior. A former Valley leader encapsulated the sentiment:

these idiots [from the lumber industry] think they own everything ... They destroy everything just to get a few pesos ... If they shit on everything and destroy it all, they go somewhere else to keep getting money ... They have no roots.

The opposition becomes clear at this point. The practices and agencies are not only different morally, but also in their capacity for movement. While some are rooted in specific places, and are configured as part of the ecological interaction – of *newen* – of entities that inhabit those places (see Bonelli 2014, 2015; Di Giminiani 2015), others 'have no roots' and can move socio-spacially without impediment. Roads, to be certain, facilitate and enable such movement.

Altered mentality

If we consider all the described alterations together, then they evoke the immanent mind described by Bateson. In recent decades the 'mentality' in both valleys has changed. This fact was confirmed repeatedly by our informants. Yet characteristic of this 'mentality' is an immanent continuity between things and ways of thinking, between the materiality of things and the materiality of imagination. Curiously, and coincidentally, the change of 'mentality' in our ethnographic cases was described to us as the progressive appearance of 'materialism', an attitude that arose in the Mapuche communities through the incorporation of new 'materials' for housing construction. People became 'materialists' because of the 'construction materials':

With the road came materialism, it made everyone addicted because it brought oil, fat, fish, a series of things, it brought a box of food ... And from then we began losing that which was ours, our values, our union ... Before people would help each other, if someone was sick everyone would go help them, and then material for housing was delivered, and from then the materialist idea took off, the idea of the youngest is material, they put aside the elderly.

It is evident that this emergent 'materialism' refers to a series of material connections distinct from the connections – which are also material in their own terms – that make the shamanic visions possible around Pitril Rock, and from those materialist connections related to the existence of appearances and other virtual (or actual) beings in the Mapuche world. We would go so far as to say that this emergent 'materialism', enabled by the road, triggered a determinate infrastructural transformation by means of

its own infrastructure. The road, in fact, triggers the retreat of the appearances and other beings in both valleys, in addition to the at least partial (and by no means definitive) erosion of the rock's *newen*.¹⁰

What we would like to emphasize in what follows, however, is that the road not only appears as a place that connects the communities with foreign things, but also as a place that is progressively more travelled upon and dangerous, with the immanent capacity to exacerbate a contact with the outside that is each time more self-destructive. Put differently, the socio-material relations that the road offers unexpectedly metabolize the contingency of different worlds in suspense. In doing so, these socio-material relations rearticulate the specific material properties of such worlds, opening up, at the same time, unexpected immanent modes of reflexivity, self-determination, and self-destruction. To further clarify this point, we now move to our concluding ethnographic vignette.

Immanence as predatory infra-reflexivity

After trying for years to recuperate their ancestral territory, the Melimán community in Elicura finally obtained from the Chilean state a part of their lost lands. Chile gave them fields in a sector of the Valley called Ngol-Ngol that for a long time had been part of a *winka* agricultural estate. Once they had received the land and settled many people there, a problem that seemed to belong to the past reappeared: the access road was a simple vehicular track that became completely impassable with even minimal rain. The newly formed community leadership and the lumber companies in that sector had a particularly close relationship. The community president was an old lumber worker, and the companies had already donated a prefabricated house to the community as a headquarters. Taking advantage of this relationship, the community initiated a series of conversations with the companies to ask their help to gravel over and generally improve the road, at least until the state could pave it over with asphalt.

This situation radicalized a latent divide in the community. On one side were those who thought the relationship with the lumber companies could be developed to the community's advantage. These were the same ones who generally saw the companies as a positive presence, inasmuch as they provided work for much of the population. On the other side were those who morally criticized the companies, seeing their way of acting toward people as of a piece with the maximizing logic they employed in their relations with the rest of the Valley's entities. Both positions were at the same time based on differing interpretations of a new lumber agreement, which was understood as 'strengthening community relations'. If there exists a general agreement that the objective of actions framed within such a paradigm is to facilitate company activities (cf. Correa and Mella 2010), there are those who insist on participating in this disposition, while others present their resentments before the potential results of a link with company practices. Regardless of these divisions, the companies completed the road improvements, which not only served the people of Ngol-Ngol but were also useful for their own trucks.

Sometime later, under the same rubric of 'strengthening community relations', the same company started a registry of sites of 'cultural interest' it had found in the forest. Thanks to the improvement and extension of the Ngol-Ngol road, which ran out in the hills where Elicura ended, a place called *Yagyag* was found. It supposedly was an old *nguillatuwe* (which translates roughly as 'rogation place') located next to a waterfall. According to company documentation, the place had been used in the past in collective and individual rogations, to make requests for general wellbeing, for 'good weather' ['bonanza'] in rainy years and rains in drought years. Many of those who had been suspicious of the lumber companies thought it extremely strange that the company in question seemed so disposed to return this site to the control of the Valley communities, as previously it had been quite reticent to hand over other places that were clearly much more important to those communities. One response to this enigma came from a well-known elderly woman in the Valley, in a meeting organized by the provincial health service. After learning of the intentions of 'those from the lumber company', she related the following in a casual conversation:

In the mountain there is a little waterfall, the Mapuche call it *yagyag*, a little waterfall where the water drops some three meters ... But it's no *nguillatuwe*! That's where the *cherruve* lives! About eighty years ago, maybe ninety, there was a *machi* from Marilao down here who told [a story] ... In that time, when it didn't rain, and they went to

that part [the *yagyag*] to make it rain, and the *machi* went with them ... Then, when they were there, the *machi* received the spirit [went into a trance], and he told everyone to leave because the *cherruve* was there. They got out of there fast! If it hadn't been for the *ngenmapun* [roughly, the 'owners of the earth'], the good spirits that were there, everybody, those who went with the *machi*, would have died, because the *cherruve* was going to suck their blood ... That place is not *nguillatuwe!* The *cherruve* is there! Who is going to make *nguillatun* there? To go and hand over your life, so that the *cherruve* sucks your blood and kills you? No way!

The *cherruve* is described by the people of Elicura as an entity that feeds on human blood.¹¹ In the strict sense it is an 'evil spirit', a *wekuve*, that feeds on those beings who transgress its vital space. In this situation, it is the new road, constructed from a 'new mentality' of maximization, that enables the exacerbation of a relation with an entity that would not be able to relate to Elicura Valley if it were not for that same road. It is, therefore, the road that transgresses the *cherruve*'s space. The road connects that space from its exterior to the Valley, making the space interior to the Valley. Given that it is founded on and enveloped in the new mentality, the alteration implied by the road does not only have to do with the disappearance and invisibilization of certain entities. As happened with Ausangate in the Andes (De la Cadena 2010, 2015), it also represents a real risk to human lives. All of this occurs through the exacerbation of the connection, what might be called a type of 'predatory infra-reflexivity'; that is, the ways in which all changes to a system are structurally and immanently determined, and in which, to again invoke Maturana and Varela, 'those structural changes are a result of their own dynamics or triggered by their interactions' (1984, 64).

The ethnographic analysis of the infrastructural metabolism produced by roads in southern Chile allows us to account for the contingent and unexpected alterations in which the emergent infrastructural assemblages metabolize what once constituted the pre-existing system. Ethnographically, this is expressed as a redistribution of *newen*, or the ontological consequences stemming from the approximation of the *cherruve* implied by the new road alteration. In an infra-reflexive sense, infrastructural materials predate themselves in unexpected ways. To summarize, in this paper we have approached roads from an ethnographic perspective that demonstrates that there exists a space in which ontological transformations are effectively produced through contingent socio-material events. Pitril Rock is not the same as it was before the construction of the road; neither are the valleys the same without the beings that inhabited them in the past or with the inclusion of new beings such as Elicura's *cherruve* that come to form part of it. By considering these ethnographic metabolisms, what we have tried to establish in this article is that the transformation of environmental infrastructures is always predicated on a mode of reflexivity that is immanent to infrastructural assemblages and strongly grounded upon its particular material properties. In sum, no one road leads to Rome. Rather, all roads lead to unforeseen ontological configurations

Notes

- The term winka comes from the expression 'pu inka' ('the inka'), but it is used indiscriminately to refer to those who
 for various reasons are considered to be non-Mapuche (the Spanish, Chileans, and other foreigners). For a more
 detailed discussion, see González Gálvez (2016).
- For an analytical review of current debates about ontological self-determination, see Holbraad, Pedersen, and Viveiros de Castro (2014).
- 3. 510,386 ha of an approximate total of at least 5,000,000 ha (González 1986).
- 4. The nuances concerning contact show a difference, for example, in the linguistic reality in both areas. While in Pitril there is an important concentration of bilingual speakers in Spanish and Chedungun (in Alto Bío Bío there is a 90.7% bilingual population), in Elicura the percentage of bilingual speakers seems to be around 40% (see Gündermann et al. 2008; Teillier 2013).
- Or, in Jensen's terms (2015), it has generated a redistribution that altered practical ontologies. For approximations similar to Rancière, see Bennett (2010) and De la Cadena (2010, 2015).
- 6. There are several kinds of rocks in the Mapuche life that form part of this newen continuity. Important examples are machi stones in Alto Bío Bío, and likan in Elicura, animated stones related to volcanoes. A renowned rock, that manifests in a special way this newen, is explored by Schindler and Schindler-Yañez (2006).



- As Povinelli (1995) discusses in a similar case, the Pewenche description is in this sense fully converted into belief, and as such subordinated to discourses that can only evaluate it in the expression of patrimonial value, never as a description adjusted to 'reality' (cf. Bonelli 2012; Di Giminiani 2013; González Gálvez 2015).
- A general exploration on the place of Pinochet (and the main winka political leaders) in the Mapuche life, can be seen in Foerster and Menard (2009).
- Entities described 'like lights,' 'like fireballs,' or 'like giant fireflies,' usually visible from a great distance. In the past
 they were associated with 'witches' (Montecino 2003). This connection seems to be absent, however, from Elicura,
 where the anchimalenes were/are conceived as autonomous entities.
- 10. In theoretical terms, this 'materialism' of 'construction materials' evokes ethnographic work on housing infrastructures in indigenous Australian territories (Lea and Pholeros 2010). This work conceptualizes as 'dirty materialism' the practical relevance of particular material connections that permit or not the adequate functioning of certain technologies. Nevertheless, the idea of 'materialism' expressed by our informant suggests that the 'dirty materialism' of construction materials has nothing to do with materials imbued with *newen* in the Mapuche worlds, nor with the virtual materials of the retreating 'appearances', nor with the power that enables the development of shamanic visions about the future.
- 11. Following Augusta it is 'an igneous phenomenon known by the name of "fireball" ([1916] 2007, 20, 21). Montecino (2003) provides an enormous quantity of descriptions along these same lines.

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