THE FILM-ARTEFACT OF THE ATACAMA DESERT

Or about translations in Social Sciences

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PhD (Sociology)**

by Felipe Palma Irarrázaval

Goldsmiths College
University of London

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Declaration

I, Felipe Palma Irarrázaval, declare that this thesis is all my own work.

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Abstract

Operating within the field of visual sociology, this thesis analyses the notion of translation in the social sciences, exploring the expansion of materials used in the construction of research results. The thesis starts by reflecting on B. Latour's (2005) method of research production, which creates objects of knowledge by collecting, superimposing and stabilising traces of the world within the limits of a given material device. The central argument is that whenever research is conducted it needs to translate its phenomenon of reference into a new medium in order to visualise it.

Using an interdisciplinary approach, this investigation combines filmmaking and sociological practice towards the creation of a visually based artefact, which takes the form of a feature-length documentary film made about the Atacama Desert, northern Chile. Thus, this work has two interconnected lives. The first consists of a written exploration of the problem of translation in social sciences, arguing that describing the social is at the same time the act of recreating it. The second undertakes a material exercise of translation, constructing a film artefact entitled *The Region*.

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INTRODUCTION

This thesis has two interconnected lives. The first consists of a written inquiry into how a visual outcome can be fabricated from sociological practice. The second attempts to actually construct an artefact of this kind, in the form of a feature-length documentary film. These two outcomes, the written and the visual, are two sides of the same coin. While the first explores how the social world can be translated into a visual layout, the second undertakes a material exercise of visualisation. The whole process is directed towards entangling thought and craft, in an attempt to bridge the gap between art and research.

The visual artefact attempts to visualise the socio-geographic territory of the Atacama Desert in northern Chile, South America. This desert is located in what is known as the Circumpune Zone, in the foothills of the Andean Plateau, and covers an area of over 100,000 square kilometres, twice the size of England. It is the southern area of what used to be the Inka Empire, the last complex indigenous society before the colonial conquest of South America. The Atacama has been rapidly reshaped during the last century, influenced by iterative mining cycles and the consequent arrival of new immigrants, machinery and resources. This ongoing process has confronted indigenous ways of life with the exploitation of modern natural resources. The encounter has also prompted new encounters and ritual expressions.

In this regard, I give special attention to a particular ritual event found in the Atacama, known as the festival of Ayquina (*Fiesta de Ayquina*). This festival takes place once a year in a small village in the inner mountains of the Atacama, crowding it with hundreds of dancers and musicians. The ritual performance depicts a dream-like universe, populating the village with all kinds of fantastic beings and creatures. However, its current features were only set in motion

after 1990, when a massive expansion of the copper-mining industry took place, bringing new migrants and resources to the area. Like many other ritual festivals found in the Andes, the festival of Ayquina is a by-product of several hybridisation processes (Morandé: 1980; Gruzinski: 2000; Guerrero: 2013), influenced most recently by factors associated with the growth of the mining industry.

On top of the long-standing superimposition of Christian practices on indigenous ones as a result of an aggressive process of religious conversion, mining migrants have added new images, practices and meanings to this event, transforming a small village festival into a massive event full of elaborate performances. It is here, in my opinion, that a locally produced image of the Atacama is found, entangling in one time and space the different registers of reality (social, economic, historical, etc.) that articulate this territory. Hence, the Atacama film artefact was organised around this particular event, using it as a starting point to examine the broader territory surrounding it.

> *The Region* is an observational documentary set in the desert regions of the copper mining industry in Northern Chile. The main body of the film works as a journey from the heart of copper production in a sacred village in the Andes Mountains, all of which takes place amidst the backdrop of an overwhelming natural landscape. The film delves into a yearly festival following three separate families who live and work in Chile's most extreme mining cities, joining them in their journey to the inner mountains, which they populate with fantastic beings during the festival. Through dance, music and customs these people transport themselves into a different dimension, in an effort to deal with their unset surroundings. Told through a combination of observational and archive footage, it delves into the relationship between Chile's enormous mining extraction and the families whose culture has inevitably been shaped by these forces. (From the released synopsis of *The Region*.)

The two complementary outcomes of this thesis, the written and the visual, aim to establish a dialogue across disciplinary borders, following the standards both of sociological practice and professional film production. Together, they explore how social research can learn from filmmaking and vice versa, how the creation of images can learn from social research. Through this cross-over, I propose that a gap opens up for methodological innovation in terms of the languages, media and processes employed by sociologists. At the core of this proposal is the idea that whenever research is conducted, the social world is translated within the limits of a new medium, written or visual, that necessarily transforms its object of knowledge in order to represent it. Following Latour's (2005) method of research production, which is based on a series of operations that collect, superimpose and stabilise the traces of a given phenomena into a new media, I propose that different crafts can be combined along this transformation process, seeking to create ever-more-expressive images about the social world we live in

This research can be categorised under the sub-discipline of visual sociology, which has expanded the methods used by sociologists by exploring the potential overlap with non-alphabetical media, such as digital images, installation, cartography and others. Among much sociological work that has engaged with these issues, that of H. Becker (2005) has become particularly important in understanding how different crafts can be combined to represent society. In his view, any representation of society must perform several operations before becoming a finished piece of work, transforming the original phenomenon via a step-by-step procedure (selection, translation, arrangement and interpretation). The finished piece is never the phenomenon itself, but a figuration that has been craft-worked using several media and limited by material constraints. Being aware of these operations, crafts and limitations improves the communication between makers and users, opening the work to new materials, devices and forms of representation.

The visual outcome of this thesis is a practical exploration of how representations of society can be fabricated. It is an attempt to stabilise a visually-based artefact that translates a certain territory of experience into the materiality and language of film. The construction of a feature-

length documentary film about the Atacama Desert is the material result of this exploration, which has combined the idea of translation with the tools and procedures of filmmaking.

In addition, a last element was considered. While sociology contributed a method, and filmmaking a visual language to work with, the subjects' own modes of visual representation provided the guidelines for the design of the artefact. This is to say that the visual artefact was inspired by visual representations created by the people of the Atacama themselves, among which I highlight a particular aesthetic pattern that recurs in many different objects and practices. This pattern, commonly referred as the Chakana, can, I propose, be described as a cosmogrammatic model (Tresch: 2004), which combines dissimilar orders of relation within one system of relations.

Although there is no agreement as to whether the Chakana really exists as a historical figure, or whether it is an 'invented tradition' (Hobsbawm & Ranger: 1983), it widely plays a key part in current strategies of representation found in the Andes. Among the many examples I review in this thesis, I pay special attention to how the festival of Ayquina too is informed by this cosmogram, showing how it shares aesthetic features found in other Andean artefacts such as textiles, architecture and myths. Given the aesthetic commonalities between different Andean artefacts, I propose that the translation of the Atacama into audiovisual medium can also be informed by the Chakana, in relation to the kind of traces to be collected as well as to their consequent arrangement within a documentary film narrative.

CHAPTER 1: Sociology of Translations

The central concept of this first chapter is *translation*, understood as the process through which an object of knowledge is displaced into other media (Callon: 1986). The concept of translation is used to replace the idea of objectivity, asserting that the construction of knowledge is based on the manipulation of both the object of knowledge and its representations (Guggenheim: 2014). Thus, the concept refers to the transformation that occurs when a representation of a given object is fabricated within the parameters of a certain medium.

Especially relevant to these issues is the work of B. Latour and in particular his development of science and technology studies (STS), a field that provides a clear idea about how any research practice builds its final outcomes. In his view, research is always directed towards the construction of a final artefact, which has been produced by a step-by-step process of translation. By collecting, combining and editing a set of data, or *traces*, researchers fabricate an artefact (written or not) that brings order to a certain multiplicity. This final outcome is not a mimetic representation of the world; it is the transformation of a given object of knowledge into a new medium. An artefact is stabilised and placed on a complementary dimension to its object of knowledge, co-constructing the phenomenon by providing a point of view that helps explain and relate to it.

This final outcome will be considered valid when it proposes a representation that adds to the ways in which an object of knowledge is understood, visualising it in a different way or framing it under a new perspective. Thus, the artefact gains an agency of its own, working as a base for new actions and thoughts, interacting with objects of similar kind and with the humans that use them.

In order to complement the concept of translation, I use a second perspective on how representations of the social world are fabricated, taken from current trends in the Marxist tradition. Here, the problem of representation is in straight connection with the need for representing totality. Thus, although the social totality cannot be objectified, it is both possible and necessary to represent the macro-structures that constrain social life. While the STS approach focuses on collecting and translating the traces that phenomena leave behind them, the Marxist current points to the need for those translations to connect isolated individuals with the broader totality that surrounds them.

These two perspectives are usually seen as mutually opposed; however, I propose that they can work to complement each other. While Latour and STS provide research with a clear method about how artefacts are constructed, the Marxist current emphasises the role these artefacts play in the world. At this point I follow Alberto Toscano (2012), who explains how the desire to interpret totality is not incompatible with paying 'painstaking attention' to traces, translations and devices. To conclude, I review two cases that show this compatibility: first, the critical approach to cartography, in which totality is represented by a particular process of translation; and second, the notion of the cosmogram as proposed by J. Tresch (2004), referring to a particular kind of object on which an image of the whole is inscribed.

1. Artefacts and Mediations

Throughout several publications, B. Latour has emphasised that social research is directed towards the construction of artefacts, which results in an assemblage of humans, devices and crafts (see in particular Latour: 1986, 1990, 2005). He suggests that research thus follows a step-by-step process of translation, through which the traces of a phenomenon (data) are inscribed, recollected and combined towards fabricating a stable artefact (written, visual or otherwise). Contributing to this process is not only the subjectivity of the involved actors (researchers) but also a series of non-human elements (materials, resources, devices, etc.), all

of them assembled towards putting a new object in circulation in the social world It is through these assemblages that a new artefact emerges, comprising a set of words or images that create a statement about an object of knowledge.

Researchers, as Latour describes them, continually transform their materials by a step-by-step process of translation that necessarily distorts, modifies and drags their objects from one medium to another. The process starts by making observations in the field (or laboratory) and inscribing them in words or other media such as photographs, drawings or numbers. These inscriptions are used to transcode observations into tables, the tables into charts and the charts into conclusions. The whole process is then acknowledged in an academic paper that is published in a specialised magazine with other papers of similar kind. At each step, the object of reference has been modified and transformed into something else (words, graphs, images, etc.), each time becoming further separated from its original setting.

The fabrication of a finished artefact (for example, a published paper) emerges from the interaction of human and non-human agents, in which each part influences the other. Researchers work with limited materials, and this constrains their work. In addition, the work uses standardised and institutional ways of doing things, circumscribed by limited budget, time and resources.

When the constraints under which a translation of this kind takes place are acknowledged, it becomes clear that the final artefact and its object of reference do not relate in terms of exchangeable realities, the former being a transformation of the latter. The final artefact is a way of co-constructing the object of reference by providing a new statement that helps explain it. A statement is considered valid when it proposes a model (among other possible models) that brings order to a certain multiplicity and, at the same time, is accepted by other actants and included as a point of reference in their own practices. Thus, fabrication of a final artefact is not a method to transfer information from one place to another, but, more precisely, a material set of operations that creates order, reduces noise and influences new actions.

Latour's proposal becomes clearer when two kinds of artefact are distinguished: intermediaries and mediators. An intermediary is an entity or network that thinks it is not distorting the social when describing it. Intermediaries are thought to transport meanings or forces without any kind of interference, as black-boxed procedures that define their outputs simply by defining their inputs. Conversely, mediators engage in the construction of artefacts – using several possible media – that necessarily transform, translate, distort and modify the meanings they are supposed to carry.

The process through which mediatory artefacts are created is based on what Latour calls 'inscription devices' (2005). This concept does not refer to the act of translation, but to the material machinery on which the trace of a phenomenon is recorded. By collecting several inscriptions, these devices drag traces from one medium to another, producing the inputs that researchers will work with. For instance, a statistical survey is a device that inscribes a phenomenon's traces by means of numeric notations. Alternatively, an interview inscribes discourse by means of recording sound and transcribing it into textual representations. In each case, the task is to combine and superimpose several of these inscriptions within a coherent system of relations, shaping a final artefact to be placed in the world.

Guggenheim (2011) emphasises how sociologists have increasingly come to recognise that final research artefacts can be produced beyond the constraints of textual representations, opening them to the use of visual and other media. He claims to overcome an asymmetric media-determinism in which only some materials ensure an objective, non-interference research process. At the core of his argument is the concept of translations, which brackets the problem of objectivity versus subjectivity by showing how every research practice works with some level of interference or manipulation. This interference is the condition *sine qua non* of the construction of any representation, and therefore needs to be embraced as a constitutive part in any process of translation.

The central preoccupation of the sociology of translations is not to explain phenomena away, but to elucidate their empirical existence by producing a cascade between thing, traces and inscriptions: 'A fact holds, if the cascade of translations from the object into its inscriptions is made durable. The more steps between objects and description and the better each step is based on and agreed upon possibly black-boxed procedures, the stronger the facts' (Guggenheim: 2011, 4). Researching the social world is therefore a networking process, which needs to transform its objects through a step-by-step chain of translations, until these end up composing a stable narrative within a given materiality.[1]

2. Artefacts and Totality

Having formulated research practice as a process of translation towards the construction of mediatory artefacts, this section further explores the agency they possess once placed in the world. It outlines an ongoing controversy between two major bodies of work within social sciences. On the one hand, I return to Latour's work and the distinction between the science of the social and the traces of association. On the other, I delve into some aspects found in the representation theory of the Marxist current, in which creating an image of totality does not contradict the impossibility of producing objective knowledge. This exploration suggests that final research artefacts have a social agency that goes beyond adding multiplicity to their objects of knowledge, giving them a political role in the construction of the social.

In the opening pages of *Reassembling the Social* (2005), Latour argues against the assumption that the social can be treated as a material thing, as a given and homogeneous body of knowable relations waiting to be unfolded: 'It is no longer clear whether there exists relations that are specific enough to be called "social" and that could be grouped together in making up a special domain that could function as "a society". The social seems to be diluted everywhere

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[1] Analysis of final research artefacts and the media they employ can draw insights from the work of Deleuze and Guattari. In the famous introduction to *A Thousand Plateaus* ('Rhizome'), first published in 1988, they approach this kind of artefact from an even more radical perspective, which goes beyond their mediatory features to focus on them as rhizomatic assemblages. Although their argument is mainly concerned with book

and yet nowhere in particular' (Latour: 2005, 2). There is no basal principle from which societies emerge, like a tree whose branches expand in different directions; on the contrary, the social should be framed as composed of many kinds of different connectors, always acting and reacting to each other.

Rather than being fixed within any sort of superstructure, the social emerges from irreducible networks of associations, which tend to stabilise and dissociate with equivalent force. Thus, sociological practice should be rich enough to account for the social without reproducing static concepts that need a 'higher' category to bind them together. It has to leave aside all desire to become a scientific endeavour of the 'real',[2] turning its attention to mobile yet durable networks. Thus, the social reproduces itself by encompassing heterogeneous orders of people and things, rendering them in clusters of relations (Collins: 2006). Stable or not, these networks cannot be seen as fixed, providing observers only with traces of their ongoing movement.

The science of the social is therefore opposed to the traces of associations, with the former assuming society as a stabilised set of affairs and the latter describing it as a heterogeneous mobilisation of forces. When the science of the social spots a fixed bundle of ties composed of functions and structures, the traces of associations declaim that 'it is no longer possible to inspect the precise ingredients that are entering into the composition of the social domain' (Latour: 2005, 11). In this sense, the traces of associations attempt to reframe sociological practice by leaving behind any desire for abstract and universal models, replacing it with the empirical study of dynamic networks and associations.

Such a project, however, entails scrutinising more thoroughly the exact content of what is assembled under the umbrella of a society. The same development of the discipline, Latour thinks, has taken it to a point where the idea of society is a conceptual construction to describe wide and diverse orders of relations. It does not designate a thing among others; society is not

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[2]   A similar argument is proposed by some critical cartographers, who reject the describing of space by means of rendering particularities under a higher or static topographic category. In this way, scale is dismissed as a pivotal element of cartographic practice. Space is composed of many different registers, going beyond the transcoding of geographical features onto a flat plot (see Marston et al.: 2005).

the glue that ties everything together, but a type of connection between things that are not themselves social.

The distinction between the science of the social and the traces of associatio*ns* prompts Latour to work towards de-reifying social explanations, challenging how research is conducted and how its outcomes are thought. By redirecting attention to the collection of inscriptions of people and things, explanation and world are de-linked as mirrors of each other. Thus, it is no longer possible to have humans on one side and things on the other, as if nature and culture were separate realms. They rather comprise entanglements of associations, a 'jungle of forces', all seeking hegemony by increasing, reducing or assimilating one another. In other words, Latour shifts from giving ostensible explanations of the social to describing the performative encounters that make associations emerge.

This new approach in conducting research aims to treat humans and non-humans symmetrically as owners of equal agency in constructing the social, calling for what Latour refers to as the Actor Network Theory (ANT). This approach to social theory and research methodology proposes that all factors involved in a social situation (ideas, objects, trajectories) need to be put on the same level, all of them being equally relevant in creating the social. ANT rejects the idea that social relations are independent of the material and natural world, proposing that what is important is not the hidden forces of the social but the kinds of connections that are established between dissimilar entities, human or not. Thus, strictly empirical analysis should be undertaken to describe rather than to explain the social.

Latour's claims have clashed with a large body of work within sociology, prompting a strong reaction on several fronts. The sharpest arguments have come from ANT's main intellectual critics and interlocutors, namely, Marxists; the works of Whittle and Spierce (2008), Toscano (2012), Soderberg (2013) and White (2013), among others, are central in this regard. If ANT asserts that no objective knowledge can be reached, but only possible descriptions of entities and networks, the critics have argued that 'the theoretical desire for totality is not

incompatible with a painstaking attention to traces, objects and devices' (Toscano: 2012, 70). To depict totality is not to stage a static panorama of the whole, as Latour argues (2002), designing a picture that has 'no gaps in it'. On the contrary, the idea of panorama needs to account for both the totality and its constitutive devices. Fiction is its condition of truth. In fact, 'the panoramic image is consumable only as fragment, as parts that must be cognitively reassembled into the imagined whole' (Caray: 2002, 21). In every case that a panoramic view of the social is assembled, a set of devices must have been put to work staging it.

Equally relevant to this critique is the work of Whittle and Spierce (2008), who, without completely dismissing the usefulness of ANT's approach to social studies, criticise the assumption of symmetry between human and non-human actors. Their main argument is that ANT relies on a naturalising ontology and an un-reflexive epistemology. Their first point is that it is necessary to recognise that 'the way things are is never natural or inevitable and therefore could be otherwise' (Whittle & Spierce: 2008, 3). ANT assumes there is no agential priority between the institutional, the conceptual, the natural or material, endowing the same degree of agency to a machine or a person, ignoring the fact that power structures might hide behind objects designed by humans, defining their hierarchical relations. Their second criticism is directed towards the un-reflexive epistemology of ANT. In Whittle and Spierce's view, the often-accepted epistemological relativism promoted by ANT, by which authors 'define the world in their own terms' (Latour: 1999, 20), falls down because 'most analyses produced by ANT fail to match the kinds of descriptions and explanations that members would provide themselves' (Whittle & Spierce: 2008, 11). Furthermore, reflexivity implies the rejection of the positivistic assumption that reality exists in itself, waiting to be captured by the researcher. Thus, neither agency nor the world's own terms can be assumed as existing a priori.

In a more straightforward argument against ANT, Soderberg (2011) argues that the dualism between practical as opposed to theoretical knowledge is merely an adaptation of the thought of forerunners of Marxism, where idealistic philosophy was opposed to intellectual praxis. The link between ANT's critique of dualistic modes of thought and dialectics, Soderberg proposes,

is so obvious that Latour could hardly have failed to notice it; however, he does not address it. What ANT misses from this tradition is that the analysis of the particular must always be made in continuous dialogue with the greater whole of which it is part. What is at stake here is the philosophical idea of totality found in both Hegel and Marx (Jay: 1984), which is undermined by ANT's emphasis on locally emergent events. The a priori assumption that one is always working with locally grounded traces, moving outwards, tends to prevent the acknowledgement of observations that are consistent across time and space.

ANT's reply to these critiques starts by assuming the presence of macro-actors and micro-actors, which are scaled according to their unequal success in becoming hegemonic. A macro-actor will thus be the result of a network that has expanded to the detriment of others, imposing its own rules as the point of reference for action and thought. In this sense, the totality or panorama is subsumed into expanding networks that have become powerful enough to claim their representations have 'complete control over what it is being surveyed' (Latour: 2002a, 188). The relation between macro- and micro-actors can be seen then as a topological one, with the former emerging from long processes of sedimentation and superimpositions (Thrift: 1995) through which 'records circulate and translations are effected' (Collins: 2006, 250). The Marxist desire for totality is, under this perspective, the work of a macro-network equally comprising emerging actors and things.

The ideas of Fredric Jameson found in his work 'Postmodernism or the Cultural Logics of Late Capitalism' (1991) provide new insights on these matters. In his view, the role representations play in the social world can be grasped through the notion of figurations of totality. This asserts the need to interpret and comprehend the physical and symbolic territory on which human experience unfolds, articulating rhetorical images that frame the perception of a chaotic multiplicity under a manageable set of relations.

Figurations of totality, however, must not be confused with totality itself; rather, they should be seen as man-made images that stress the gap between isolated experience and a broader

sense of totality (Jameson: 1991, 54). Neither does the term allows the depiction of all possible beings or the definition any sort of ultimate truth; more simply, its figurative potential rests on selecting some elements of a diverse panorama while obviating others, making visible what otherwise might remain unobservable. Indeed, these constructions always run along the sharp tightrope between arbitrary constructivism and unnoticed reification, depending on their uselessness to guide human action or their identification with reality itself, respectively. To avoid both arbitrariness and reification, Bateson's (1972) distinction between map and territory becomes helpful. The essential impossibility of knowing what the world is, he argues, has forced us to filter it into some kind of analogue figuration, as in the relation between territory and map. The main feature of maps is not their literal truthfulness regarding a given territory, but their analogue structure to visualise an image on a different scale.

To show how a figuration of totality is achieved, Jameson starts by reframing the more general idea of *representation*. The act of representing, he argues, should be understood neither as synonymous with some *bad ideology*. Instead, representation is synonymous with figuration itself, because there is no representation of the world that is not a figuration of it. To represent something is to transform it within a new figure, dragging it from one dimension to another. A map is never the territory itself but its scaled abstraction; similarly, an image of totality cannot be mistaken as totality itself. It is through the differential between figure and figuration that the act of representation becomes possible.

On a conceptual level, figurations of totality are a synthesis between Kevin Lynch's notion of 'imageability' and Althusser's notion of 'ideology', articulated to address how individuals picture their surroundings. Imageability as proposed by Lynch concerns the legible image of the city's spatial form that can be visually grasped as a related pattern of recognisable symbols. It refers to the translation of a certain territory into an analogue, yet not literal, structure, by distinguishing key points, landmarks, flows and areas of the cityscape. Imageabilities, Lynch argues, enable citizens to visualise their daily life in a comprehensible way, without having to consider all at once the infinite elements that compose the totality they live in.

To complement this notion of imageability, Jameson turns his attention to the concept of ideology in Althusser's work, defined as 'the imaginary representation of the subject's relationship to his or her real conditions of existence' (Althusser: 1972, 109). For Jameson, the Althusserian concept of ideology is useful in pointing out the imaginary dimension that mediates human experiences, the monadic point of view to which we are necessarily restricted.

From this framework, Jameson proposes a positive conception of ideology, understood as a necessary function – in any form of social life – to stress the gap between individuals and the broader social world in which they are situated. It connects phenomenological perception with the totality that transcends all subjective experience, stabilising a narrative that organises the invisible and unreachable surroundings within a comprehensible image. In short, positive ideology is the act of stabilising a point of view by which sense is given to the external world. It is the symbolic dimension of ideology that coordinates, by means of conscious or unconscious representations (figurations), individual life within the totality of the social forces it is part of.

Against the common view that sees ANT and the Marxist perspective as mutually exclusive, I think they can work in complementary fashion in regard to mediatory artefacts. When the notion of figuration of totalities is added to the equation, mediatory artefacts gain a political dimension in mediating between readers' isolated experiences and the broader surroundings they live in. They render an image of totality by translating it into a new medium, as maps do when a whole territory is rendered onto paper, making it visible. Creating a figuration of totality demands careful attention to the employed devices, signs and materials (Toscano: 2012). It is not possible to create a figuration of this kind if the tools employed are not made explicit to the reader, who needs to absorb both the rendered image and also the point of view and craftwork behind it.

The construction of mediatory artefacts within social sciences is not just a matter of translations, materials and devices; it is also a way of imagining what is not visible to the naked eye. Thus, a mediatory artefact is a tool for addressing the link between collectives and the broader dynamics under which they live. While depicting a diverse multiplicity within a manageable image, these artefacts are providing subjective experience with a point of view to read the unset surroundings. They compose a framework for action and thought, and in so doing perform a partial figuration of totality by means of creating an image that explains it.

It is in this sense that I think figurations of totality and mediatory artefacts relate to each other in more than one way. I see them not as two ways of describing the social, but as complementary approaches in the task of constructing self-contained systems of representation. By this I mean that the mediatory artefact displays a world within restricted materials, translating a phenomenon as if it was a coherent organism. The resulting translation is based on a step-by-step process that manipulates both the object of knowledge and its representation, with the final result being a stable and readable image. Under this approach, the mediatory artefact can exist beyond textual representations without losing objectivity. What is important is not finding non-interference media to ensure a correct outcome but, on the contrary, that the construction of artefacts should employ a wide set of tools and languages, all deployed in the task of creating more engaging representations.

3. Maps and Cosmograms

In this section I review two examples that help visualise the relation between mediatory artefacts and the figuration of totality. First, I discuss a critical approach to cartography, showing how the craft of mapmaking is that of visualising totalities by means of limited media. Second, I review the notion of cosmograms as proposed by Tresch (2004), which refers to a particular kind of object able to render the whole within a rather fragmented device. Both

examples work on a similar basis, in the sense that they are material agents in the conformation of the social that have translated the world by means of craftwork representations.

The fabrication of an image of the world finds one of its most well-known examples in modern cartography, whose 'aim is to accurately capture relevant features and their spatial relations and to represent a scaled abstraction of that through the medium of a map' (Kitchin et al.: 2011, 5). By means of this representation, geographical features are translated into a flat plot marked with lines, colours and sign-points, which has resulted from a series of combined processes. The final layout is driven by a step-by-step combination and superimposition of information, starting with data collection and the use of measuring technologies in the field, followed by data management, codification and comparison, to end with a visual printout.

The final receptors of these artefacts may use them to collate what is in front of them or to visualise what is far beyond their reach; these artefacts are put to work towards many different purposes, giving maps a concrete and practical role in social life. Maps are the result of a craftwork process that situates their readers in relation to what is invisible to the naked eye, connecting them with other spaces and working as a guiding tool for new explorations. In this last sense, maps address the task of stabilising a figuration that provides individuals with a device that helps them read their surroundings.

Historically, the emergence of modern mapmaking was driven by the European discovery of a transatlantic continent. The expansion of the so-called known world beyond the Atlantic Ocean implied a round world, contravening medieval images of a flat earth surrounded by an abysm. This change of perspective demanded renewed strategies, including new tools, devices and procedures, to translate this new totality into a manageable device. Mapmakers had therefore to face and negotiate the unsolvable dilemma of how to translate a sphere onto paper, assuming the impossibility of objective maps.

The struggle between different strategies of representation was driven by the need to create a transportable device to reference geography, an indispensable tool for navigational purposes in the context of the transatlantic discovery. With the help of references, drawings and geographic data collected over many years and gathered together in the European colonial centres, mapmakers were able to stabilise an approximated image of what the world's totality looked like. Ultimately, modern cartography chose to codify geographical features by measuring distances between two points, and placing them in relation to a third point within an imaginary grid printed on paper. The shape of the earth ended up being depicted as if seen from above, at once flattening and distorting its totality into one single image.
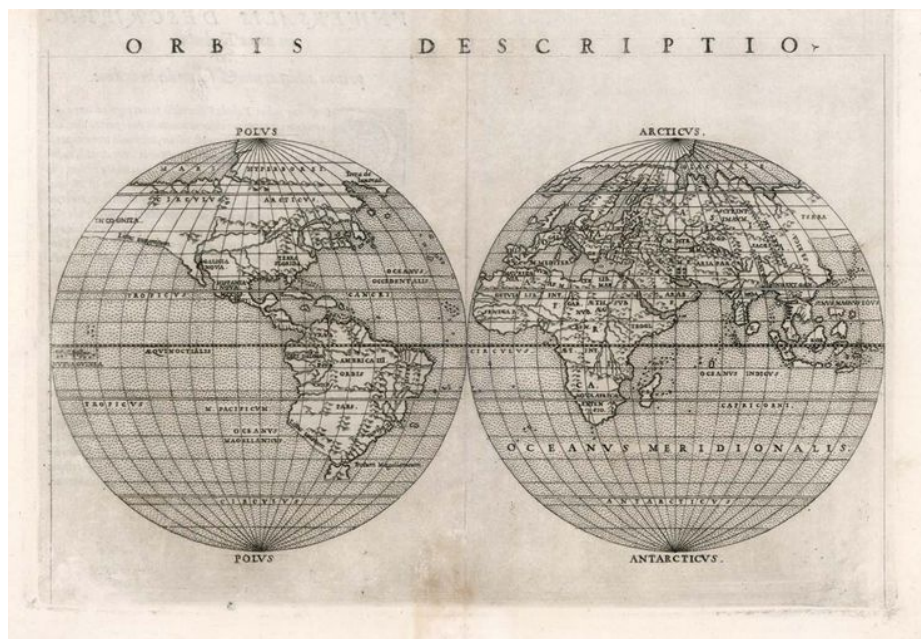
Figure 1 shows a projection of the curved space of the earth onto a flat plot.
Rucelli's World 1561–1574

The reading skills to relate to these kinds of layouts have been granted by continuous exposure to them. They have become almost a naturalised image of the world, representing as faithfully as possible the spatial arrangements of phenomena in the world. However, the idea of a neutral map has been contested on many fronts (see, among others: Harvey: 1987; Perkins: 2009; Kitchen et al.: 2011). Critics agree on the impossibility of an objective map, pointing out that maps are not a transparent representation of the world but an inscription that operates

within it: '[maps] are a co-constitutive production between inscription, individual and world; a production that is constantly in motion, always seeking to appear ontologically secure' (Perkins: 2009, 18). It is in this sense that the distance between map and territory, or figure and figuration, is what makes possible the construction of a map. Without this distance, the role of the map would be non-existent; the map would fail in its function of rendering visible an unobservable territory. What is at stake here is the notion of correspondence, in the sense that the image displayed is not the territory itself but the establishment of some relevance that allows the reader to 'align several successive sign-points along a trajectory' (Latour: 2010).

A good example of how maps, individuals and territories are part of a co-constitutive production is found in Craib's (2004) work *Cartographic Mexico*. In it he explores the role of cartography in the creation of the modern Mexican state during the nineteenth and early twentieth century. The state was fixed through a 'federal obsession' with determining and fixing points, lines and names in order to facilitate economic development and political administration. But this endeavour foundered on the Amerindians' understanding of space as a 'fugitive landscape' of overlapping jurisdictions, uses of rights, kinds of landholding, ambiguous borders and shifting names. The modern fixation of this territory – in other words, the shift from one kind of cognitive mapping to another – was not the result of a peaceful negotiation. The whole state apparatus (including technicians, bureaucracy and military forces) needed to be mobilised in order to redefine the new cartography, still not completely fixed in current times.

When comparing the final outcomes produced by social research and by mapmaking practices, several similarities can be mentioned. To start with, the fabrication of an image of geographical features is based upon a translation process that necessarily transforms and distorts the collected traces in order to render them in a visual layout. In an analogous way, final artefacts in social research also translate their objects of knowledge, rendering them within the limits of a given language and material, usually yet not exclusively associated with textual media.

The relation between maps and territories is the same as that between social research artefacts and the social world, in the sense that the representation and the represented are not interchangeable. Neither maps nor texts are a transparent, non-interference device in respect of what they are describing. Both are a craftwork translation put together by a step-by-step process of combination and superimposition of data, playing an active role once placed in the world.

In this sense, maps and social research artefacts are co-constructing the world by rendering visible what was not observed beforehand. They have transformed some aspect of the world into a new materiality, articulating an object from which new relations might emerge. The way in which these artefacts are designed is not just a matter of aesthetics but, far beyond that, a matter of cognition. The produced images actively contribute to the way in which individuals understand and relate to their surroundings, with inscription, individual and world as one assemblage.

It is under this perspective that mediatory artefacts and figurations of totality are, in my opinion, related. While the first concept refers to how a map or a research artefact is constructed through a translation process, the second highlights the role these artefacts play in the world. What is important is not so much defining what totality may be but, more precisely, creating mediatory artefacts as a basis for action and thought in a world that is larger than what the naked eye can see.

The second example I would like to review is that of cosmograms. I employ the cosmogram following J. Tresch's understanding of the concept, which refers to certain kinds of objects able to lay out an image of the whole within a rather fragmented device. Cosmograms, he writes, are 'a concrete practice and set of objects, which weave together a complete inventory or map of the world' that 'tries to resituate an individual's concerns and anxieties within a frame larger than the individual, the social group, the nation, the present' (2004, 75). To do so, cosmograms provide an ecology of relations, in which dissimilar dimensions of the world are harmonically

suited to each other, visualising a living body of interconnected organisms and environments among which is the context for human experience.

A cosmogram is the result of a long process of collective sedimentation, where different webs of significance are slowly superimposed onto each other, and harmonically condensed within a visual object. Cosmogrammatic objects play a significant role in the social groups that employ them, standing as a virtual image between these groups and the wider world. It is in this sense that Tresch proposes that cosmograms are an active agent in social life, a point of reference 'for new interpretations and actions' (2004, 69), that inscribes within its materials the distinctions that compose a world. These objects may take any imaginable form, including painted pottery, graphic marks on paper or architectonic displays, all of them designed towards the diagrammatic rendering of an ideal totality.

Before showing how the concept of the cosmogram is useful in understanding how mediatory artefacts produced through social sciences work, in the following I briefly analyse three cosmogrammatic objects: the Celestial Spheres, from Islamic diagrammatics; the Five Aztec Suns, from Mesoamerican painted Codices; and the Holy Book of Christianity. At the core of each analysis is the idea that mediatory artefacts work similarly to cosmograms, in the sense that both provide an idealistic rendering of a given universe within limited media. By means of selecting and harmonically arranging a set of collected traces, mediatory artefacts also lay out an image (either textual or visual) that transforms the world into a concrete object. These objects, like cosmograms, are equally carriers of agency and media for new interpretations and actions.

The first cosmogrammatic object I review is found in Islamic culture and is known as the Celestial Spheres. The first printed example dates from around the end of the eleventh century and is currently held by the British Library. It is a drawing composed of seven concentric spheres, contiguous to each other in such a way that the outer limit of each corresponds to the

inner limit of the next sphere. The origin of this cosmogram is usually located in ancient Greek culture, from which it expanded into both the medieval Christian and Islamic worlds.

The technical simplicity of this diagram meant there was no need for specialised craftsmen in its construction, prompting its rapid spread around the Mediterranean Sea and inland as well, becoming a generalised and accepted model of the fixed stars and planets around the earth. However, on the Islamic side, the cosmogram evolved in many different directions, being appropriated by philosophers, astronomers and mystics. According to Karamustafa's (1992) studies on cosmographical diagrams, the idea of the universe as a whole in Islamic culture was thought through this circular model, showing an acceptance that the sphere was the most perfect of all forms, and thus God's creation (the universe) could only follow this shape.

Figure 2: The Celestial Spheres, from the *Ma'rifetname*

What I consider particularly relevant about this example is the fact that the universe is translated through the rather limited medium of a drawing, which not only condenses the idealised form of the whole, but at the same time establishes relations between its inner parts. This is how this model defined hierarchies between the different spheres, placing the earth and

human beings at its centre and, for instance, the zodiacal constellations in the outer sphere, the ruler of all below it.

The use of the Celestial Spheres model among Islamic thinkers finds one of its clearest cosmogrammatic examples in the work of Nasir Khushraw (1949, quoted in Karamustafa 1992). Khushraw presents a visual representation of the Universal Intellect, the Creator, and the construction of the universe, demonstrating the relation between the way the Universal Intellect worships the Creator and the way the universe is constructed.

The cosmogram also shows how the universe is composed of four elements, seven planets and twelve zodiacal symbols, which is mirrored in the human body (its four humours, seven internal organs and its twelve invisible organs). What this cosmogrammatic diagram is showing is the mathematical and geometrical structure of the universe, of which the human is a projection. Accordingly, the cosmogram describes not only the whole in itself, but also how the human being relates to it.

In this sense cosmograms comprise an idealised version of the cosmos that goes beyond mere description to enter the realm of prescription (how the universe should be worshipped), at the same time as interpreting the position of the human being within it. This starts to show how a cosmogram is a concrete object (or drawing in the Islamic case) that works as a basis for new actions and interpretations by translating the whole into a scaled down and idealised image.

A second example of cosmogrammatic objects is found in the pre-Hispanic American Codices, book-like objects or pictorial manuscripts from what is now Mexico. Among the few surviving manuscripts, there is a group of five known as the Borgia Group, which deals with religion and a 260-day ritual calendar. One of the most commented sections is known as the 'Five Aztec Suns'. It depicts a visual translation of the myth of Ometecuchiti who, with his wife Omecihuatl, were the supreme creators of the world.
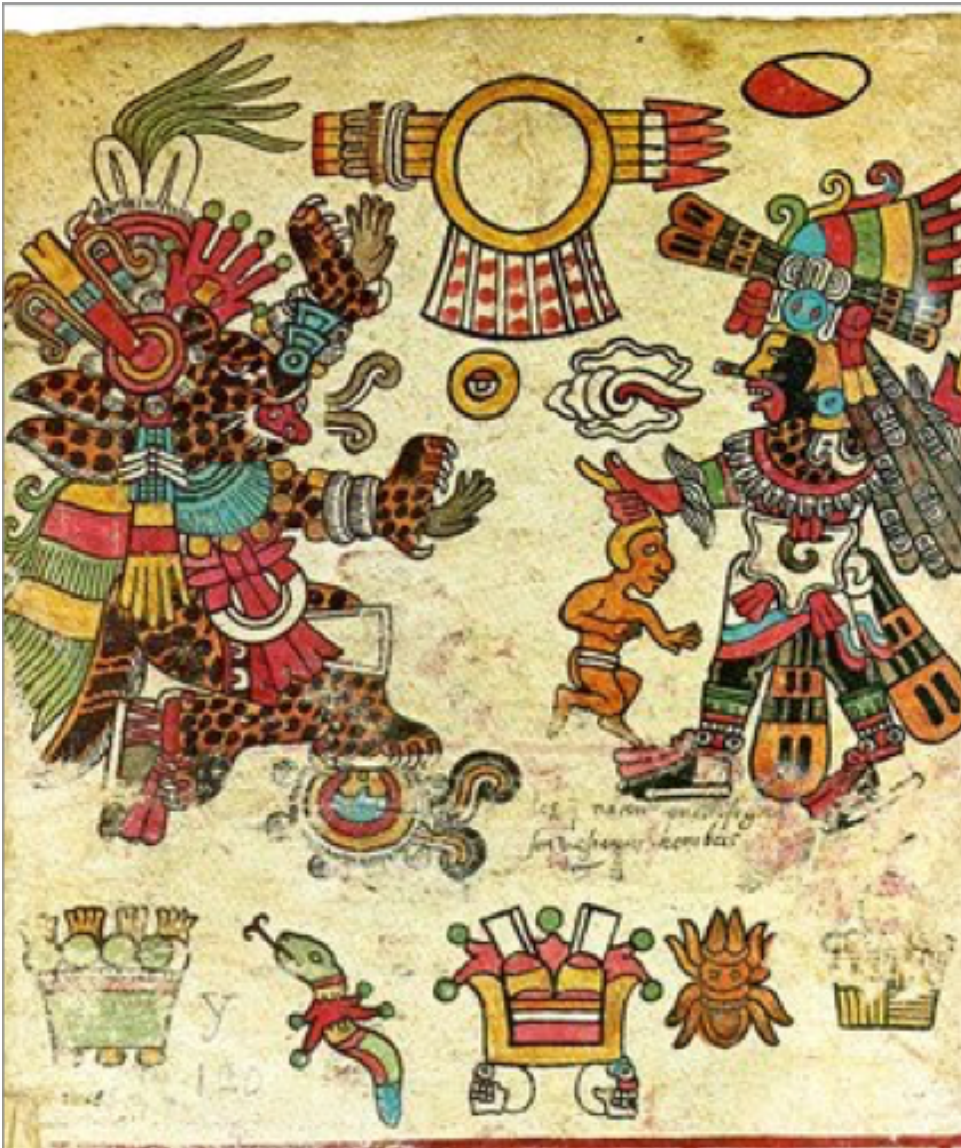
Figure 3: The Five Aztec Suns

The image is painted in bright colours and shows the two non-human creators, with the female holding a human by the hair. The creators are dressed up on elaborated outfits and their appearance is somewhere between human and animal. A series of smaller drawings surround the two main figures, and the whole effect is cartoon-like. The Five Aztec Suns tells the story of the world, which has been created and destroyed five times, with Ometecuchiti and Omecihuatl as the rulers and destroyers of the first of its eras.

In contrast to the Celestial Spheres, the Five Aztec Suns model does not follow the abstraction of geometric forms. As Bones (1994) suggests, this cosmogram works by an ideographic inscription system, meaning that communication is through pictorial and conventionalised images, suggesting a reader voice not as a calque of the image-text but as its metaphorical interpretation. The reading order is not set (unlike in an alphabetic-based text); the cosmogram can be read in any sequence and direction, becoming intelligible to those 'who share a common cultural base even though they might speak different languages' (1994, 19).

The key element of this example is the language it uses in creating a translation of the universe. The whole is rendered in terms of sequential events, including the sacred powers that shape it during each stage, achieving its cosmogrammatic features by means of an ideographic-based language. In opposition to alphabetic writing, in which the sounds of speech are translated into graphic signs and reference phonemes by visible marks, the ideographic language, though it also employs visible marks, does not necessarily use linguistic elements. The Mesoamerican writing system did not distinguish writing from painting; nor did it consider writing a surrogate of the voice. Accordingly, the translation of the origin of things into the Five Aztec Suns is not fixed, remaining open to new forms of interpretation and rendering an image of the universe that is neither static nor eternal.

Now, if the Celestial Spheres model sheds light on how a cosmogram harmonically harmonises different elements to each other and the Five Aztec Suns shows how a non-Western medium achieves its purpose, it remains to be briefly explored how different cosmograms relate to each other. Echoing Latour's (2005) description of the social in terms of a *jungle of forces* seeking hegemony by increasing, reducing or assimilating one another, the ways in which cosmograms interact with their competitors have often been cause for war.

Perhaps the best-known example of the struggles between different cosmograms was triggered by the expansion of the Holy Book of Christianity. This alphabetic-based object describes by means of visible marks not just the creation of the world, but also its chain of

sacred beings and a moral base for action. During the emergence and expansion of Christianity, the Holy Book was the receptacle of the direct voice of God, and no other object could rival it. The only truth was inscribed in its pages, so any alternative needed to be dismantled. This is why evangelisation and territorial expansion became two sides of the same coin, expanding the word of the Christian God, as well as Christian hierarchies and associated social structures, to almost every corner of the world. All means were valid when the goal was to impose the only true cosmogram over any other.

I think there is no clearer example than the Holy Book of the agency of a cosmogrammatic object as a source of new actions. Its role, for instance, in the conquest of America was crucial, trampling all previous cosmogrammatic objects and replacing the native deities with its own. The sixteenth-century chronicler Friar Landa's description of the destruction of the Mesoamerican Codices provides some insights on this:

> These people used certain characters or letters, with which they wrote in their books about their antiquities and their science; with these, and with figures, they understood their matters, made them known, and taught them. We found a great number of books in these letters, and since they contained nothing but superstition and falsehood of the devil we burned them all, which they took most grievously, and which gave them great pain (Landa, ch.xli, in Mignolo: 1994, 223).

The cosmogram, like any other artefact that is translating the world, is never a neutral enterprise. To start with, it relies on a given and limited materiality and language, always smaller than the world's complexity. Second, it establishes a point of view that renders that world visible, modelling its understanding accordingly. And last but not least, cosmograms work in the world by driving their users to impose one world-view over any other. This is true not just for the destruction of the Mesoamerican writing system, but for many other cases as well. Among them, and as a projection of the expansion of the Holy Book of Christianity, the

written text has been the privileged medium for knowledge construction since the emergence of Enlightenment scientific endeavour (Mignolo: 2004).

Guggenheim's (2011) criticisms of the asymmetric media determinism discussed in the first section of this chapter, whereby only some media (primarily the text) ensure an objective and neutral translation process, find particular support in the context of cosmogrammatic wars. The alphabetic written text is not an essentialist and privileged medium at all, but one that has gained hegemony by reducing, assimilating and, ultimately, annihilating others. This is one of the reasons why it has found a privileged position within social sciences, neglecting other, equally valid writing systems or representation strategies.

Leaving aside for now the question of how the hegemony of the text medium came to be, the term cosmogram as proposed by Tresch opens up three main ideas in regard to mediatory artefacts. First, both cosmograms and mediatory artefacts work by a process of translation through which the world is represented within a specific object or device. Despite the fact that cosmograms translate and interpret the structure of the whole while mediatory artefacts translate partial terrains of experience, both comprise a final object that should work as a living organism. This in the sense that its inner elements need to relate to be harmonised, presenting a coherent system of relations that, within the object's limits, work as a unity. Translations are in this sense directed towards the stabilisation of a narrative system to be read and used as a basis for action and thought.

Second, like cosmograms, mediatory artefacts can use any available media to achieve their translations. It is not a question of finding some privileged medium that should overcome all others, as with the text-based cosmogram and its near-annihilation of all competitors. On the contrary, different media open different translation possibilities, including new languages, materials and devices. To identify the social with the text-based artefact is automatically to reduce its complexity, neglecting the fact that the world has been translated in all kinds of media, from the Mesoamerican painted Codices to the abstract geometry of Islamic diagrams.

It is in this sense, I think, that the construction of mediatory artefacts in social science could and should be opened to other kinds of translation media, dialoguing with the phenomenon in question, and with the social in general, through more than a single materiality.

Following directly from the previous point, the third relation between cosmograms and mediatory artefacts is in the role they play in the world. Like cosmograms, mediatory artefacts provide a point of view to relate people to the broader surroundings. They add to the social a frame that models the world accordingly, stressing the gap between isolated experience and the forces that surround us. Of course, mediatory artefacts do not explain the whole within a single unit, but like maps, they render visible what is not observable by the naked eye.

This chapter has attempted to combine Latour's ideas about step-by-step translations and the notion of figuration of totality, helping to understand how final outcomes of social research are constructed. By looking at cartographic practice from a critical perspective, and at the idea of cosmograms as proposed by Tresch, it has become clear that representing totality is not incompatible with assuming it is done through limited media. In every case, a translation has been achieved through the particular use of a given medium; simultaneously, these translations have helped stress the gap between individuals and aspects of the broader world they live in. Either by depicting the cosmos as a whole or by rendering territories onto a flat plot, these objects are tools for cognition, proposing an idealised model as a source of new interpretations and actions. Similarly to the interrelation of maps and territories through a co-construction process, where the first propose a way of reading the second, or cosmograms' rendering of the invisible within a material object, final research artefacts are based upon a material exercise of craftwork translation that drags a chaotic multiplicity within a coherent and stable system of relations.

Under this perspective, the concepts of the mediatory artefact and the figuration of totality should not be seen as opposed to each other. The outcome of a translation process as proposed by Latour always ends in the stabilisation of an image that refers to totality in a

double way. Firstly, these outcomes should work as a totality within themselves in the sense that their contents should comprise a coherent universe of axioms or relations, rendering dispersion within a harmonic system. Secondly, these artefacts refer to totality not in terms of what it actually is but, more precisely, in terms of how the world we live in could be better understood. Mediatory artefacts are, in this sense, a gate or tool for cognition that links isolated experience with what the naked eye cannot see by itself.

Thus, mediatory artefacts need to be thought beyond a unique medium, opening their construction to a wider range of graphic languages, materials and circulation strategies. Creating a mediatory artefact is not about what the nature of the world, but its transformation into a given device, adding a new dimension to the phenomenon's own complexity. By means of selecting, manipulating and combining the traces of a phenomenon a mediatory artefact might be created, producing a new object about and in the world. In this process, any available media can be taken into account, with translation strategies able to meet expectations in respect of the agency the artefacts will have.

To translate the social is to create a new figure, which will only meet its full potential when thought as an assemblage between inscription, world and individual. It is towards this assemblage, in my opinion, that social research should be directed, delving into new representation systems in the always-unfinished task of visualising our surroundings.

CHAPTER 2: The Mediatory Artefact or How to Fabricate a Representation of Society.

In this chapter I discuss the main operations and methodological steps I employed in the fabrication of a mediatory artefact or representation of the Atacama Desert, which resulted from combining the written aspects of this thesis and a filmmaking production towards creating a visually based outcome. The starting point was the categorisation of this artefact within the sub-discipline of visual sociology, an area in which efforts have been made towards the expansion of methods and materials in social research. Through a review of some of the main trends found in both, visual anthropology and visual sociology, I designed a methodology based on Becker's (2007) four operations (selection, translation, arrangement and interpretation) of what he calls a 'representation of society'. These four operations were combined with the common steps of independent film production (pre-production, production, montage and distribution), proposing a cross-over between filmmaking and sociological research. The first operation (selection) was carried out entirely through the written part of this thesis (see also chapters 3 and 4), while the third and fourth (translation and arrangement) were a combination of filmmaking in the field and a written exploration of what I have called the 'imaginary script' (see also chapter 5).

1. Visual Sociology

In 1974, H. Becker, one of the forefathers of visual sociology, wrote a seminal article entitled 'Photography and Sociology'. In it, he discussed the common origins of photography and sociology and how they were equally conceived as means of exploring society, but using different media and with different ends. While sociologists have tended to deal with large, abstract ideas and move from them to specific observable phenomena, photographers have worked with specific images, moving from them to wider ideas. 'Both movements', Becker writes, 'involve the same operation of connecting an idea with something observable' (1974,

20), despite starting from different points. Because sociology and photography share this operation, he concludes, they can learn from each other towards new ways of representing the social world we live in.

Becker's arguments prompted a resurgence in the use of visual methods in sociology, which had been common during the first part of the century (see the Chicago School studies on poverty, or the early issues of the *American Journal of Sociology*) but it was left aside due to the expansion of the post-war positivist approach in social sciences, which remained unchallenged until the emergence of what has been called the cultural turn of the 1970s. With this, as Rose describes, 'culture became a crucial means by which many social scientists understood social processes, social identities, and social change and conflict', meaning researchers were very often interested in 'how social life is constructed by the ideas people have about it and the practices that follow those ideas' (2007, 1). On this background, in the mid-1980s a group of US-based sociologists interested in the visual organised themselves around the International Visual Sociology Association (IVSA), which has expanded worldwide. Its purpose was (and still is) to undertake the visual study of society by promoting and supporting theoretical and methodological advancement in the use of visual media as a way of examining and understanding our social and cultural world.[3]

D. Harper, one of the IVSA's first members, a sociologist and documentary photographer, states that at the core of visual sociology is the idea that 'the world represented visually is different to the world represented by words and numbers' (2012, 4); thus, sociology needs to open its practice to new methods beyond statistics, connecting to different realities and their diverse sensorial dimensions. In his view, at the core of the use of the visual within the discipline is the fact that all data (visual or not) is constructed: 'neither documentary photography nor writing produces a truth about the past; rather, like all texts, their meanings are created, changing and often at odds with their claims' (ibid., 18). This constructivist

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[3]   From IVSA's official website: https://visualsociology.org

approach has led Harper to explore new media for sociological practice, the goal being to increase understanding of culture by making it visible.

Besides the work of Becker and Harper, several social scientists have focused on the use of visual methods for conducting research, for example the work of J. Grady in the use of visual imagery in social research and his documentary filmmaking practice, C. Knowles's studies on material culture and migration, or S. Pink's writing on visual methodologies and sensorial ethnography. All these researchers have been currently pushing the disciplinary boundaries. However, the visual approach in sociology is not as widely used as in the neighbouring discipline of anthropology, in which documentary filmmaking and photography have undergone a much longer-term and consolidated development. Several film festivals with a particular focus on visual anthropology have become established around the world, and an important number of academic journals are dedicated to the subject.[4]

The use of visual recording technologies within anthropology was born almost at the same as the portable camera itself. Some of the first uses of the technology are seen in the footage of a Wolof woman collected by L. Regnault and exhibited at the Ethnographic Exhibition of Western Africa in 1885, and that collected by A. Haddon's Torres Strait Expedition of 1898, a large and multi-disciplinary expedition equipped with the latest recording instruments of the time and devoted to the scientific study of the people of the islands of the Strait. Other anthropologists of the time also used film and photography to conduct their research, for example F. Boas (1888–1942), one of the precursors of public anthropology, or B. Spencer and F. Gillen, who did fieldwork in Australia from 1894, using innovative visual methods (production, development and elicitation of photography and film) as part of their participant observations with aborigine communities.

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[4] In the following I pay special attention to the use and development of audiovisual inscriptions in social research, which, as I show throughout this section, is at the basis of my own research practice. The focus on this medium over other recording technologies is driven by the kind of outcome this project sought to fabricate, that is, a documentary film about the Atacama Desert.

Some decades after these first explorations, R. Flaherty's film *Nanook of the North* (1922) was another milestone in the use of visual recording technologies for conducting ethnographic research. His work is considered to be a foundational piece in the development of ethnographic filmmaking and it was the first film of its kind to be widely screened in cinemas. In the film, Flaherty tells the story of an Eskimo and his family living in the Hudson Bay, showing their daily life and their relationship with the surrounding natural environment. The film works by creating a narrative that depicts the encounter between Nanook and his natural environment in his quest for survival. Flaherty asked his subjects to act out certain scenes (see for example the scene in which Nanook's family emerge from a traditional canoe) and created specially designed settings such as an igloo that was big enough for him to film inside. Finally, the montage was arranged to propose a compelling narrative, driven by the suspense around the uncertainty of Nanook's survival.

Equally important in visual anthropology's development was the work of M. Mead and G. Bateson in Bali and New Guinea (1936–39). They employed visual recording technologies not only for documenting aborigines' lives but also to explore the visual aspects of human culture, placing their subjects in the context of the wider environment. They used film and photography as primary recording devices, not merely for illustration. As Bateson reported:

> We tried to shoot what happened normally and spontaneously, rather than to decide upon the norms and then get Balinese to go through these behaviours in suitable lighting. We treated the cameras in the field as recording instruments, not as devices for illustrating our theses (Bateson & Mead: 1942, 49).

This approach led Mead and Bateson to employ a number of procedures in their projects to seek to lessen the intrusion of the camera in natural behaviour, never asking to take pictures but rather recording as a matter of routine, collecting such a vast quantity of footage that the subjects almost forgot about the camera's presence. However, in many cases Mead and Bateson did create the context in which the footage was recorded. One of the most notable

instances is found in their film *Trance and Dance* (1952), in which they staged a ritual dance, usually performed at night, during the day for the camera.

On this background, in which the uses of recording technologies were going beyond a merely illustrative purpose, a new ethnographic film movement arose during the 1950s: the Cinéma-Vérité. One of the main forefathers of this movement was J. Rouch, a French anthropologist and filmmaker, who sought not only to represent the social world but also to acknowledge how such representations are fabricated. This approach implied positioning the filmmaker less as a participant-observer than as an authority-agent, thus open to examination.

J. Rouch and E. Morin's film *Chronicle of a Summer* (1961) is one of the best-known examples of the Cinéma-Vérité. In it, the filmmakers discuss whether it is possible to act sincerely in front of the camera, turning then to interviewing several real-life individuals about their ideas of happiness. At the end, the filmmakers show the recorded footage to the interviewees and discuss with them the level of realism of the footage.. Elements of this reflexive approach can also be found in D. Vertov's pioneering film *Man with a Movie Camera* (1929), which portrays a group of Soviet cities from perspectives only achievable by the camera. Vertov's masterpiece makes explicit the presence of the camera, placing the emphasis on how the camera is creating the recorded reality by means of shooting angles, camera movements, jump cuts, etc. *Man with a Movie Camera* is, in short, an experimental piece about the endless possibilities of what the camera can do. Further examples of this approach to filmmaking are found in *Of Great Events and Ordinary People* (1979) by R. Ruiz, *Poto and Cabengo* (1980) by J.P. Gorin or *The Thin Blue Line* (1988) by E. Morris, among many others.

The emergence of the Cinéma-Vérité deeply influenced the work of visual anthropologists, highlighting the need to acknowledge both the studied social group and the mechanism through which representations are made. On this background, the film critic and theoretician B. Nichols proposed a categorisation to identify types or modes of representation in documentary filmmaking. Among them, he thinks, 'four modes of representation stand out as

the dominant organizational patterns around which most texts are structured' (1991, 32); these are: expository, observational, interactive and reflexive.

The expository mode addresses the viewer directly by means of a voice-over that guides the reading of the images, constructing a specific argument or point of view for the audience. The observational mode stresses the non-interference of the filmmaker, ceding the control of the events that occur in front of the camera, and relies on the editing to enhance the impression of lived or real time. The interactive mode corresponds, according to Nichols, to the Cinéma-Vérité and its offshots, which introduced a sense of partialness, of situated presence and local knowledge that derived from the actual encounter between the filmmaker and the filmed subjects. Finally, the reflexive mode is about the relationship between the filmmaker and the subject, but it also acknowledges that between the filmmaker and the audience. 'In its most paradigmatic form', Nichols writes, 'the reflexive documentary prompts the viewer to a heightened consciousness of his or her relation to the text and of the text's problematic relationship to that which it represents' (1991, 60).

The last two modes of representation as presented by Nichols (interactive and reflexive) have had a strong influence in visual anthropology in terms of how representations are fabricated and how this process is made explicit to the viewer. However, another approach to the use of visual media has emerged during the last few decades, which, without leaving aside the principles of interaction and reflexivity, has added a sensorial dimension to how anthropologists represent the social world.

Among the many studies that have been carried out on the sensorial aspects of social life, S. Pink's book *Doing Sensorial Ethnography,* first published in 2009, is central. In it she argues the need to re-think ethnographic methods paying attention to perception, experiences and the categories we use to talk about the sensorial aspects of social life. She thus asserts that research should be interested not only in describing the senses, but in using them to guide and influence our understanding of the world. With acceptance of this proposal, research moves

beyond the text to the tacit, unspoken, non-verbal dimensions of social life, from writing to documentary film and photography and to new forms of engagement with art practices. Thus, sensorial ethnography promotes a new way of understanding the products of ethnographic methods, a shift from collecting data to producing knowledge, from academic research to public ethnography, requiring new ways of engaging with research participants and audiences. The sensory turn across disciplines, Pink argues, has produced understandings of experience, practice and knowledge as multisensory – involving all the senses, and understanding the senses as interconnected – rendering the conventional focus on observing, listening and writing/reading insufficient.

Two examples of ethnographic products that have sought to realise a sensorial approach are the documentary film *Leviathan* (2012) by L. Castaing-Taylor and V. Paravel,[5] which provides a sensory-based view of the North American fishing industry, or the multimedia project *Qhipu*[6] by M. Court and R. Lerner, which delves into the forced sterilisation suffered by indigenous women in Peru during the 1990s. *Leviathan* was made by setting several GoPro cameras on a commercial groundfish trawler in the seas off New Bedford, recording an accumulation of often-indefinable images depicting movement, colours and a violent ocean. There is no point of view, narrative structure or dialogue but rather a sensorial approach to the fishing experience. On the other hand, the *Qhipu* project combines several media (audio, images and text) to put together an interactive website. It works by recording and gathering phone calls from indigenous women who have suffered forced sterilisations, keeping their identities unknown at the same time as making their experiences public.

In this same vein, researchers have increasingly used multimedia websites to articulate research outcomes, thus engaging with wider audiences. Further examples of this trend are *La Vie du Rail*, an interactive anthropological project that retraces the Malian part of the former Dakar–Niger railroad track and its surrounding environment, or *Paris, Invisible City*, a web-

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5   This film was produced by the Sensory Ethnography Lab at Harvard University, a world-leading experimental laboratory that promotes innovative combinations of aesthetics and ethnography, harnessing practices drawn from the arts, the social and natural sciences and the humanities.
6   See: https://interactive.quipu-project.com/#/en/quipu/intro

based project headed by the sociologist B. Latour that explores, through text and images, why the city of Paris cannot be captured at a glance.

The belief in all this work, from still photography to multimedia projects, is that the basis for creating discourse can be visual as well as textual. Following G. Rose, discourses are articulated by a variety of means, employing 'all sorts of visual and verbal images and texts, specialised or not, and also through the practices that those languages permit' (2002, 136). Images are equally as powerful in creating discourse as texts; thus, equal attention and analysis need to be devoted to visually based discourses and productions.

In Rose's view, there are three *sites* at which the meanings of an image are made, making it culturally meaningful: a) the site of the *production*, referring to how an image is made: the technological tools and equipment used in an image's production, structure and display; b) the site of the *image itself*, which articulates what the image looks like: the visual construction, qualities and receptions; and c) the site of the *audience*, concerned with the economic, political and institutional practices and relations that produce, saturate and interpret the image. The conjunction of these three sites of the image is difficult to isolate, as they work simultaneously, acting and reacting to each other. Thus, the three sites together produce not an objective or realistic image, but rather one that stands in an indexical relation to the world. The produced image is a new object in a specific context, promoting a particular knowledge about the world that shapes how that world is seen and how things, accordingly, are done in it.

A complementary approach to understanding how images are constructed is provided by the work of H. Becker (2007), *Telling about Society.* In its opening pages, Becker proposes that a representation of society 'is something someone tells us about some aspect of social life' (2007, 5), portraying the social through specific tools and media. In his view, representations of society are organisational products, having at one end the organisation or community that fabricates standardised representations of a particular kind, and at the other, an interpretative community of users who routinely use them for standardised purposes.

The relation between makers and users of representations depends on a necessary transformation. Following Latour, Becker argues that scientists (as well as other maker communities) continually transform their materials, making the initial observations more abstract and distanced from the concreteness of their original setting at every step. The process of transformation begins with observations in the field or laboratory and becomes written notes; the notes become tables, the tables charts, and from these a conclusion is drawn, along with the title of an article to be published. Ultimately, the representation is far apart from its initial references, the collected traces having been transformed into a new object.

Any representation of the social – a scientific paper, a documentary film, a photo essay, etc. – is necessarily partial, a selection of traces and a point of view that is less than the world itself. That is why makers and users of representations 'must perform several operations on the reality they experience to get to the final understanding they want to communicate' (ibid., 20). Becker systematises these operations in four levels: a) selection; b) translation; c) arrangement; and d) interpretation.

Selection refers to the operation through which some characteristics of reality are distinguished for observation and others left aside. These are the initial materials or traces the representation will start working with. The crucial questions at this stage are: What elements are included? Under which criteria are they selected? Who will agree or disagree with the selection? Every medium employed (writing, photography, video, etc.) limits the selection possibilities in its own way; but, at the same time, this limitation is the condition *sine qua non* of any representational process.

The second level of transformation is translation. It refers to a kind of function that maps one set of distinctions onto another media, dragging the selection into a new dimension. Users never deal with reality itself, only with reality as translated into the materials and languages of a particular craft, which is at the same time constrained by organisational budgets, time and

available tools. By means of this operation, a representation finds a material and a symbolic system that will guide its trajectory towards becoming a standardised artefact.

After translating the selection into a given materiality and language, its now-transformed components need to be arranged. The collected data must be placed in some order so that users can grasp what is being said. It is at this stage that arguments are made and the relations between the selected elements might become relevant for a given reader. The order given to the elements is both *arbitrary* – there is always a different way the elements could have been arranged – and *determined* by standard ways of doing things as given by the community of makers in which the representation operates. The arrangement of a collection of elements is a curatorial operation, in the sense that the selection finds at this stage the order that consolidates it within a stable and readable narrative.

The last level Becker isolates relates to an interpretative community of users. Representations only fully exist when someone is using them, thus completing the communication. By means of reading, viewing or listening to an arranged representation, the users interpret the results beyond what the maker might have expected. Only then does the representation become an active agent of the social world, providing an interpreting community with a point of reference from which to understand its surroundings. Of course, makers and users have interchangeable positions, making stories and listening to them; but what stands at the core of the representation of societies is, in Becker's view, a communication mediated by objects or artefacts that have transformed the world into a partial yet operative image of it.

2. Towards the Construction of a Mediatory Artefact

This section describes the chain of methodological steps I followed to fabricate a representation of society, which resulted from combining the written aspects of this project and a documentary film production.[7] This representation was here understood as a mediatory artefact because, by means of collecting and combining inscriptions, it sought to put together an image of a delimited territory: the Atacama Desert, northern Chile. The focus of the research was placed on the relation between a large-scale mining industry and local religious festivals, which are abundant in the region.

The actual construction of this mediatory artefact was based on the collection and subsequent arrangement of audiovisual inscriptions, taking the final form of a documentary film. As I show throughout this section, the choice of this medium was driven by two main arguments: on the one hand, my existing knowledge of documentary filmmaking, which I have been exploring during the past few years,[8] and, on the other, my belief in its potential to engage with the sensorial aspects of the local religious festivals found in the Atacama.

I have been conducting research in the Atacama, living and working there during extended periods and travelling around the region.[9] Throughout this time, I have been especially attracted to the village festivals of the inner mountains, whose annual calendar is crowded. The Lickan-Antai people, old inhabitants of the area and part of the wider cultural system of the Andean Highlands, carry out the large majority of these events. The dense agglomeration

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[7] The section focuses on the general guidelines employed in the fabrication of this project's visual outcome, which are complemented in chapter 5 with a detailed description of the concrete circumstances and challenges the production team had to deal with during its making.

[8] Since my undergraduate studies in sociology I have been exploring new media to conduct research, among which documentary filmmaking has proven a highly useful, yet not exclusive, tool for presenting and creating research results.

[9] My work in the Atacama started just after I finished my undergraduate studies in 2006, when I travelled to its inner mountains for the first time. Since then, I have conducted several small projects in the Desert, working with indigenous communities and archaeologists interested in the area. I have also taken part in two documentary film productions concerned with local identity and religious festivities in the Atacama. All these projects led me to live in the city of Antofagasta for extended periods of time, allowing me to get closer to the desert's cultural and economics dynamics.

of indigenous populations in the highlands and their borders comprises a complicated set of networks among hundreds of villages and towns, with the inner mountains of the Atacama at its southwest extreme. The cultural network of the so-called 'Andean World' has attracted much research by anthropologists, ethnographers and sociologists, and continues to do so. Among such research, the work of V. Cereceda about Andean textiles and their pictorial language, P. Morandé's research into ritual festivals, and Brokaw's use of a transpositional methodology in the study of Andean material culture have been particularly inspiring, to name only a few.[10]

The place of the Atacama in this wider network is challenged by the presence of a large-scale mining industry, mainly in the hands of foreign capital and with several hundred thousand workers. Since 1990, the extraction of huge reserves of copper has attracted people from all over the country and beyond into the desert, leading to a rapid reshaping of the area. After a series of boom and bust cycles in the mining industry, the Atacama Desert has never been more productive, but only at the cost of the aggressive extraction of its natural resources. The formerly mid-scale coastal cities are now dorm-cities for commuters, airports have been refurbished and substantial infrastructure has been built across the Desert, including ports, power stations and highways.

Among all the expected consequences of this expansion, I was especially interested in one in particular, namely, the growth of popular religious festivals. These are the result of the encounter between the Lickan-Antai people's ritual festivals and the mass of mine workers who have arrived in the area. Many of this last group have settled down permanently in the Atacama, sharing the mining work with its original inhabitants as well as taking part in their ritual festivals. In this context, the newcomers have appropriated some of these festivals, changing their scale and performances but keeping many of the features belonging to the Andean World. The clash of the two groups, the Lickan-Antai and the mining workers, is in some ways crystallised in these events, providing abundant data for research. They are, in my

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[10]   In the next chapter, I discuss in more detail the specialised literature about the 'Andean World'.

view, a meeting point where people coming from different directions encounter each other; they are a privileged space to inquire into the continuities and ruptures that have shaped the Atacama during the past few decades.

Given this context, the construction of a mediatory artefact, or representation of society, that could visualise the relation between the large-scale mining industry and the local religious festivals in the Atacama followed the four operations described by Becker in *Telling about Society* (2007): selection, translation, arrangement and interpretation. However, these four steps were mapped onto the traditional steps of documentary filmmaking, in which in-motion images are the main materials to work with: preproduction, production, montage and distribution. As I show below, Becker's operations and filmmaking procedures are complementary approaches when thinking about how to build a mediatory artefact, both sharing the need to define a given topic to focus on and undertake its translation into a new medium (in-motion images in this case), arranging or combining the results to compose a narrative and, finally, distributing the piece. Underlying this combination of Becker's operations and filmmaking procedures is S. Pink's (2009) call for a move beyond the text to the tacit, unspoken and non-verbal dimensions of social life, a move that demands that the written text is complemented by other ways of acknowledging and engaging with the social.

In the following I describe the four stages I designed to fabricate the mediatory artefact of the Atacama Desert, showing how they were planned as a step-by-step transformation of this territory into the medium of a documentary filmmaking. This process employed the written medium as a way of guiding and reflecting on the transformation of the Atacama that was being undertaken, while shooting in the field provided the materials to compose the actual documentary film.

a) Selection or preproduction

The Atacama Desert is located on the southwest slope of the Circumpune zone, that great area surrounding the Andean Highlands. In what is now the northern region of Chile, running along the Pacific Ocean is this 1,500-kilometre-long strip of desert encompassing the borders with Chile, Argentina, Peru and Bolivia. Three major coastal cities mark out three particular regions of the Atacama (Arica, Tarapacá and Antofagasta), and in each of them a popular religious festival takes place, in which Andean traditions are mixed up with the newcomers' world-view.

The starting point of the mediatory artefact fabrication was to select a delimited area to conduct the research. The focus was placed on the Atacama's southernmost area, namely, the Antofagasta Region, because it is the mining administrative centre in the desert, with control over a major part of the productive chain of copper extraction. Complementarity, this choice was driven by the features of Antofagasta's main festival (in Ayquina), which have resulted from a strong combination of Andean traditions and miners' ritual practices.

Antofagasta City's strong position in the Atacama is reinforced because Antofagasta is the only region with an inland mid-scale settlement, acting as a dorm-city and platform for onward travel to the mines in the inner mountains. This city, known as Calama, used to be the westernmost village of the Lickan-Antai people, former inhabitants of the desert, connecting them with the coast. However, the mining industry has transformed Calama into a hinge settlement, connecting both sides of the production chain: the mines and the ports. This dual mode in Calama becomes even clearer in relation to the major popular festival of the area in Ayquina. Non-indigenous people from Calama have taken over this small village in the mountains, finding in it an appropriate place to deploy and express their own ritual practices.
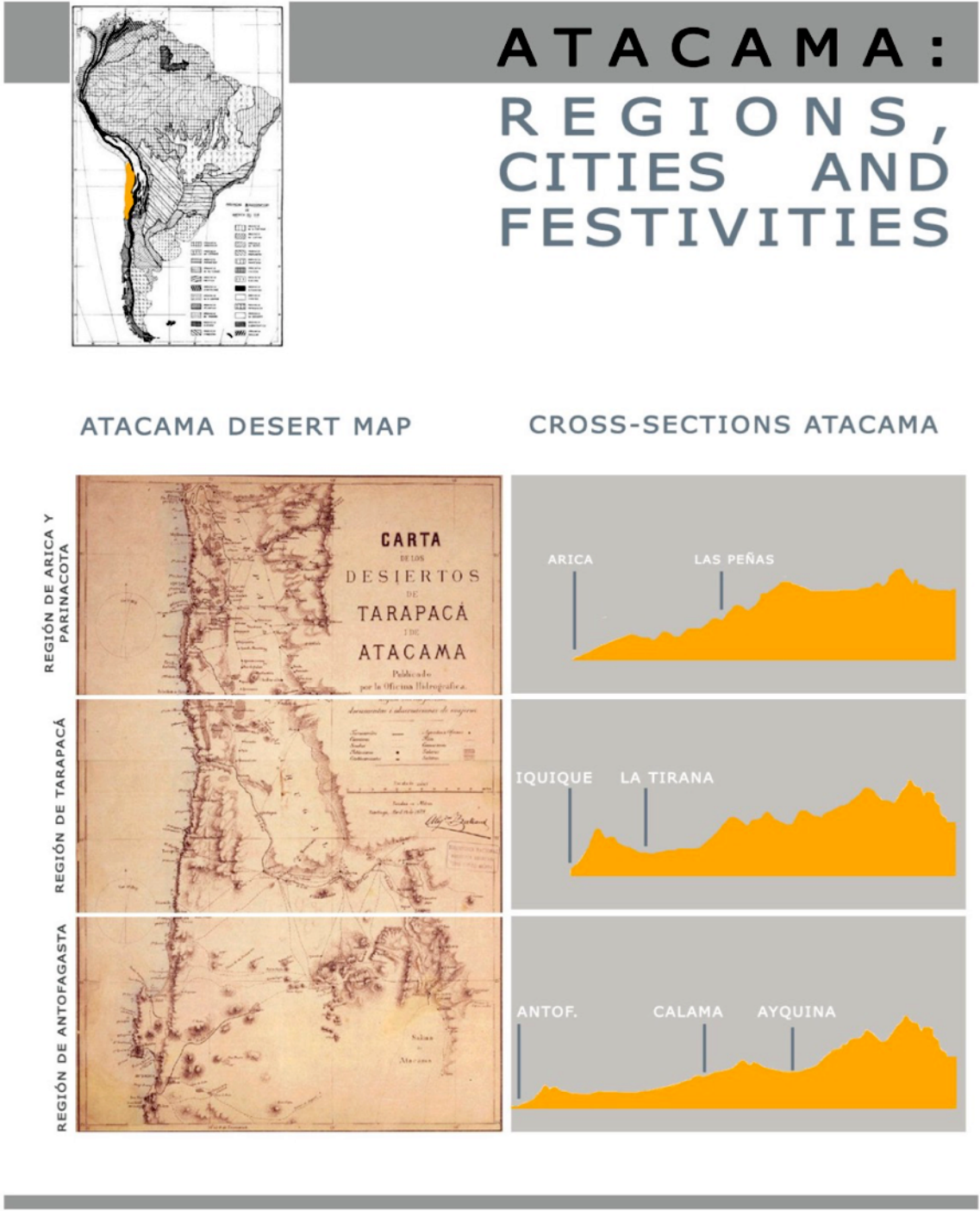
Figure 4: Map of the Atacama Desert (own elaboration)

The second selection step of the mediatory artefact construction was to define what characteristics of this social and geographic landscape were going to be highlighted and which left in the background. This step was a way of organising the research of the Antofagasta Region, delimiting even more the focus to undertake the translation of the Atacama into the audiovisual media. The goal, in other words, was to create what the documentary filmmaker P. Guzmán[11] has called an 'imaginary script'. In an article entitled 'The Script in Documentary Filmmaking' (1997) P. Guzmán argues for the importance of creating a script before shooting a documentary film. This script works as the transitional space between designing and actually making a film, like any jazz musical score that mediates between the musicians and their improvisation. The imaginary script, in Guzman's view, is an exercise as open and risky as it is necessary. It guides the production of the film but it is equally subject to modification during shooting. It is like the map carried by a traveller, which must always be compared with the actual territory being traversed, with notes, references and landmarks added to it.

According to Guzmán, the imaginary script needs to present a balance between an open and a closed approach to its object of concern. If it is too pre-defined, the script could neglect unexpected events during shooting; if too open, it might not work as a guiding tool, meaning the filmmakers are unsure what to look for during shooting. The imaginary script therefore needs to transit between these two extremes, defining what to look for while being re-written throughout the process. In addition, the writing of this kind of script needs to be the outcome of a series of operations, including proper research about the subject and identification of the locations, main characters and narrative resources that are going to be employed.

Following these ideas, and in order to have everything in place before shooting so as to avoid wasting time and resources, I designed an imaginary script (described in detail in chapter 5) that was the outcome of two stages of research. The first combined a literature review of cultural studies about the Andes with analysis of a series of visual representations belonging to this territory (chapter 3). The second comprised qualitative research conducted in the

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[11]   P. Guzmán is a Chilean documentary filmmaker who has produced an abundant filmography. Among his works, the best known are *The Battle of Chile* (1975), *Nostalgia for the Light* (2010) and *The Pearl Button* (2015).

Antofagasta Region, which was composed of a historical account, field observations and a set of interviews carried out in 2013 (chapter 4).

The literature review was intended to define an approach to describe how cultural studies have represented the area, providing a general frame to think the imaginary script. Therefore, the review looked at scholars' descriptions of a series of objects and practices of the Andes, which, as I concluded, share some common patterns of representation (Brokaw: 2010). The key idea was that some of the main visual representations found in the Andes can be framed under a single cosmogrammatic figure known as the Chakana, which is a visual layout that relates several material and social dimensions within one unit of relations. My proposal was that the main features of this cosmogram could inspire the imaginary script, relating its structure and inner sections by similar principles.

However, scholarly work about the Chakana is not as abundant as it could be. Only some authors have been interested in its history and development (Villa Milena: 1980; Easterman: 1998; Martinez: 2014; and others). This is mainly because there is no agreement as to whether the Chakana really exists as a historical figure, or whether it is an 'invented tradition', to use E.J. Hobsbawm and T.O. Ranger's term (1983).[12] The revival of Andean culture among Latin American scholars and some new-age trends driven by tourism and a reaffirmation of people's belonging to indigenous groups, has prompted the emergence of Andean symbols, among which the Chakana has been widely promoted. Whether it is a reinterpretation of past objects and events or a historical figure travelling through the centuries, the role of the Chakana in the current understanding of the Andean world is beyond doubt. Examples of its use are many, including in the Andean flag (the Whipala), a symbol of identity and resistance; in the writing of Garcia-Lineras, current Vice-President of Bolivia; or on the design of musical instruments used at dances and carnivals.

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[12] The term 'invented tradition' refers to both 'traditions' actually invented, constructed and formally instituted and those emerging in a less easily traceable manner within a brief and debatable period. The term is taken to mean a set of practices, normally governed by overtly or tacitly accepted rules and of a ritual or symbolic nature, which automatically implies a continuity with the past (E.J. Hobsbawm & T.O. Ranger: 1983).

Although this debate was taken into account in the literary review, it was not crucial for this research to reach a position on it. Whether it is an invented tradition or not, the Chakana fulfils a role within current Andean representations, having become a frame that holds together many representation practices found in the area. As I describe in chapter 3, the Chakana is a highly useful tool to explain the connections between different objects and practices belonging to the Andes, whose inhabitants are continually adding new layers to their ritual expressions. The uncertainty of its origin does not imply, in my view, that the Chakana should be discarded as a useful cosmogrammatic model to explain the changing dynamics of the Andes and its current representation strategies. Furthermore, I think the Chakana can be seen as a translation in itself, in the sense that it gathers together many of the axial principles found in the Andean rituals and symbols within one system of relations.

Having noted the controversy around the Chakana's origin, the cosmogram was used for the design of the imaginary script. This implied the design of a script that worked by proposing oppositions (coast/mountains, urban life/festival time, etc.), which would be connected through the transformation of mine workers into ritual dancers. I would not only fabricate a mediatory artefact about the Atacama which translated it into the audiovisual medium, but also ensure that the criteria by which the footage was collected (and, later on, arranged) were inspired by the region's main strategies of representation (organised under the idea of the Chakana).

The second stage in the writing of the imaginary script was the qualitative research (systematised in chapter 4). Its results were used to add concrete contents to the more abstract structure of the script. Thus, the visual patterns found in the literature review were cross-cut with qualitative data (a historical review of the Atacama, field observations and interviews), providing the substantive elements that were going to be looked for during shooting. The qualitative research was also used to define the shooting locations, identify participants and define the production timetable.

The qualitative research was organised in three steps, each one focused on one of the major inhabited areas of the Antofagasta Region: the coastal city, the inland city and the inner villages. In each step, a review of historical documents was undertaken, so as to achieve a better understanding of the processes that have shaped the settlements in their present form. This review was complemented with field observations, including notes, drawings and photographs.

In addition, a set of twenty-four interviews was carried out in the area. Each of them was organised in a semi-structured way, following a standardised set of topics but open to unexpected ones too. The core goal of the interviews was to compare different perspectives about the relation between the mining industry and religious festivals, to collect descriptions of how local festivals have been reshaped in the context of expanding extractive industry.[13] The main topics were:

1. Biographical data: What is the interviewee's relation to the Atacama: what is her or his relation to it? Is her or his background one of recent migration or of long-standing inhabitation of the area? What is her or his particular biography?

2. Description of the territory: How does she or he describe the territory of the Atacama? How does the interviewee describe the recent history of the area?

3. Mining industry: Is the interviewee linked to the mining industry, and if so, how? What is her or his opinion about the expansion of the mining industry in the Atacama?

4. Festivals: Does she or he participate in the festival of Ayquina? How does the interviewee describe it? If the interviewee does take part in the festival, in what way?

To ensure the widest possible range of cases and avoid overrepresentation, the interviews sample's design was cross-cut by the general mining industry working structure (see Aroca: 2000 in chapter 4), which is composed of four sub-categories, with three of them relating to

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[13] The twenty-four interviews were transcribed and analysed in depth with use of an Excel database. Each description of the territory, the mining industry and the festival was categorised for comparison. The same sample design (see table 1) was used to organise the data (festival attendee vs. festival non-attendee) and cross-cut by the location in which the interview was conducted.

the mining system and one operating outside it. Finally, this sample was categorised by differentiating festival attendees and non-attendees.[14]

	N° of interviews		N° of interviews
Festival attendees		**Festival non-attendees**	
Mine workers	3	Mine workers	3
Sub-contracted workers	3	Sub-contracted workers	3
Administrative workers	3	Administrative workers	3
Not mine workers	3	Not mine workers	3
Total	**12**		**12**

Table 1: Interview sample and categorisation

In summary, the first step of the fabrication of the mediatory artefact or representation of the Atacama Desert was the selection of a delimited area to work in, namely, the Antofagasta Region. Secondly, it was designed an imaginary script before shooting the documentary film, which was the result of two combined process: literary review and qualitative research (chapters 3 and 4, respectively). The final script is described in detail in chapter 5 and it follows the representational structure found in the Chakana cosmogram.

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[14] Although gender variables were not explicitly included in the sample, they were considered proportionally depending on each case. For example, the large majority of the members of the first two categories (mine workers and sub-contracted workers) are men. Conversely, few women are found engaged in such work. The second two categories are more equally distributed, requiring interviews that account for female and male discourses in a more balanced way. Age is also left aside in the sample in order not to overcomplicate the fieldwork, which is limited by time and resources.

b) Translation or production: the audiovisual inscriptions

After developing the imaginary script, the second stage of building a mediatory artefact or representation of society was based on what Becker refers to as translation. In a similar vein to Latour's proposal explored in chapter 1, the idea of translation describes the process through which some traces of the world are dragged into a new materiality. It describes the act of inscribing the outer manifestation of things (light, sound, movement, etc.) into a new medium (image, numbers, text, etc.). The relation between these inscriptions and the actual world is one of transformation, in the sense that the collected traces are transcoded within the parameters of a certain inscription device.

This is the case, for instance, with photography, where the rebounded light of objects is inscribed into a chemical or pixel-based interface. Thus, light is transformed from its natural form into a two-dimensional surface by means of a mechanical or digital process. The act of translation, as in the case of photography, carries elements of the world from one medium to another, changing, distorting and transforming them in order to fit a new, limited materiality. The outcomes of this operation are the materials with which a representation of society, in Becker's terms, can be fabricated.

The core of this translation operation is mediated by the use of specific devices, which undertake the process of recording. The selected traces get inscribed only when certain machinery *imprints* them within a given material, which varies depending on the employed mechanism. The outcome produced by still photography is not the same as that produced by statistical analysis, yet each has transformed a selected phenomenon under its own regime. In every case, the employed device defines the kind of material the researcher is working with, thus determining the type of representation of society that can be produced. Of course it is also possible, and even desirable, to combine different recording methods, combining a set of materials within one mediatory artefact. Whatever the chosen machinery, single or multiple,

inscriptions are made by recording technologies. Drawings on paper, audio recordings or in-motion images are all tools that a translation process can rely on.

The translation process this research undertook was mediated by the use of the video camera. This machinery produced large-format digital files that recorded the light, movement and sound of things, these being the materials with which the representation about Atacama was going to be made. The use of this recording technology narrowed down the types of traces that could be collected and, at the same time, guided the translation process. But the video camera did not work by itself; it had to be operated and manipulated in order to produce the inscriptions.

The use of this machinery required me to define the way in which the translation into audiovisual inscriptions was going take place. In the following I highlight three dimensions that helped narrow down the translation, making it more accurate and defined. First, I refer to the purpose the recorded images were going to serve, in this case to fabricate a documentary film; second, I refer to the relation the camera established to the settings it was recording; third, I highlight the institutional constraints by which film production was restricted.

Planning was required to establish what was going to be done with the recorded images, which is to say that the collection process had to pre-visualise how were the images going to be arranged and what kind of artefact was sought to be composed. The mediatory artefact that was sought as final outcome of this process was a documentary film, which implied the collected images were going to be arranged on a sequential timeline and projected on a screen. Under these criteria, the recorded images were not going to be used in isolation from each other; on the contrary, each image needed to work in a sequential relation to the others, composing an *organism* of a digitally based sequence of images in motion.

Accordingly, I proposed that the images collection should record full scenes rather than isolated shots. I use here the term of 'full scene' to refers to a sequence of footage that

composes a narrative unit, depicting a complete action, with a beginning, a centre and an end. In order to achieve a collection of images that compose full scenes, the inscriptions of the Atacama needed to include long shots, waiting for something to happen, for an action that sets a scene. This implied that the recordings were going to be observational, with a long time spent on each shot, and, at the same time, that they had to collect groups of images for arrangement towards a documentary film.

At this point the imaginary script was highly useful because it set out a map or list of possible scenes to look for (see chapter 5). It worked as a frame that held many different situations together, selecting some narratives among an immense range of possibilities. It was imaginary because it had to be reworked constantly throughout the filming process, opening the production to unexpected events or changes of direction.

The translation of Atacama was not only guided by the type of employed machinery (the video camera) but also by the transformation this technology produced on the settings it was recording, demanding for a complete awareness of the fact that the camera was co-constructing what it was looking at. This happened, at least, in a double sense: on the one hand, every recorded image became a new object in the world that could never be confused with reality itself due to the fact of dragging the luminous traces of things in motion into a new medium. On the other hand, the camera co-constructed what it was looking at because its presence influenced, to a certain extent, the behaviour of the people it was recording. This might have been a major inconvenience if what it was being looked for was the *natural expression of human acts.* But if, on the contrary, it was fully assumed that the camera distorted reality by translating it into a new material, it could also be assumed that what it shot was a co-production between the subjects of research, the researcher and the used machinery. It is through this triple assemblage that audiovisual inscriptions were fabricated.

The last dimension I would like to highlight here is what Becker (2007) describes as organisational constraints. By these Becker means the unavoidable constraints on the

construction of any representation of society. Representations in this sense are not isolated acts of will or abstract thought, but, on the contrary, involve particular resources, time limits, institutional expectations, machines and people.

Limits on time and budget are just the first of many constraints a documentary film needs to deal with in the making process. On top of resource limitation, equally relevant are the types of machine used, the format of the recorded images (and their backup on hard-drives), the film crew and, of course, the relationships established with the participants.[15] All these issues and many others are present during shooting of a film: hosting, transport, schedules, data managing, etc. It is through all these assemblages that the raw materials of a film take form. This is partly why a film production involves tight schedules and preset locations, although they might change throughout the process.

In order to visualise the institutional constrains the mediatory artefact had to deal with, I designed a shooting plan that included a shooting schedule, filming team, equipment and budget:

1. Time: shooting in the Atacama Desert were intended to last three months, with one month spent in each of the major inhabited areas: the coast, the inland settlements and the inner mountains.
2. Crew: the film crew in the field had to be composed of, at least, a local producer, a cameraman and a sound technician (my role oscillated between direction and camera).
3. Equipment, format and data flow: camera (Sony X-Dcam/shooting format MXF); microphones (Sennheiser 416 and Sony 618/digital recording Tascam R-60); accessories. Data managing: backup and transfer from MXF to ProRes 442 LT.
4. Approximate budget: USD 30,000.[16]

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[15] As central as they were, the relationships with the participants could not be defined beforehand. They were a direct result of the process of shooting. In the last chapter of this thesis I describe how these relationships were established and what kind of challenges this entailed.

[16] In chapter 5 I describe in detail how the budget was obtained. Suffice it to say for now that during the development of this research and film production a commercial alliance was established with Openvizor, a

c) Arrangement or montage and post-production

The third operation towards the construction of the mediatory artefact was montage and post-production. I understood this stage as being analogous to what Becker (2007) calls 'arrangement' or to what Latour (2005) described as a step-by step process of collecting and superimposing traces towards stabilising a finished artefact. Following the operations of selection and translation, now the collected footage needed to be organised, edited and combined within a stable narrative. This implied that among all the translated elements some were going to be included and others left aside, choosing those that better fit the overall argument of the final piece.

In documentary filmmaking, the argument may not be entirely clear beforehand, only emerging via testing of different combinations of images and scenes, paying attention to what the collection *has to say.* Taking this into account, the montage was designed as a ten-step composition process:

1. Convert the image files into a light format (ProRes 442 LT).
2. Organise the footage on a software interface (Final Cut Pro – FCP), creating folders for each scene and image type (landscape, industry, cities, etc.) and highlighting those images that are considered the densest in respect of what they have translated.
3. Visualise all the recorded footage, make notes and rewrite the imaginary script.
4. Create a sequence (timeline) for every highlighted scene, making a montage of each in order to test how series of isolated images work together.
5. Combine several scenes in one, longer sequence, following the imaginary script and the chances it may have undergone during the shooting and the first stage of the montage.
6. Consolidate the first cut of the film.
7. Hold private screenings to gain feedback on how the film is working, and re-edit it.

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private production company that financed the whole film project, including its production, post-production and distribution.

8. Design and compose the soundtrack of the film, including in-situ recorded sounds, environmental sounds, music and Foley (in-studio-created) sounds.

9. Repeat private screenings and consolidate the final cut.

10. Recompose the film with the large-format original files.

These ten steps did not unfold by themselves, but were always mediated by the social interactions surrounding them. For example, this film project used a professional editor who was in charge of the editing process in collaboration with the director. This implied a constant and fluid negotiation of what images to select, how to structure the montage and what worked or did not work in the film. It also implied long hours of watching the footage and successive screenings of the work-in-progress.

The choice to engage a professional editor in the project was justified, on the one hand, because the resources were available, and on the other because of the explicit aim of combining sociological practice with filmmaking procedures. Any film production (documentary or otherwise) that follows film industry standards distinguishes between the roles of the director and the editor, driven by the need for skilled professionals in these areas and to have the footage edited by someone able to look at it with fresh eyes. My role as director was therefore to guide the process, throughout it transmitting my goals to the editor. Like the previous shooting stage, the montage was driven by collaborative work.

The arrangement of the collected inscriptions towards giving form to a documentary film was mediated by several inner translation processes, from transcoding the footage into an editable format, negotiating the montage sequences and consolidating a final cut, to its codification on a screenable DCP (Digital Cinema Package). Thus, a chain of transformations mediated the fabrication of this representation of society or mediatory artefact.

Following Latour's (2005) description of how social research constructs its results, the fabrication of this documentary film followed a step-by –step process of translation, through

which some traces of the Antofagasta Region were inscribed, recollected and combined towards creating an audiovisual narrative. Contributing to this process was not only my subjectivity involved but also other human and non-human actants, all of which were assembled towards defining the features of this research visual outcome. Along this process, it was not reality itself that was communicated by this artefact, but a translation that had necessarily distorted, modified and recoded its object of reference. It is here, I think, that filmmaking and sociological research found a common ground, that is, the transformations involved in constructing their results.

d) Interpretation: Social Life of the Mediatory Artefact

The last operation Becker refers to in respect of fabricating a representation of society is its interpretation by a community of users. By this he means that a representation of any kind is only completed when someone uses it. Only then does the representation become an active actor of the social world, providing its users with new information or media to deal with their own environments.

In Rose's (2007) three-fold description of images, this engagement between makers and users corresponds to the 'site of the audience', which refers to the economic, political and institutional practices and relations that are comprised in the image. This is the point where a representation of society finds its social agency, in the sense that translating the world into a new medium is to provide a framework to understand it, influencing actions accordingly.

Although it was not possible to know beforehand what the social life the visual outcome of this project would have, it was possible to sketch some actions that could influence this life. To start with, the documentary film about the Atacama was designed as an artefact that could circulate both inside and outside the academic world, expanding its possible audiences. The use of audiovisual inscriptions that complemented the written text provided this project with a

wider range of channels to achieve communication, making it accessible to a larger universe of users.

In the first place, this documentary film was directed towards the subjects that participate in it, their families and neighbours, providing them with an audiovisual representation of the wider context they live in. The film's aim was to become a useful tool of reflexion and, at the same time, to produce a valorisation of the ritual practices these people perform as part of their collective lives.[17] A second audience was the academic one, mainly organised around visual anthropology and sociology. To reach this group of users, the finalised film was designed to be sent to ethnographic film festivals, of which there are many worldwide. Thirdly, as an artefact that interweaves sociological research with filmmaking standards, the film was arranged to match non-ethnographic film festivals submissions, aiming to become part of the international film circuit.

e) Reflexivity

The process of fabricating a mediatory artefact about the Atacama that came from the crossover between social science and filmmaking needed to add one last layer (in addition to selection, translation, arrangement and interpretation), which is *reflexivity*. Following D. Harper (2012), the notion of reflexivity can be understood as telling the story of the research process as part of the research results, identifying the researchers as a constitutive part of the research itself. In a similar vein, S. Pink argues that reflexivity should be made part of all research, visual or not, always acknowledging the role of the researcher in the process. This should be done in ways that 'does not only simply explain the researcher's approach but reveals the very process [...] through which knowledge was produced' (2003, 189). This implies

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[17] It is worth noting that the inhabitants of the Atacama very well received a previous short film I made on the area in 2011. It was screened several times on local TV and uploaded to YouTube, attracting more than 25,000 views.

accounting for both the research and the researcher and the ways they interact towards creating a representation.

In B. Nichols' taxonomy of documentary filmmaking,[18] the reflexive documentary 'calls attention to the conventions of documentary filmmaking and sometimes of methodologies such as fieldwork or interview' (2010, 151). This mode of documentary filmmaking points out the methods involved in the filmmaking process within the actual film, and it usually implies featuring footage of filmmakers and/or participants watching parts of the film and during the montage process. Another way of engaging the reflexive mode in documentary filmmaking is to add critical comments to the film about the choices underlying its construction and questioning its capacity to capture 'authentic truth'. In both cases, the reflexive mode is a way of acknowledging the constructed nature of documentary and flaunts its artificiality. The reflexive mode makes explicit that what the film shows is not *the truth* but a reconstruction of it.

My approach to include a reflexive dimension in my own film production practice was based in two complementary strategies. First, I undertook a detailed written description of the film production in chapter 5, which describes the features of the imaginary script, the team members and the challenges we had to face during the shooting. It also describes the montage process and how it needed to be negotiated between different members of the team and points out the major landmarks of the films distribution. Second, the way in which the role of the researcher was acknowledged in the film itself was inspired in the film directed by J. Oppenheimer entitled The Act of Killing (2012), which explores an experimental mode of reflexivity.

In *The Act of Killing*, the film acknowledges that it is not representing 'truthfully' what it is showing to the audience by portraying a group of former members of the Indonesian secret police acting out several scenes from their past. The audience watches these agents of police

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[18] See section 1 of this chapter.

repression representing *the old days*, when they fought against the communists. By means of these performances, the audience is made fully aware that a film is being produced and, furthermore, that the production is influencing the perspectives of the subjects.

Though my film practice was not as elaborate as that of *The Act of Killing*, I sought to acknowledge as much as possible that what was recorded only happened because the camera was there. Thus, at some points of the film, the participants performed directly to the camera, creating a theatre-like space that was obviously not present in the participants' daily life. Just like *The Act of Killing*, which asked the participants to re-enact events that took place fifty years before, my film production asked the participants of the festival of Ayquina to act out aspects of the imaginary that went beyond their dance performances. Thus, I think, the film was able to acknowledge that its construction was part of a staging that was only possible because a documentary film was being made (I come back to this reflexive approach in detail in chapter 5, where I discuss the specific scenes that worked in this direction). This way of including a reflexive approach in my film practice was based on the idea that the camera should not be hidden (as a fly on the wall), but that on the contrary, the filmmaker as well as the audience needs to be fully aware that a documentary film emerges from the assemblage between the researcher, the subjects of research and the inscription-making device (the camera).

Throughout this section I have discussed the way in which the representation of society this project has put together was guided by a step-by-step process of transformations (selection, translation, arrangement and interpretation or distribution), adding to it the layer of reflexivity. Although I have been mainly concerned with my own practice and with the production of a documentary film, I think that what I have exposed here is equally relevant to any representation of society that results from social research. The development in the use of recording technologies in anthropology and sociology, from Mead and Bateson's work in Bali and New Guinea (1936–39) to Castaing-Taylor and Paravel's film *Leviathan* (2012), has sustained an effort to conduct research beyond, yet not against, the written text, exploring the sensorial and visual aspects of social life. What is at the core of this development, I think, is the

need to think about social research as directed towards the construction of artefacts (visual or not) that can expand our understanding of society and improve the reach of research results beyond the limits of academic audiences. Following Latour (2005), all research is based on a chain of translations that has transformed the object of knowledge in order to visualise it, fabricating an image that is not mimetic of the social but a supplementary artefact that helps to understand it. It is in this sense that research can open up to a wider range of media and procedures in the task of co-constructing the world we live in.

CHAPTER 3: Cosmograms of the Central Andes

This chapter explores a series of objects belonging to the Andean world, searching for a common pattern that can help in designing the documentary film about the Atacama. Its first section comprises a literature review about scholarly work in the area, and more generally speaking, related to the subordinated condition of the so-called 'global south' (De Sousa: 2006). It examines issues regarding knowledge construction in Latin America and efforts towards decolonising it. Through discussion of an ongoing debate between Marxists and post-colonial thinkers interested in the continent, it is proposed that local aesthetic practices always need to be placed in a material relation to the surroundings. They are not fixed expressions of culture, but dynamic processes that co-construct their territories (Parry: 2006; Arnold: 2009).

The second section of the chapter provides a closer look at a series of objects and aesthetic practices belonging to the Central and Southern Andes, where the Atacama is located. It explores how different objects and rituals of the region's material culture share common patterns of representation (Brokaw: 2010) such as complementing oppositions (Esterman: 1998), three-fold structures (Cereceda: 2000) or conveying meanings through iconographic languages (Gartner: 1998). Among these commonalities, I propose, it is possible to trace a cosmogram (Tresch: 2004) known as the Chakana that, despite its uncertain origin,[19] informs many of the aesthetic practices and objects found in the Atacama. Its main effect is to compose a system of relations in which a strong dualism needs to be mediated, assigning human beings the task of keeping life in relative balance and cyclic movement. It works as a locally grounded strategy of knowledge construction, highly sensitive and extremely malleable in regard to its changing surroundings.

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[19] As discussed in chapter 2, there is no agreement as to whether the Chakana is a historical figure or an invented tradition; however, I argue that, given its widespread use throughout the Andes, it fulfils an active role within inhabitants' representation practices. The Chakana is a highly useful tool to explore the connection between different objects and practices belonging to the Andes and, as I propose, it can equally be used to inform the visual translation of the Atacama this project is undertaking.

The third section of the chapter is a historical review of the history of the Atacama Desert, while the fourth section delves into the relation between one of its major religious festivals (the festival of Ayquina) and the Chakana cosmogrammatic model, as well as its relation to other Andean artefacts. Finally, the last section explores how to combine the Chakana model with the representation this research is fabricating (a documentary film), proposing that the Chakana can equally inspire the visual outcome of this thesis.

1. Latin American studies

Since 1990, scholars engaging with Latin America have pursued an ongoing debate driven by the general decolonisation process started after WWII. The rise of post-colonial studies in the continent has increasingly demanded new methods for new circumstances, stepping away from the previous, Marxist currents of thought.[20] Post-colonial authors have accused Marxist thinkers of imposing their own pre-set categories on a much more fluid and complex reality, matching their own ways of thought with reality itself. Conversely, Marxist thinkers have argued that this new, even naïve trend suffers from hyper-textualisation, and from a lack of awareness among scholars that they are active agents of renewed colonialisms, their undertaking much closer to a messianic search for newness than a collaborative enterprise of knowledge construction.

Many scholars agree (Peris: 2010; Young: 2012; Gomez-Redondo: 2015; and others) that the birth of post-colonial studies in the continent was established by an article by Patricia Seed, entitled 'Colonial and Postcolonial Discourse' and published in *The Latin American Research Review* (1993). The article assesses the need for a methodological shift from the usual

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[20]   The institutionalisation of the post-colonial approach in the Latin American context occurred with the founding of the Grupo Latinoamericano de Estudios Subalternos (GLES), whose inaugural manifesto, published in 1993, states: 'The present dismantling of authoritarian regimes in Latin America, the end of communism and the consequent displacement of revolutionary projects, the processes of re-democratization, and the new dynamics created by the effects of the mass media and transnational economic arrangements: these are all developments that call for new ways of thinking and acting politically' (GLES, [1993] 1998).

approaches to studies on Latin America, which has produced an 'intersection of dissatisfaction about the limitations of existing critiques of colonial rule with the contemporary intellectual movement known as Post-Structuralism' (Seed: 1993, 182).[21] In this sense, the post-colonial situation found in Africa, Asia and Latin America provides common ground to undertake a collective enterprise of alternative knowledge construction in the quest to 'truly [give] natives a voice of their own' (ibid., 183).

In Seed's view, the linguistic turn inaugurated by post-structuralist thinkers such as Derrida, Barthes, Foucault, Deleuze and others would allow Latin American scholars to wake up from a mechanical and homogenising view regarding their matters of concern. The 'distressing sameness' and 'repetitive tales' found in much Latin American research, referring to stories of either native resistance defending the homelands or the accommodation of colonial goals under local interests, had for Seed naturalised an idealised image of either 'hero-like actors' or 'gobbling-up' communities that needs to be overcome. Thus, Seed, and the proponents of 'decolonial studies' who followed her,[22] have aimed to leave behind an exoticising and romanticised framing of Latin American societies, stepping away from knowledge construction processes sealed into European ways of thought and administrated by a small literate elite. In this regard, Mignolo (2011) refers to the Bandung Conference of 1953[23] as the birthplace of

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[21] As understood by Seed, the post-structuralist movement is mainly concerned with deconstructing the discourses of modernity, showing how they are built upon invisible assumptions, among which the notion of a hero-author is crucial. Two elements are brought to the forefront by this notion: first, the connection between an inaugural subject that 'creates' the world, linking the hero of Western humanism with the hero of Western imperialism; and second, the dislodging of the author's 'intention' or 'original' meaning by placing it within the reading community. It is only in the subsequent interaction when texts gain their full agency in the world, overcoming the author's original intentions by the interpretations to which they are subjected. On these matters see: 'The Death of the Author', in *Music, Image, Text* (Barthes: 1977); or *Deconstructing Historiography* (Spivak: 1996).

[22] The pioneering heralds of this movement have been the Argentinian writer Walter Mignolo and the Peruvian Anibal Quijano, both currently holding academic positions on the US East Coast.

[23] The Bandung Conference was the first large-scale Asian-African scholarly encounter, gathering together twenty-nine newly independent countries around their recent subordination histories. On the background of the general retreat of the British Empire and other colonial powers, the Bandung Conference reached a consensus condemning colonialism of any kind. The delegates argued for the self-determination of nations, non-aggressive and symmetric economic development, and decolonisation of thought. In the *Final Communiqué* of the conference, published in 1955, it is stated: '(1) The Asian-African Conference recognised the urgency of promoting economic development in the Asian-African region. There was general desire for economic co-operation among the participating countries on the basis of mutual interest and respect for national

global post-colonial or decolonial thought: 'The most enduring legacy of the Bandung Conference was delinking; delinking from capitalism and communism, that is, from Enlightenment political theory (liberalism and republicanism – Locke, Montesquieu) and political economy (Smith) as well as from its opposition, socialism-communism' (2011, II). Decolonial arguments are mainly directed against the Marxist tradition in the continent, which has been accused of imposing fixed categories onto contexts which are still highly dynamic and diverse. In doing so, Marxist scholars have repeatedly enacted Enlightenment principles based on rational thought, transparency of language and universal parameters, without questioning the place of origin, the social contexts where these assumptions emerged, unaware that they are replicating colonial dependency on an intellectual level.

Seed proposes that the linguistic turn should become the primary method for knowledge construction in the so-called Third World, de-linking it from territorial and imperial epistemologies. Accordingly, any unitarian conception of the subject or assumption of the transparency of language needs to be left aside, reframing words, sentences and phrases within a larger scope. She writes:

> 'In reflecting on the linguistic framework in which the discourses of colonial rule have been elaborated, writers have observed the limitations of European political discourse as well as the way in which the polysemic character of language has enabled natives of colonized territories to appropriate and transform the colonisers' discourses' (1993, 183).[24]

It is through language that colonialist states have understood and governed themselves as well as their subjected populations, treating all non-European language as incapable of expressing

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sovereignty'. However, the conference did not lead to a general denunciation of Western and US politics in the Third World; rather, its participants displayed a wide range of loyalties to northern academies and governments.

[24] Like the post-colonial movement in general, Seed relies on the study of written texts as a main source to enact her methodological proposals. For instance, she highlights Peter Hulme's *Colonial Encounters*, which unpacks the creation of the term 'cannibal', seeing it as a distinction or discursive boundary between 'savage populations' and 'civilised Europeans'.

rational thought, revealing thereby the inferiority of those humans that speak them. It is in the fringes of discourse, its implicit assumptions and socialisation practices that a better, more accurate understanding of the relations between colonisers and colonised can be achieved.

Within this attempt, the liveliest and most extensive interest in colonial discourse is in literary studies, where some scholars are calling for an 'epistemic reconstruction' (Quijano: 2000) or 'epistemic disobedience' (Mignolo: 2011). The subordinated condition, they argue, is one of *transculturalisation* and is therefore equally capable of creating knowledge of its own, 'confronting and delinking it from [...] the colonial matrix of power' (Mignolo: 2010, 27).[25] In this sense, attention should be paid to encounters between different cultural systems and what has emerged from them, including literary production, colonial documents and non-Western writing systems, subverting the antagonistic hierarchy between producers of knowledge and consumers of it.

However, literary studies have a long history among Latin America scholars. The rise cultural studies in the continent during the 1960s proposed that given the lack of philosophy or social theory elaborated in the continent, attention should be re-directed to literary texts, of which plenty were available.[26] On the other hand, a significant scholarly tradition has been focusing on Pre-Columbian texts or colonial documents, seeing them as historical data in the reconstruction of Latin American societies (León Portillas: 2003; Michel: 1973; Murra: 1975; among many others). Finally, and in close relation to the previous movement, scholars have paid equal attention to contemporary communication devices, such as textiles, ceramics, masks, etc. (Cereceda: 1987; Desrosiers: 1987; Arnold: 2000; and others), framing them as living technologies of local knowledge production.

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[25] F. Ortiz first coined the term 'transculturation' in 1947 to describe the process through which two cultures converge and merge. Ortiz uses the term to combine the notions of acculturation (acquiring another culture) and de-culturation (losing one's own), placing his focus in the middle, at the point where two cultural systems meet and, subsequently, create a 'new culture'. See Ortiz ([1947] 1995).

[26] The so-called Latin-American literature boom during the 1960s produced a large number of high-quality literary texts, including those by Julio Cortázar, Gabriel García Marques, José Donoso, Mario Vargas Llosa and many others, direct heirs of the tradition inaugurated by J.L. Borges, Alejo Carpentier or Juan Rulfo, providing fertile ground for cultural studies and literary critique.

Although this 'epistemic disobedience' proposed by post-colonialists does not acknowledges a significant intellectual tradition proceeding it, the overall undertaking of creating locally grounded knowledge, or an 'epistemology of the south' in Da Sousa's terms (2014), has pushed decolonial movements towards a privileged position within Latin American studies.[27] Yet, their frontal attack on other academic groups has yielded a virulent reaction. Among them, Marxist thinkers such as Vidal (1993), Parry (2006), Gomez (2015), and others, have provided the main counterarguments to post-colonialists.

Their first critique is directed towards the *dissatisfaction with the previous intellectual tradition*, described by Seed as a mechanical repetition of the same storyline, undermining broad and fruitful work carried out over many years and reducing it to a few rough simplifications. From the Marxist point of view, the post-colonialists' refusal to engage with the prior traditions they believe themselves to be displacing serves to hide the ongoing imperial project of contemporary globalisation (Parry: 2006). Furthermore, this disavowal has 'either latently put aside or simply misrecognised the material mechanisms of domination inscribed in the colonial order, as the labour surplus appropriation from indigenous or Afro-Caribbean communities, which gave that order a lasting stamp' (Gomez: 2015). In this sense, the post-colonial movement is seen as trampling over all previous authors who have been concerned with the Latin American subordinated condition,[28] regardless of how prolific or significant they might have been, as well as undermining social and historical movements such as the Cuban Revolution or Chilean Socialism. In short, the 'turn' post-colonial studies claims to be achieving is, in these authors' views, closer to a messianic attempt at newness than a collective enterprise of subaltern knowledge construction.

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[27] An interdisciplinary network of scholars coming from several fields such as history, literary criticism or anthropology have come together under this scope, whose main institutional centres are in North American universities (Duke University, Berkeley/California, etc.) and who are engaged in a wide range of initiatives also in Latin America and Europe.

[28] Paradigmatic examples are the Cuban writer Jose Martí (1853–1895) or the Peruvian José Carlos Mariátegui (1894–1930), whose works have inspired entire generations of Latin American thinkers. The first was a promoter of free thought and through his writing supported several revolutionary processes in the continent. The second was an avowed Marxist, who understood that Latin American social transformation should be an organic process and not a mechanical repetition of European models. His most famous work, *Seven Interpretative Essays of Peruvian Reality* (1928), sets the basis of a revolutionary project whose features are based on the material conditions and practices of Latin American societies.

A second set of critiques highlights the evident contradictions in claiming to give a voice to subordinated populations while, on the one hand, using approaches such as post-structuralism that emerged from the heart of wealthy nations, and, on the other, erasing any substantial differences between Asian, African and Latin American colonisation experiences. Transposing the post-structuralist methodology, whose main concerns inhabit the context of European Modernity, is seen as a naive repetition of intellectual colonisation, following the same path the post-colonialists claim to be subverting. Conjointly, applying the same analytical framework to different colonisation processes distant in space and time is rather ahistorical, contravening any locally grounded construction of knowledge and replacing it by a universalising approach: 'To apply the same concepts indistinctly to diverse social, historical and experiential realities, produces a substantiation of the idea of "colonial situation" [...] obviating that they are incomparable historical experiences, derived from very different ways of thought, ideologies and political motivations' (Peris: 2010, 249).

Thirdly, post-colonialism has been widely criticised for the hyper-textualisation of its methods (Bartolovich et al.: 2004; Parry: 2006; Chibber: 2013; and others). In this view, placing discourse at the hinge of the so-called subordinated condition has displaced the focus on political, social and historical experiences, reducing them within a discursive model. As Parry shows (2006), the post-colonial perspective suffers from its 'essentialist account of culture' due to its detaching of the internal structure of texts, enunciation and sign systems from the analysis and concurrent examination of social and experiential circumstances. Disengaging colonialism from historical capitalism, she argues, by means of rephrasing antagonistic encounters in terms of dialogue, complicity and transculturisation, has promoted an intellectual field disaffected from historical awareness and political consciousness or, as Edward Said puts it, that suffers from 'an astonishing sense of weightlessness with regard to the gravity of history' (1993, 336). By means of collapsing the social into the text, post-colonial thinkers have succeeded in grasping some aspects of culture in themselves but have failed utterly to see such aspects in relation to the world: 'Without moving in a direction where studies of actually existing political, economic and

cultural conditions, past and present, are no longer separated from meta-critical speculation [...] Post-Colonial studies will still remain ensnared in an increasingly repetitive preoccupation with sign systems and the exegetics of representation' (Parry: 2006, 12).

2. Andean Communication Devices

Taking into account this triple-pronged critique of post-colonial studies (hyper-textualisation, ahistoricism and culturalism), this section turns to look at a series of Andean artefacts and practices, searching in them for common representation strategies. Within Andean studies,[29] a growing wave of archaeologists, historians and anthropologists have engaged in the study of Andean material culture, following Appadurai's (1994) approach to what he calls 'the social life of things': 'For that we have to follow the things themselves, for their meanings are inscribed in their forms, their uses, their trajectories. [...] Thus, even though from a *theoretical* point of view human actors encode things with significance, from a *methodological* point of view it is the things-in-motion that illuminate their human and social context' (1992, 5). Under this scope, special attention has been given to a group of exchangeable objects, carriers of inscribed meanings, namely, textiles, granting them a privileged position within Andean knowledge construction and communication practices. For instance, in the view of the cultural anthropologist Denise Arnold (2009), textiles are information and communication systems that go beyond their clothing role, becoming key artefacts in terms of trade and political identity. Alternatively, Cereceda (2000) describes how textiles deploy a conception of beauty based on mediating opposites, and Desrosiers (1997) unpacks the connections between textiles and other Andean artefacts.

In every case, these interweaving traditions are framed within a historical yet dynamic continuum of semiotic interactions, articulating a communication system not directly tied to

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[29] Despite the fact that several authors, including post-colonialists, have criticised Andean studies (Seed: 1993; Coronil: 2000; Arnold: 2009; and others) due to the methodological risk of subsuming large populations under a single and often static or essentialist framework, I rely on studies in this field because of the prolific body of work these scholars have put together.

verbal language (Cummins: 1994). The lack of any representational writing system in the Andes, either alphabetically or ichnographically based, has driven scholars to see in Andean textiles a primary medium of communication.[30] Place of origin, users' rank and relation to other communities and even topographical information can be communicated simultaneously, clustering within one artefact key features of Andean communities' social structure (Desrosiers: 1997). As Arnold (2013) suggests, textiles should not be understood as inanimate objects but as living entities, possessed of a social life, objects around which groups are socially and cosmologically centred. In this sense, textiles are not just fixed expressions of local identities but visual languages in continuous elaboration, constantly influenced by political and social changes, open to variation as well as to incorporating new materials and technologies.

Textiles are not the only devices performing this kind of 'semiotic role' in the Andean context – similar examples are found in pottery, in architecture and even in the landscape itself (Brokaw: 2010). Yet, within the Atacama Desert, a marginal place within the pan-Andean world given its small indigenous population and peripheral position regarding Andean centres, I will propose that the main artefact around which groups are socially and cosmologically centred is a rather non-permanent yet repetitive event, namely, the *festival* or ritual festivity. Several recent works have emphasised the multi-sensorial aspects of these events, highlighting how they bring together in one time and space sound, music, colour and other sensorial elements. The festivals give rise to 'elaborated intersections that organise the senses within singular configurations of experience, sensorial configurations, which can also have a semiotic dimension' (Martinez: 2014, 90), becoming intimately linked to the body's inner energies

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[30] A complementary artefact regarding mnemonic practices in the Andes is the *qhipu*. This is a set of knotted strings hung from a wooden bar or thick cord, which conveys information by means of 'string, knots, hundreds of meaningful colours, tactile sensitivity, and non-linear recording with no surface' (Cummins: 1994, 193). Although *qhipus* are currently out of use and the necessary skills of interpretation are almost totally lost (Brokaw: 2010), these mnemonic artefacts help us understand the importance of weaving technologies in the Andean world. Of the *qhipus*, the Spaniard Martín de Murrúa wrote in his work of 1555 entitled *Historia del Descubrimiento y Conquista del Peru*: 'By these knots they counted the successions of times and when each Inca ruled, the children they had, if he was good or bad, valiant or coward, with whom he was married, what lands he conquered, the buildings he constructed, the services and riches he received, how many years he lived, where he had died, what he was fond of; in sum, everything that books teach and show us was got from there'.

(Stobart: 2002) and to the cycle of the universe and the transformation of the world (Arnold, Jimenez & Yapita: 1992).[31]

According to the sociologist Morandé (1984), ritual festivals in Latin America are part of an extended syncretic process that started in the early days of colonisation and is still taking place. The war against idolatry undertaken by Spanish authorities, as an overseas counterpart to the European inquisition courts, did not eradicate local beliefs but rather led to a hybridisation, by which old sacred images remained hidden under new Christian icons. In Morandé's perspective, the asymmetrical encounter between Spaniards and Indians did not happen on the level of discourse, as two world-views engaging in a dialogue on the basis of rational arguments; rather, it was produced in the register of ritual practices, sealing the forthcoming cultural syncretism.

Although Morandé's explanation covers an immensely wide territory under one and the same framework, thus failing to avoid homogenising and fixing categories, his proposal provides a starting point to look at current ritual festivals in the Atacama. For it is through this syncretism that the festival gains its most striking dynamics and permeable abilities, combining traditions of different origin within its own world of representations. It shapes collectively constructed artefacts, highly sensitive to the variations of the surroundings, but retains at the same time long-standing elements of the Andean culture. In this sense, observing the festivals can 'provide a medium of thought and a channel to thinking' (Arnold: 2013, 47) in at least two ways: on the one hand, it facilitates an examination of the current social, economic and political context in which they are inserted, and on the other, it allows the researcher to trace those features that are part of a more extended system of local knowledge construction. As Desrosiers explains, those same elements that structure Andean textiles (hierarchy, repetition,

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[31] A further approach to the semiotic interactions found in the festivals is given by Turner's (1987) notion of 'performative reflexivity'. This term refers to the deliberated act through which social groups 'turn, bend or reflect back among themselves upon the relations, actions, symbols, meanings, codes, roles, status, social structure, ethical and legal rules, and other socio-cultural components that make up their public "selves"' (1987, 24). In this sense, the festivals can be seen as performing a ritual event through which what is invisible but central to a group's life becomes observable, by means of a transformative, though not representational, collective act.

transition, etc.) can equally be found in other objects and practices, working as a shared matrix for different aesthetic forms and social activities (1997, 168–170).

It is here that Brokaw's (2010) ideas regarding a *transposing method* become useful. Following the attempts of Desrosiers Cereceda, Martinez and others, he proposes that by comparing dissimilar objects from a shared material culture, common patterns can be found. In his extended work about the *qhipu* (2010), the Andean knotted-string mnemonic device, he refers to the inference of common patterns among disparate objects, transposing their commonalities in order shed light on each other: 'By transposing, I refer to a complex relationship between two or more significant systems by virtue of some commonality in semiotic function, which may involve common referents as well as certain semiotic convention principles' (2010, 18).[32] Accordingly, by placing side-by-side syncretic ritual festivals and other Andean artefacts, those aesthetic elements belonging to the Andean world are allowed to emerge. Under the layer of Christian practices, an enormous indigenous element remains hidden, gobbled up by institutionalised Churches in order to expand their own credos. In line with Morandé, I think that this covering of Pre-Columbian ritual practices by Western ones gives researchers an extraordinary opportunity to look at living events that continue to actualise Andean systems of representation. Looking at current ritual festivals in the area, traces of these common patterns are abundant: firstly, because in all of them the presence of ritual dances is central; secondly, because the dances are performed within a tripartite space; and thirdly, because every ritual festival is organised around a sacred icon. As I propose, these festivals involve textile-like structures based on mediations and transitions and, above all, they can be seen as a further expression of the Chakana cosmogram.

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[32] The notion of transposition as used by Brokaw was borrowed from J. Kristeva, who in her work about intertextuality defines the term as 'the passage from one sign system to the other' (1980, 59), placing dissimilar discourses in dialogue to expand their relational meanings.

3. The Collasuyu or the Atacama Desert

In the following I turn my attention to a specific case study within the Atacama Desert, namely, the festival of Ayquina,[33] searching for its specific features as well as for the analogous elements it shares with other Andean artefacts. In order to explore them, I start by giving a review of the history of the Atacama Desert, emphasising how its social landscape has been shaped up by wide-scale and long-term economic and political cycles. It is through these overlapping stages that, I think, a better understanding of how ritual festivals have come to group dissimilar influences can be reached, uncovering the commonalities between objects and practices found in the area. The following image (Fig. 5) shows a map of the Atacama Desert and its location in the Circumpune Zone.
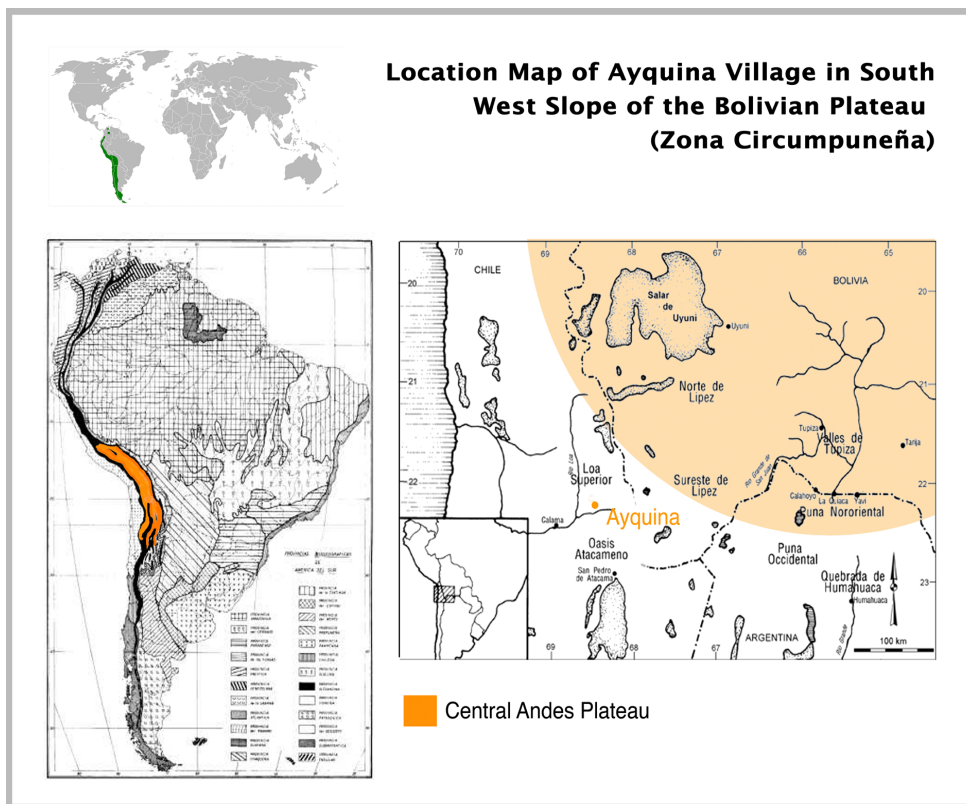
Figure 5: Map of the Atacama Desert and the village of Ayquina (own elaboration).

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[33] The selection of the festival of Ayquina as the main phenomenon of observation was methodologically justified for three reasons: (1) it is the major ritual event in the region; (2) it results from an ongoing syncretic process that has merged Andean traditions with new elements brought by immigration for the mining industry; and (3) as Desrosiers suggests, it can be expected that this ritual event is part of a shared matrix of Andean representation strategies.

That large area of South America runs from Copiapó River to Cobija, and from the Pacific Ocean to Argentinean provinces, which carries the name of the Atacama Desert [...]. In this desert the boundaries of the republics of Chile and Bolivia and the Argentinean provinces meet together. Until today these limits have not been defined and on them have arisen many difficulties that must be settled. It is a commonly held view that this desert holds huge mineral wealth, because of the belief that land must contain greater treasures of gold and silver the more barren and dismal it is. (Phillipi: 1853)

By the time of the Spanish conquest of the Central Andes (1532), a large-scale and complex social structure had been agglutinating all its territories under one single development, namely, the Inka Empire or the Tawantinsuyu (1438–1553).[34] The Inka domains covered more than 2,000 square kilometres, running all over and at both sides of the Andes Mountains, from what is now south Colombia to central Chile, including Ecuador, Peru, Bolivia and north-east Argentina. The Tawantinsuyu was expanded during the lives of three *Sapa Inkas* (kings), who brought over ten million people under their control, creating a patchwork of languages, social groups and customs whose cultural cohesion, although fragmentary, was given by the earlier Tiwanaku civilisation (300 AD–1000 AD), the common substrate on which the Inka expansion was based.[35]

In the southern part of Tawantinsuyu was the Collasuyu, the largest region of the Empire and the location of the Atacama Desert, in what is now the Zona Circumpuneña (the south-west slope of the Andean Plateau). The Atacama runs from the mountain peaks to the coastline of the Pacific Ocean, covering an area of 48,000 square miles along a 600-mile strip of arid land. Its middle pampas are the driest place on earth, with almost no precipitation (0.04 in per year) and no vegetation other than the small bushes found along the few rivers that flow across it. Given the region's dramatically arid landscape, Amerindian populations were scattered around sporadic water-containing ravines in the mountains' foothills, organised in agricultural and pastoral communities, or in nomadic fishing communities on the Pacific coastline. Today, the

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[34] From Quechua: 'the four regions'.
[35] For a well-documented history of the Tawantinsuyu see *History of the Inca Realm* (Rostworowski: 1999).

former still retain elements of their social organisation and a strong cultural identity, while the latter have totally disappeared, absorbed by the mining industry or driven out by the military forces that arrived in the late nineteenth century (Castro: 2001).

Once the Tawantinsuyu or Inka Empire was dismantled by the new, European ruling power, the Atacama Desert was left almost unexplored, being considered as land without any potential except as a route – harsh, long and dangerous – between the Viceroyalty of Peru (the centre of the South American colonies) and the Capitania of Chile (the southernmost Spanish domains in America). Despite its marginal position within the Spanish domains, the few sedentary indigenous communities that inhabited the mountains (Quechua, Aymara and Lickan-Antai) were fiercely subdued and evangelised. The violent process through which the occupation took place is still orally recalled. For instance, it is told how the Lickan-Antai people resisted, at the Pukara de Quitor, the onslaught of troops commanded by Francisco de Aguirre, who finally defeated them, cut off their heads and stuck them on spears on the walls of his fortress. Or it is recalled how the missionaries were known as 'tongue cutters', referring to the colonial punishment given to anyone found speaking in a native language: the removal of the tongue, which would be hung up in the local square.

As Hidalgo (2011) suggests, military campaigns and evangelisation endeavours were two complementary processes in subordinating the conquered populations. While the first ensured the control of land and resources, the second was meant to stabilise it by means of 'governing the people's imaginary'. Thus, after an initial period of relative religious tolerance during which all kinds of rite co-existed, the European authorities established in 1617 what were known as *Las Visitas de Idolatria* (Idolatry Visits). Their explicit role was to spread the Christian credo among the conquered populations, freeing them from all diabolical idolatry. The written words of God were henceforth taken to almost every community, and with them came a clerical jury to distinguish false from true beliefs:

The stages of the Idolatry Visits were codified in the synod of 1613: When a team reaches some village, the visitor must publish the edict of grace "by means of which are given three days to the Indians to surrender their huacas [sacred images], denounce the other idolaters, sorcerers, etc. The Idols are then displayed, the sorcerers manifested, and an inventory of them is made. The public abjuration and absolution sessions take place then, followed by the cremation of the huacas in the village square and the destruction of the pagan temples and shrines outside the village. Finally, the punishment laid down by the Council must be applied to the "sorcerers and dogmatists", with the subsequent "isolation" of such men (Duviols: 1986, XXXII).

In spite of the fact that the Tawantinsuyu's political and economic organisations were dismantled and replaced by alternatives that better suited the conquerors' interests, the extirpation of idolatries was never completely achieved. As Gruzinski points out (1999), the Amerindian sacred universe(s) did not disappear under the emergent Hispano-American society, but did not survive unchanged. In his view, the general cultural system the conquerors encountered at their arrival was based on a particular understanding of sacred images, in which icons were not seen as 'realistic representations' but as 'containers where divinity itself was posed'. Accordingly, the destruction of natives' icons by the Idolatry Visits did not see old deities vanishing from the world but rather provoked their transmutation from one container to another.

This is how, for instance, Illapa, god of thunder, transmuted into the icon of San Tiago (or San Santiago), patron of military campaigns in the Atacama and still widely worshipped in some Andean communities.[36] Did the sound of gunpowder resemble a thunderstorm, like the Illapa in a new form? This process is known as 'cultural syncretism', pointing out how local beliefs

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[36] The foundational episode of this process took place in 1531, when the Virgin of Guadalupe appeared to the Indio Juan Diego on the hill of Tepeyac. The encounter happened at the site of the old temple of Tonatzin (Goddess Mother of the Aztec pantheon), transformed into a Christian church some years earlier. The Virgin's apparition at the top of this sacred hill sealed the forthcoming syncretism. Tonatzin had transmuted into a new shape. Under the garb of the Virgin Mary the old Goddess remained hidden. She did not abandon the conquered population, but only shifted Her iconic appearance.

and practices were adapted and reshaped in an ongoing process of self-renovation.[37] On this, Coe writes: 'Ritual forms in San Pedro de Atacama are highly liturgical, because they are coated by one of the most outstanding features of Andean superimposed rituals, which is "the deep mixture of religious elements of the animistic view of nature, that are primary in agricultural societies, with Catholic saints' (Coe: 1986, 222).

Yet, after only two centuries military control and religious syncretism were established in the Atacama, and its colonial status of 'useless land' underwent reconsideration. The conquest of the west in North America and demographic expansion caused by industrial revolution entailed a revaluation of the Atacama's mineral wealth. Beneath its dry pampas plentiful amounts of nitrate were discovered, the key ingredient for new agricultural fertilisers, in high demand due to the need to feed growing populations. Thus, mining fever took over in the Atacama, drawing thousands of workers and industrialists to explore the recently discovered wealth. Mining villages were built all over the area and the Atacama doubled its population several times in just a few years. Many clashing interests came into the area, all of them attempting to monopolise the emerging industry. This sudden emergence of an imperative to control the Atacama led to an escalation in military tensions between the three nations surrounding it, which finally resulted in the so-called War of the Pacific (1779–1883) between Chile, Peru and Bolivia. After four years of bloody confrontations, the Chilean oligarchy (supported by British capital) found itself victorious, occupying not just the Atacama but also Lima, the capital of Perú and the old centre of Spanish colonial domains in South America.[38]

By the end of the war, the Chilean oligarchs had widely expanded the national territories, henceforth, large numbers of men and their families were dragged out to the pampas from central Chile, under the promise that new wealth was awaiting them. This rather forced migration process led to what the Peruvian historian C. MacEvoy calls 'the Chilenisation of the desert' (2011). By this, she describes the Chilean *oligarchical spirit* associated with the conquest of the Atacama, which was inspired by the ideal of a pseudo-civilising enterprise

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[37] See Morandé (1984), Duviols (1986), Griffiths (1998) and Draper (2000).
[38] For a well-documented historiography of the War of the Pacific see Donoso and Nazer (2006).

against barbaric nations, justifying the occupation and providing the republic with a moral right over these lands: 'Threatened by two countries gathered with the purpose of destroying it, it was logical that the blemished republic did not only content itself with the honours of victory. The winners were entitled to a much greater reward' (MacEvoy: 2011, 89). The clearly ideological discourse underlying such an enterprise permeated Chilean society on many levels,[39] undermining the neighbouring countries as less civilised and less modern republics whose wealth deserved to be ripped away from them.

However, the Chilean labour force arriving in the Atacama was culturally much closer to the conquered populations than to any sort of oligarchic self-affirmation, finding in Andean communities a mirror of themselves, a social group to engage with. The immigrant populations saw in the Atacama's colonial ritual festivals a new scenario to express their own cultural background, adding the traditions they had brought from their hometowns to the festivals' performances. Hereafter, a new syncretism began to settle in and gave rise to a particular kind of festival that combined both immigrants' ritual practices and those belonging to the Andean world.[40]

In 1929, the Atacama was more productive than ever before, with over a hundred mining villages spread across its pampas and new workers coming in every day. But the production was ruined in a few years by both, the Great Depression and the scientific discovery of a synthetic replacement for nitrate around that time. Almost every mining village was shut down before 1940, forcing thousands of workers and their families to head towards the coastal cities or back to their hometowns, with nothing but their manual skills. During the next four decades,

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[39] It is worth noting that the 'Chilenisation discourse' is still present today, shaping an ambivalent relation to Andean people. On the one hand, many of the Atacama's inhabitants are proud of belonging to the Andean culture but, on the other, discrimination is often practised against Peruvian or Bolivian citizens living in the area. This double relation shows the impact of the discourse of the ruling class, who identify their own interests with those of the nation and pit similar working classes against each other.

[40] Among the many expressions this process produced, the main surviving example is found in the Tirana festival, celebrated in the middle of the pampas, where a whole village was exclusively built for ritual purposes (Van Kessel: 1982). Once a year, mine workers from all over the Atacama travel to the village to dance, play music and worship the sacred image of *La Virgen del Carmen*. As Guerrero (2013) argues, this festival works as a reminder of a shared memory within Andean areas, of a common history and collective mythologies.

the Atacama was plunged back into its colonial status of 'useless land', with the single exception of an emerging copper mine located by the city of Calama (Chuquicamata). This mining camp became the almost exclusive place where the old mining culture managed to survive, maintaining some of the rituals as well as adding new elements, especially regarding a deep sense of being part of the Chilean nation.[41]

The Chuquicamata camp worked as an isolated island within the desert until the early 1990s, when increasing demand for copper drove the Chilean state to open its borders to foreign mining investment. Copper's main features are conductibility, ductilibility and malleability, making it a central element in the construction of any electric device. In 2010, the Atacama's copper mines produced 5.4 million tons, 36% of the world's total production (COCHILCO: 2010). [42] Since then, a new mining boom has taken over the Atacama, with an increasing number of mines and the consequent arrival of thousands of immigrants. This time, not only people from southern Chile but also from Peru, Colombia, Argentina or Ecuador have come to work, tripling the region's population in only twenty years.[43]

The idea of the desert 'providing a greater reward' (MacEvoy: 2011) has gained renewed ground since then, with the region boasting inflated salaries and the country's lowest unemployment rates. The coastal cities have grown and shopping centres, gambling houses and skyscrapers are constantly being built. Never before has such wealth been seen in the Atacama, which has undergone a total reshaping of its socio-economic features in just two decades. However, the copper boom is just one more episode in the Atacama's economic history, which has constantly been cross-cut by iterative boom–bust cycles, a rapid widespread

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[41] In line with the oligarchy's discourse of moral superiority, the Chuquicamata mine became the major Chilean enclave in the inner desert. This nationalist self-awareness was reinforced even further when Chuquicamata was nationalised by Salvador Allende in 1970, becoming since then the main source of income of the Chilean state. The first lines of the camp's hymn are revealing: *Calama/ciudad heroica/bastion de Chilenidad* (Calama, heroic city, realm of *Chileanness*).

[42] Copper's main features are conductibility, ductilibility and malleability, making it a central element in the construction of any electric device. In 2010, the Atacama's copper mines produced 5.4 million tons, 36% of the world's total production (COCHILCO: 2010).

[43] According to the last Chilean National Census (2012) the Atacama Desert has 360,000 inhabitants and an area of 140,000 km^2.

expansion of economic utility followed by an abrupt end. As in previous boom episodes, the copper industry has forced a large immigration process that might be reversed once the boom is over (Hefele & Morton: 2009).[44]

Despite this recent economic expansion, ritual practices have not been abandoned in the Atacama, with new forms of expression created within this fast-growing yet unstable scenario. Like the nitrate exploitation, the emerging copper industry has prompted new ritual hybridisations, of which the festival of Ayquina, which takes place close to Calama at the heart of the mining area, is the latest and largest example. Although this was originally a small, local festival, reserved for the village's inhabitants, its current form was established after 1990, when the increasing population of Calama needed sacred icons and rituals of their own. The city's proximity to the inner mountains' Andean villages led its inhabitants to take part in the same ritual calendar, merging with it in a slow process of cultural syncretism. Over the years, Calama's inhabitants ended up taking over the festival and reshaping it, relegating the local community to a background position.

4. The festival of Ayquina and the Chakana

The village of Ayquina is located in the mountains 60 miles from Calama, in what is known as Alto Loa or Atacama la Chica, one of the two valleys comprising the lands of the Lickan-Antai people. Located at the bottom of the ravine of Rio Salado, oral myth states that the village was founded after a miraculous apparition: at some point during colonial times, a young shepherd found inside the hollow of an old tree an icon of the Virgin. Excited by his discovery, he took it back home to the joy of his family. But the next morning, nobody could find it. The young shepherd and his family looked all around the house with no luck and finally decided to go back

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[44] I will return to these matters in more detail in the next chapter, describing how every social and material force in the Atacama is subjugated to the extraction of one single resource, namely, copper.

to the tree. To their surprise, there was the icon, and they wrapped it up again and took it back home. But the same thing happened the next morning, and the next, and after the pattern was repeated over several days the community realised that the image's will was that it should stay inside the tree. So the community built a shelter there for the Virgin, where they worshipped from that point on.

The first step in transposing together the features of Ayquina and other Andean artefacts is given by the physical scenario in which the festival takes place. The temple at the heart of the village of Ayquina is easily recognisable as an architectonical device common to many villages of the Andes (Cereceda: 1987). Its general layout comprises three distinguishable areas: the closed space of a building resembling a Christian church, where the image is kept; an open square or *kancha* surrounded by low walls with a shrine at each of its four corners, on which the main performative aspects of the festival take place; and an external yard, leading down to the water source where the small icon was originally found. This tripartite space, specifically conceived for ritual purposes, is not a random design; as Conklin pointed out (1999), its structure is crucial for the further development of the festival's ritual meanings. It is not possible to understand these meanings without considering the space where they are deployed.

To shed light on this three-fold structure, I will first examine its features in the context of the paradigmatic model of Andean sacred buildings, namely, the Koricancha, major temple of the Inka Empire. Positioned at the heart of Cusco in the mountains of central Peru, it was the home of the great creator Viracocha and the heart of the Tawantinsuyu – the seat of power of the whole empire. Although the building was later refurbished to become Saint Matthew's Church, almost every chronicler of the conquest noted the magnificence of the former temple,[45] including Poma de Ayala, Cieza de Leon and Grascilasco de la Vega:

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[45]   The main sources regarding the Inka times come from the so-called 'Chroniclers of the Indias'. They were
       Spaniards or Indians who recorded by means of alphabetic marks and two-dimensional drawings what they saw
       and heard in the early colonies of the Americas. The best-known chroniclers are, on the Spanish side, Pedro de
       Cieza y León, who wrote *Crónica del Perú* (1540–1550), the first description of the exploration and conquest of
       the Central Andes as well as the first Andean history, including the Pre-Columbian times of the formation of the

'At the end of the building, in what we call the altar, was placed an image of the sun, made of a sheet of solid gold twice thicker than the plaques covering the walls. The figure was made out of one single piece of gold, depicting a round face and surrounded by rays and flames' (De la Vega, 1617, I: 163).

The temple was composed of six buildings surrounding its main square (*Inti-Kancha*, from Quechua, *the square of the sun*) from whose centre a system of geometrical lines (*ceques*) was projected towards the four regions of the empire:

From the square started four royal roads; the one known as Chicasuyu heads to the lands of the plains along the serranias, reaching the provinces of Quito and Pasto. Along the second one, known as Condesuyu, are entered the provinces that are subject of this city and of Arequipa. Along the third royal road, named as Andesuyu, are reached the provinces that fall on the Andes' slopes and some villages beyond the mountains. The last of these roads, namely Collasuyu, enters the provinces that lead to Chile (Cieza de Leon: 1553, chapter XCIII).

According to the chroniclers' notes, it is possible to distinguish the same three spaces as are evident in Ayquina: the inner temple with its altar and the iconic image of the sun, the exterior main square or *kancha* and the outside area reached by the projection of 'four roads'. Within these three spaces, Zuidema (1990) attributes a crucial role to the *Kancha* in the political organisation of the Empire, as the point from which the territory was administratively divided and, conversely, where the four regions converged. But its indexical role was reinforced by a system of forty-one lines overlapping the four-fold division, which reached 328 landmarks or

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Tawantinsuyu and its rule; and Martín de Murúa, a Basque Mercedarian friar who between 1560 and 1616 wrote *Historia General del Piru*, considered the first illustrated history of the Inka civilisation. On the Amerindian side, Guaman Pomma de Ayala's work entitled *Nuevas Crñonicas y Buen Gobierno* (1615) is a detailed letter addressed to the king of Spain, abundant in references and magnificent drawings about the Inkas' way of life and their current precarious life situation; finally, the Inka Gracilasco de la Vega's work *Historia General del Peru*, published in 1617, describes the period between the Spaniards' arrival in Peru and the death of the last Inka (king) Túpac Amaru I in 1572.

huacas (sacred shrines), connecting the heart of the Tawantinsuyu with the spirits of the mountains, high peaks, water sources, astronomical marks, etc. By means of this geometric network, Zuidema proposes, the Koricancha achieved two complementary functions: on the one hand, it organised space and defined its limits, and on the other, the system was used as a calendar, ordering the *huacas* according to the days of the year, like a rosary to be cyclically followed (see figure 6). Thus, the Koricancha worked as a temporal and spatial map of the empire, arranging within a material device its political division and its yearly cycles, as well as its symbolic chain of beings and celestial movements. From its centre the main surrounding forces were reached (*huacas*) and somehow brought back to the heart of the Tawantinsuyu, defining the parameters of *the real* in which the Koricancha was the navel of the known world, its focus and legitimate source of power (Pitluk: 1988).
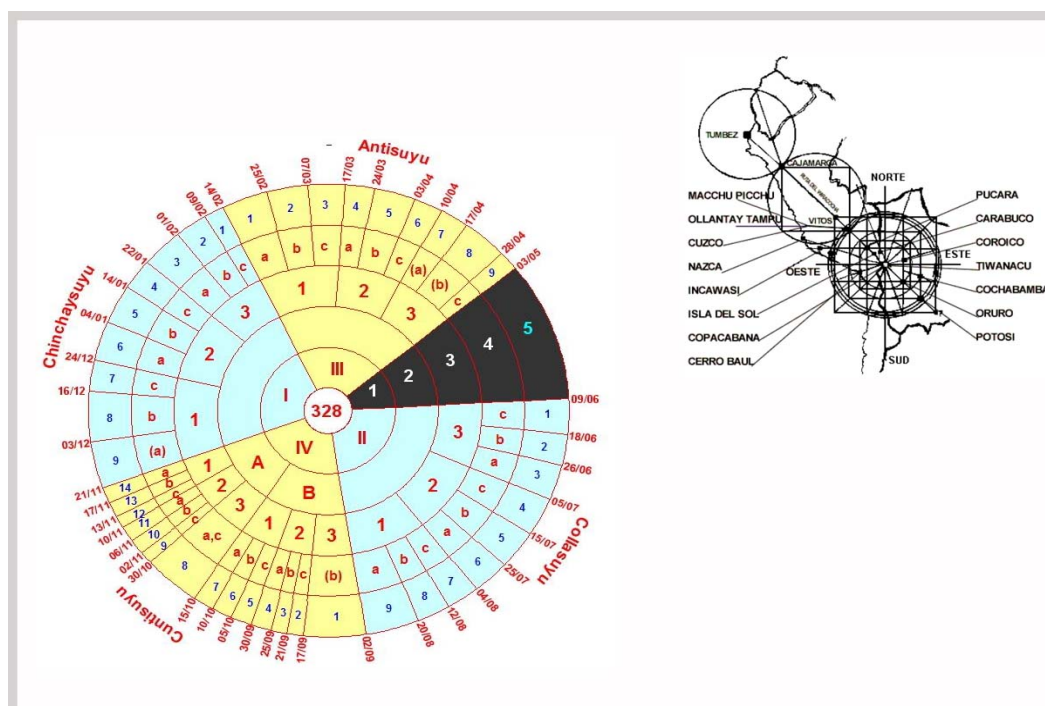

Figure 6: Time–Space map of the Koricancha temple (and its *ceque* lines) superimposed onto the Tawantinsusyu territory (in Zuidema: 1990).

Under its current format, the festival of Ayquina hosts over 20,000 pilgrims every September, taking this small mountain village out of its silence and crowding it with people, music and dance, all in order to worship the miraculous Virgin of Guadalupe. Most of them are inhabitants of the nearby mining city of Calama, but people from distant areas also come to visit the sacred icons.[46] The festival is organised around fifty-two dancing groups, who in the main *kancha* iteratively interpret some fictionalised aspect of the material or imaginary surroundings; their role resembles that performed by the *ceques* (lines) and their connection with the *huacas* (sacred shrines). By means of dance performances, each group brings into the square some aspect of the surrounding world, as if the dances were displaying the whole chain of being under the gaze of the icon. The goal is to persuade her to join the dancers to the open space where she will meet the sacred mountains and reinforce the natural cycle, linking the bottom of the ravine with the high peaks of the Andes (Morandé: 1984). Each dance is based around a specific topic, decided by its members and with no further restriction than the group own imagination. A dance might use Andean motifs in its performances, like the Tinku dance, which represents Andean warriors, or new symbols brought in after the copper-mining boom, like the Marines or Cowboys dances.

Since 1990, the festival has been dramatically reshaped by the growing number of dances and their participants, many of whose points of reference are currently taken from a pop culture imaginary (Iriarte: 2014), adding to the more traditional dances and tunes a set of manifestations originating in television, radio and other mass-media sources. However, rather than displacing ancient traditions, this new layer is acknowledging the current social and economic features of the Atacama, showing how the festival's borders are permeable and dynamic in relation to its changing environment, as its 'motifs are periodically deconstructed and regrouped in order to express the changing relations regarding land, power and national states' (Arnold: 2009, 222).

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[46] As Iriarte (2014) suggests, pilgrims *take grace* (*tomar gracia*) from the Virgin by touching her robes, returning home with part of the sacredness that has been passed to them in the tactile act.

Figure 7: Polar Bears dance (Osada Devota) performed in Ayquina's main square

Figure 8: Cowboys dancers posing for the camera, Calama City

Figure 9: Tinku dance performed at noon during the festival

For example, the leader of the Cowboys dance relates that its foundation in 1992 was the result of a group assembly, convened to decide upon a new dance to worship the village's Virgin. Its members realised that in Ayquina '*there were too many Indians*' – referring to the Red-Skin Indian dances – and therefore it was necessary to create their counterpart; hence, the Cowboys dance. Both the Red-Skins and the Cowboys dances, thematically speaking, can be seen as emerging from Cowboys movies, of which the pampas were plentiful of during the last period of nitrate extraction. Many of the now-abandoned mining camps spread all over the desert had a local cinema as a major attraction, and Westerns were the most-requested screenings.[47] In this sense, the Cowboys dance plays a dual role: on the one hand, it steps out from traditional Andean motifs by including a Hollywood-based imaginary, and, on the other, by its very existence it recalls the times and the social circumstances of nitrate extraction.

In relation to the idea of syncretism as proposed by Morandé (1984), scholars have produced a large body of work regarding complex cultural assemblages. Notions such as *hybridity* (Bhabha: 1994), *contact zones* (Pratt: 1991) or *transculturisation* (Ortiz: 1940) have been used to explain phenomena like the Cowboys dance of Ayquina. All these notions propose that what is important is not the particularities prized by each side in an encounter, but the often equivocal yet fertile transformation the encounter produces in them. For example, in the Cowboys dance, neither of the individual elements (Andean rituals and Western films) alone can fully express what results from their encounter, suggesting only a rather awkward performance of Western-like characters playing at duels. There is no good facing any evil in this dance, no romanticised indigenous force resisting unleashed waves of capital; rather, it is a collective game that places its participants in relation to each other and the wider surroundings.

By populating the mountains with all kinds of extraordinary beings, an affective and multi-sensorial event is crafted. It is a ritual experience converging on a worshipped and miraculous Virgin, full of Christian charisma and objects, that at the same time manages to place in one time and space a microcosm of dancing creatures. On these regards, Gartner (1998) describes

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[47] See *Antofagasta, El Hollywood de Sudamérica* (Zuanic: 1995).

Andean aesthetic technologies as sharing one same feature. In all of them, the surrounding world is acknowledged (or translated) by means of visual metaphors rather than realistic representations. Thus, the outermost manifestations of things are selected and dragged into a new format, exaggerated by means of stereotyped analogies, as with the cowboys when re-interpreting the imaginary of Western movies: what is a cowboy? A hat, a gun and a pair of boots. This stereotyped analogy articulates a visual metaphor about the movies screened during the nitrate cycle, bringing into the festival's square part of the recent history of the Atacama Desert. By means of this operation, the times of the nitrate exploitation are added to the microcosms of dancing icons of Ayquina, linking it to all the other dancing metaphors found in it. This is how the Cowboys dance and, for instances, the Tinku warriors dance, coexist, overlapping references belonging to the mining cycles and to the Andean world in one same time and space.

The Performative Mapa Mundi of Ritual Festivities in the Atacama Desert (Northern Chile)

Dances References:

1. Tinku (Bolivia)
2. Amerindia (North America)
3. Awatiri (Bolivia)
4. Gitano (East Europe)
5. Pastorcillo (Chile)
6. Campero (Chile)
7. Chino (China)
8. Chuncho (Southern Chile)
9. Cosaco (Russia)
10. Diablada (Bolivia)
11. Espanol (Spain)
12. Estrella Dorada (East Europe)
13. Toba (Paraguay)
14. Gaucho (Argentina)
15. Guajiro (Colombia)
16. Hindu (India)
17. Huasada (Central Chile)
18. Jalaguayo (Venezuela)
19. Kullawada (Bolivia)
20. Kuyacas (Bolivia)
21. Lakitas (Northern Chile)
22. Legionarios (North Africa)
23. Marinos (Coast of Chile)
24. Mejicanos (Mexico)
25. Osada Devota (Bolivia)
26. Peregrino (Chile)
27. Piles Rojas (North America)
28. Piratas (The Caribbean)
29. Salteno (Northern Argentina)
30. Samurai (Japan)
31. Llamas de Talabre (Chile)
32. Torero (Spain)
33. Tuntuna (Bolivia)
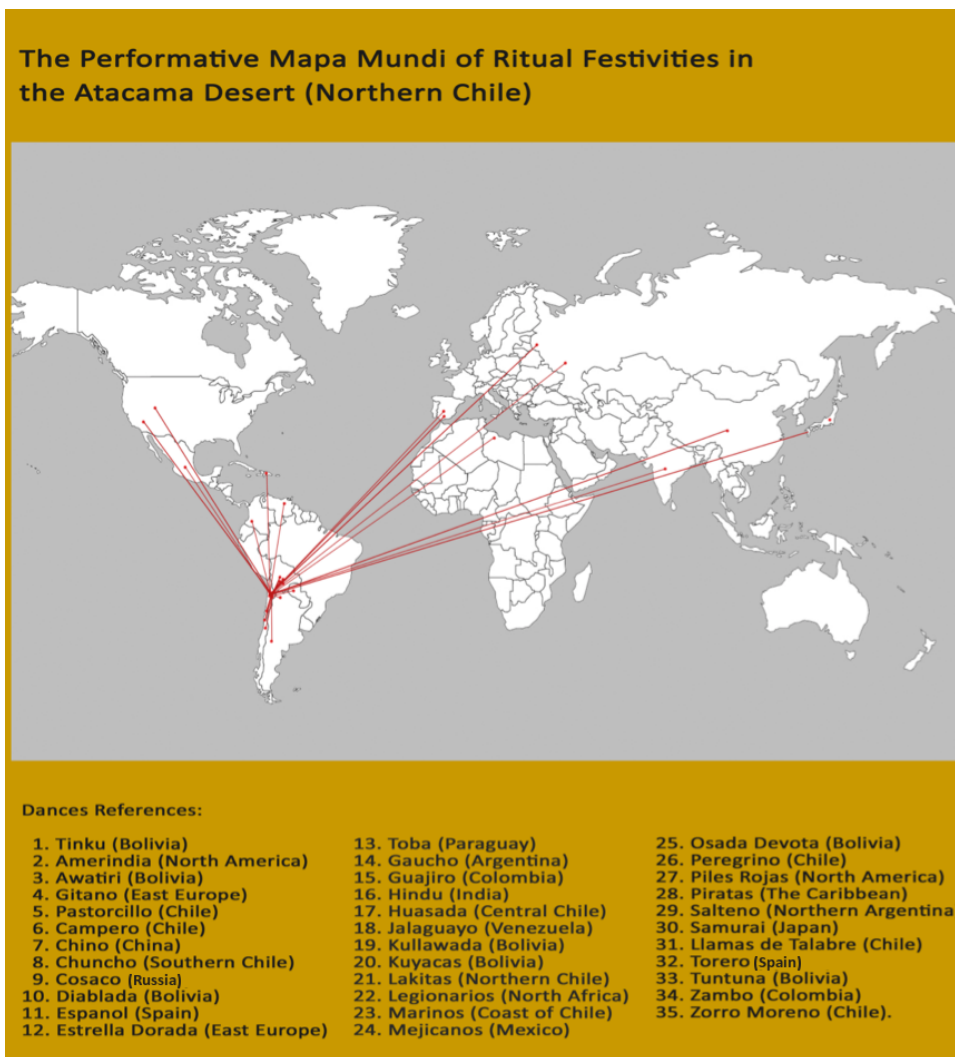34. Zambo (Colombia)
35. Zorro Moreno (Chile).

Figure 10 shows the references each dance uses in its performance. As can be seen, elements are collected from all over the globe and brought together in the *Kancha* of Ayquina (own elaboration).

Gartner (1998) argues that these semiotic strategies are active technologies that seek to change elements of the world by visualising them, staging a never-neutral narrative through iconographic languages. They can be read as *texts* composed of idealised metaphors and displayed in specific time-space coordinates. In this sense it can be argued that every dance in Ayquina is part of a broader visual language that, by means of idealised metaphors, is translating the world into the parameters of the festive *kancha*.

The current scale and diversity of these dances can indeed be seen in terms of a strategy to enumerate 'all the possible beings' within one time and space by transmuting them through audiovisual performances.[48] As Martinez (2000) suggests, the Andean cultural system is rarely based upon abstract categories; it is much closer to imbuing practices with meaning, as in the case of the festival of Ayquina. Here, multiplicity is not represented through a universal clause, subsuming diversity under one stable and fixed image; rather, the world is re-enacted by means of an endless enumeration of the beings that compose it. In other words: the only way in which Andean rituals can approach an idea of totality is by enumerating as many beings as they can, until the enumerator falls asleep or the festive time is over.

Summing up, the idealised metaphors or dances that are found in Ayquina overlap a three-fold space with fifty-two *lines of flight* (the dances). In an analogous way to the *ceques* of the Koricancha, these dances bring the surrounding world within the limits of the *kancha*, articulating a micro-cosmos through which a sense of totality is metaphorically achieved. Or to put it in Tresch's terms in relation to cosmograms, the festival of Ayquina lays out 'a concrete practice and set of objects, which weave together a complete inventory or map of the world',

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[48] The notion of enumeration is also found in the Andean *qhipus*, which worked in a similar way to the Western abacus. Many scholars agree that *qhipus* were a complete 'knot-based language' that recorded not only numeric relations, as in censuses or harvest records, but also history, myths and all sorts of communications (Cummings: 1994; Platt: 2002; Brokaw: 2010; and others). The analogy between this knotted system of communication and dances is intriguing. Are not the dances of Ayquina a kind of metaphorical knot in which information is inscribed? Furthermore, is the square not a simile of the bar from which the strings were hung? Similarly to *qhipus*, the notions of texture, colour and position are central in the achievement of a dance's full visual language.

that 'tries to resituate an individual's concerns and anxieties within a frame larger than the individual, the social group, the nation, the present' (2004, 76). In this sense, Ayquina's main square works as a multilayered map, clustering notions of space, time and cosmos within one single, performative artefact. It is spatial, because it defines the centre of its participants' sacred world; it is temporal, because it is the starting point of a yearly cycle; and it is cosmological, because it gathers together all the possible beings in one single, though not universalistic, system of relations.

Coming back to Ayquina's three-fold template, with the *kancha* and its dance-based micro-cosmos mediating between a closed building, the house of the sacred icon, and the open courtyard leading down to the water source, it is interesting to analyse what are the metaphorical meanings this architectonical division conveys. Following the dialogic method as proposed by Brokaw (2010), these meanings can be clarified by comparison with the widespread tradition of Andean textiles. In the last few decades, textiles have come to be seen as a central medium of Andean thought; as Conklin suggests, 'the way of structuring textiles, as well as [their] appearance, carried meaning for Andean people' (1997, 114). This meaning took at least three forms: (1) identifying certain weaving technologies with specific cultures; (2) the use of weaving technologies for ritual purposes;[49] and (3) relating fabric structures to numerical meanings (ibid., 115). Given this premise, it can be argued that the ritual festivals follow a similar pattern, in the sense that their three-fold spatiality resembles the way in which textiles are structured and their meanings displayed.

In my opinion, the most revealing source regarding current textile technologies in the Atacama Desert is the work of V. Cereceda. Her research has been a lifelong project, approaching these objects over extended periods of time and with a sophisticated aesthetic sensibility. In one of

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[49] A further example of how structure and meaning are combined in Andean artefacts is found in Goodell (1969), who describes the relevance of 'spinning directions' in some Aymara communities of the Bolivian Plateau. Spinning anti-clockwise, for instance, would ward off evil spirits, protecting the community. Another example is during harvest time, when the earth goddess (Pachamama) 'may demand her annual tribute to be wrapped in a specially woven cloth'. Similar patterns have been observed in Ayquina regarding the icon of San Santiago, and also with the sacred image of the neighbouring village of Toconce, where the saint is wrapped up in the same anti-clockwise direction.

her best-known articles, entitled *Semiology of Andean Textiles: Talegas de Isluga* (2010), she investigates the apparently simple designs of the *talegas* (woven bags) of the Aymaran inhabitants of Isluga, in the inner mountains, who use these bags to transport seeds and other objects associated with local farming. In the article, Cereceda aims to unfold the aesthetic parameters underlying the *talegas*' geometric designs, which she describes as carriers of an 'Andean notion of beauty' whose main characteristic is the mediation between opposite though complementary forces (or woven spaces).
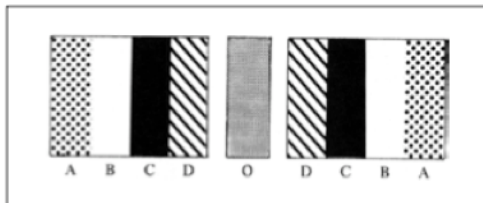

Figure 11:
***Talega* bands scheme (in Cereceda, 2010)**

The village of Isulga (from Aymara *isi u llullaña*: disguise) is located more than 2,000 metres above sea level on the border between Chile and Bolivia. It still preserves a traditional Andean structure based on two differentiated areas or *comunas*: the upper side (*araq saya*) and the lower (*manqha saya*), linked by a central village (*marka*), which until recent times had four shrines surrounding its church. The *talegas* are made by the women of the village, who weave a square-shaped surface composed of coloured bands (*cchuru*) in a succession of chromatically

contrasting pattern. These bands are usually in natural tones, all of equal width and using plain colours, articulating narrow and elongated spaces that are reminiscent of the furrows of the fields. The *talegas* overall design comprises two sections mirroring each other on the left- and right-hand sides of the *talega*, repeating the same tonal succession of contrasting *cchurus.* However, the number of bands in a *talega* is always odd, leaving a central band with no counterpart in the rest of the textile, which becomes its heart (*cchima*) and indexical element.

In a semiotic register, Cereceda proposes that this central band (or *cchima*) plays an ambivalent role, being at the same time a place of encounter and of division of the *talega*'s two sides. It distinguishes the inner spaces while being the nexus or common ground where the two faces of the *talega* meet: 'The centre is therefore defined as an articulation point within the woven space, an always sharp axis that divides the bag lengthwise, following the wrap threads' (2010, 184). The *talega*'s bands, symmetrically organised around this *cchima,* have another major feature. They are woven in such a way that dark and light bands are iteratively displayed on the textile. Yet, in addition, right at their intersection, two thin lines (*qallus*) are added so as to prevent the contrasting values from entering into direct contact with each other. These thin lines mediate the tonal iteration of light and dark lines, ensuring a harmonious transit along the textile.

According to Cereceda, this mediating yet ambivalent characteristic found in the *talegas* is where the Andean notion of beauty can be grasped. The subtle transitions achieved by the *qallus* indicate that the notion of beauty is attributed not to objects but to processes. It is not a beauty *of* something but rather beauty as an *act,* referring to the dynamic passage between two different forms.[50] To see beauty as a process implies its outcome is not known beforehand, demanding precise and even stereotyped practices to achieve it correctly. Due to this processuality, transitions are always facing a double risk: of being either too harsh, thus

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[50] Two further notions reinforce this idea. First, the term *Awca*, usually translated as 'war' or 'enemy' but more precisely referring to every conceptualisation of a relation between two elements or social groups, which are sometimes associated and sometimes opposed. Second, the term *Tinku*, which is usually translated as 'encounter', referring to a ritual dance where two squads fight each other. *Tinku* is then the zone where two groups coming from different directions meet (Harris: 1987).

neglecting dialogue between disparate elements, or having a blurring effect that confuses the two sides. They must always balance between absolute identity and unbridgeable difference. The transit between extremes could become chaos or dissolution, merging different forms into one single mass or, conversely, effecting a rigid distinction which condemns them to solitude.

Finally, Cereceda describes *talegas* as living organisms, whose *bodies* have a left- and a right-hand side (the mirrored patterns) and a heart (the central band), but are also endowed with two mouths, one at each extreme, resulting in a two-faced being. This duality within one single body reinforces the ambivalence of these bags, laying out a living organism composed of rather contradictory forces that co-exist.[51] Thus, the polymorphic and dynamic features of life are re-enacted by the abstract geometry of lines and stable patterns, granting the *talegas* a transformative power that will keep the load safe and activate its potentials towards a good harvest. This corporal analogy is ensured by each *talega*'s particular colour-based designs, working as a kind of 'make-up' that endows a generic 'animal bag' within a particular character, like the owner of a mask or tattoo who is covered by yet also defined by it.

The transposition of these notions of 'beauty as mediation' onto Ayquina's ritual features sheds new light on its spatiality. The festival's tripartite space (temple/square/courtyard) can be seen as analogous to the *talega*'s inner composition, with a middle axis mediating two mirroring sides: 'Mediation is more than a point or instant of contact [...] being rather a movement between two poles: the work employed in establishing contact and the mechanism to keep it from becoming excessive, this role being performed by rituals' (Cereceda: 1987, 219).[52] At the heart of the festival, both spatially and socially speaking, is the *Kancha*, the place where dances are performed and the ritual is carried out. It comprises the axis around which everything else

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[51] This two-faces pattern is also found in many Andean deities, as a source of contradictory though complementary forces. For instance, El tiú, ruler of mineral forces, is ambivalent in taking the lives of some of his sons while enriching others. He is a source of wealth and death at the same time. See *The Devil and Commodity Fetishism in South America* (Taussing: 1980).

[52] These mediatory features are nevertheless not exclusive to *talegas*, as there are many examples that work in a similar register. For instance, the Inka deity of beauty was the ChyoChyo (rainbow), which stressed both a transition between colours and the connection between earth and sky. The ChyoChyo was also a source of contradictory forces, and in some places in the Andes it is still bad luck when a rainbow ends at someone's door, due to its changing and unstable condition.

is articulated and it is the primary scenario of its overall visual display. By means of dance and music, it interweaves a rhythmic movement that connects single bodies with the broader context in which they are inscribed, including social collectives (dance groups), ritual temporality (festive time) and meaningful spaces (a micro-cosmos). Echoing the *talegas,* the *kancha* works as the *chhima* (heart) between the opposing *chhurus* (bands), corresponding to the courtyard and temple and the water source and the house of the sacred icon, respectively. Different in position and tonal value*,* these two spaces are mediated by 'dancing metaphors' (cowboys, polar bears or otherwise), mediating between a totally open space and its opposing mirror, closed and self-contained. Accordingly, the festival's aesthetic features (its 'beauty') are mainly condensed in its dance performances, being the focus of attraction and the pivotal element of the whole ritual. If they work correctly, the contradictory elements of the Atacama might remain in balance for one more year.

A closer look at the *Kancha*'s inner structure reveals it to be composed of three equal bands, running in a temple–courtyard direction. The explicit role of this structure is to organise the dancers and their collective movements once immersed in the performance, within a grid of references. However, this inner division also resembles the *qallus*, those thin lines that mediate between bands in the *talegas*, keeping the opposite tones from touching each other, and at the same time replicating the contradiction on a smaller scale. Following this analogy, the *kancha*'s inner division works as the warp into which the woof (the dances) is interwoven, articulating the space while dividing it. For instance, in the case of smaller-scale dances, too small to use the whole space, the *kancha* is shared by three groups simultaneously, all of them fighting to play the loudest music. The general opposition between different spaces (temple and courtyard, or dark and light tones) is therefore re-enacted within the square, promoting a micro-cosmos in which 'groups coming from different directions encounter each other' (Harris: 1987).[53]

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[53] It is worth noting that in the festival of Ayquina one of the most popular dances is the Tinku dance, which is a moderated version of the more traditional Tinku fights. This is not an actual fight but its simulacrum, with the dancers jumping up and smashing their helmets against the floor, and shouting war chants. Its leader, of Bolivian parentage, explains the spirit of the dance as one of encounter, in which everyone is welcome regardless of place of origin, age, gender or physical disability. According to him, the Tinku dance and the
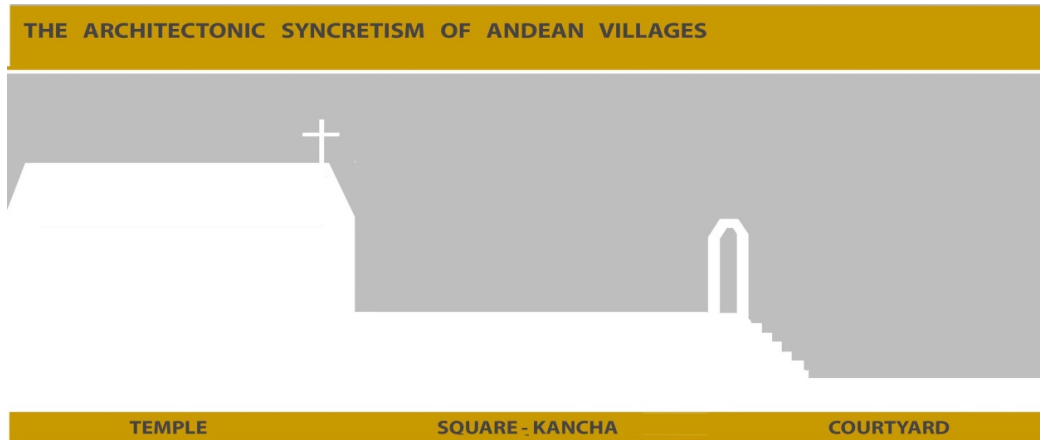
THE ARCHITECTONIC SYNCRETISM OF ANDEAN VILLAGES

TEMPLE   **SQUARE - KANCHA**   **COURTYARD**

Figure 12: At the heart of the festival is the *Kancha*, mediating between two opposite spaces, the temple and the courtyard (own elaboration)

The last element to highlight in this analogy between *talegas* and the festival is related to the role of disguises (*trajes*) and masks (*caretas*). As Cereceda points out, each textile is endowed with an identity of its own through the use of specific compositions, becoming a living organism with transmutative capacities (keeping the load safe and ensuring a good harvest). As noted above, the design of each *talega* endows a generic 'animal bag' with a particular character, covering while defining it. In a similar way, each dance group gains its identity by covering its members under specific clothes, wearing masks and costumes appropriate to their themes, rendering a generic group of people a specific dance group. Cánepa Kosch (1998) proposes that the use of masks in Andean festivals performs a mediatory role between the *persona* and *personage*, or between the *Id* of the dancer and the *other* of the character. They grant the user transmutative powers while protecting him from dangerous situations. Through *being other* the dancer leaves behind his specific individuality to take part in a collective identity, unified by the use of costumes and masks that erase differences under a common visual covering.

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festival are the central landmarks of the year, because in the performance the entire social collective is brought together and the year has its start.

Lastly, it remains to further explore the substantive contents that the central *Kancha* of Ayquina and its masked dances are mediating. In other words, what kinds of complementary forces are embedded in this three-fold architecture of Ayquina's temple? A good artefact onto which to transpose these issues is the drawing shown in Figure 13, made by the Inka Pachacuti Yamca and included in his chronicle *Relación de Antiguedades deste Reyno del Pirú 1620–1630* (Ancient Relation of the Realm of Peru). In it, he transcribed onto paper the major altarpiece of the Koricancha temple, which depicted a metaphorical image of the great creator Viracocha. Among the many readings this drawing has provoked,[54] Villa-Millena's (1980) insights regarding its overall composition are most revealing. He sees in Pachacuti's drawing *'three circles inscribed in an oval'* with a male and female figure on its left and right side, corresponding to the sun god Inti and the moon goddess Quilla, respectively (Fig. 13). In Villa-Millena's opinion, this five-fold drawing is the visual expression of the Chakana (see chapter 2). This cosmogram has become paradigmatic in many Andean aesthetic practices and objects, being widely used throughout the Andes, including in the representation strategies of the Atacama (Zuidema: 1980; Harris: 1987; Estermann: 1998; and others).

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[54] Pachacuti's interpretation of this drawing has been the subject of much debate among scholars, who disagree as to whether it corresponds to a 'colonial and Christian altarpiece' (Garrido: 1993; Itier: 1993; Duvois: 1997) or whether it actually depicts a fully Pre-Columbian cosmogram (Watchel: 1979; Villa-Millena: 1980; Zuidema: 1989). I subscribe to the latter point of view for two reasons: (1) following the idea of 'cultural syncretism' as proposed by Morandé and others, it is reasonable to expect that Pachacuti Yamca's chronicle, whose author was a direct descendant of Inka nobility (as he himself noted), would take part in this process of cultural mixture, juxtaposing the new religion with his former Andean beliefs; (2) the cosmological features depicted in the figure, as described by Zudema or Villa-Millena, match with the analysis of other Andean artefacts that are carriers of similar cosmogrammatic patterns; (3) finally, framing Pachacuti's drawing as a Western motif neglects all the fruitful interpretations it has produced; to put it another way, it cancels all the social life this drawing has provoked over the years.
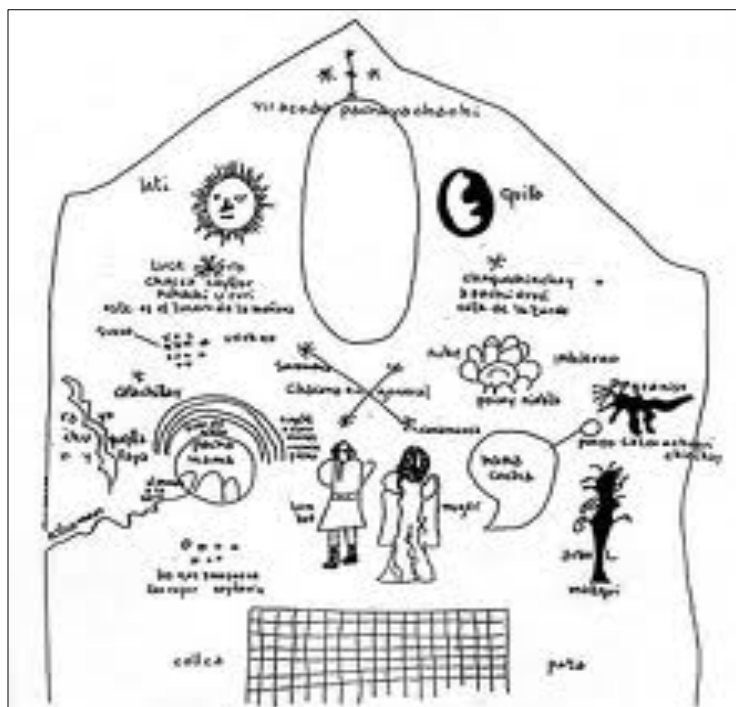
Figure 13: Altarpiece of the Koricancha by Pachacuti Yamca (1633)

In its simplest visual form this cosmogram looks like a four-sided plot, a square overlapping a regular cross (comprising vertical and horizontal lines of the same length), with a circle inscribed at its centre. The resulting image depicts a trapezoidal figure, where each side forms a three-step staircase shape. Its design is thought to follow the astronomical figure of the Southern Cross constellation, a group of four stars with a similar role to that of the northern hemisphere's polar star (Aveni: 1991).[55] Accordingly, the word *Chakana* means *four stairs* (from Quechuan: *tawa chakana*) or *that of the four bridges* (from Aymaran: *pusi chakani*). In Quechuan, *tsakana* means 'useful' or 'material to be used as a bridge between two separated parts', recalling notions of positions and connections of different elements. In this sense, the word *Chakana* refers to the assemblage of unequal forces linked by stairs, replicated on each

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55 Once a year – around 3 May – the Southern Cross composes a perfect cross in the sky. The lines between both pairs of opposite points are perpendicularly crossed, shaping four quarters with the exact same size. In the Andean world, 3 May is the date to start the harvest, and it is still marked in festivals today, although its astronomical origin may be in some cases have been forgotten. The Catholic calendar labelled this festive date under the name 'The Cross of May', and it was celebrated in both Spain and the Americas. The ecclesiastic discourse associates its origins with the search for the wooden cross on which Jesus was crucified, undertaken by the Byzantine Empress Saint Helena in the fourth century AD. But it is common in the Americas for a Pre-Columbian festival to be discernible beneath the Christian one.

side of the figure, composing a system that gathers together multiple levels of meanings within one unique figure of relations (Estermann: 1998).
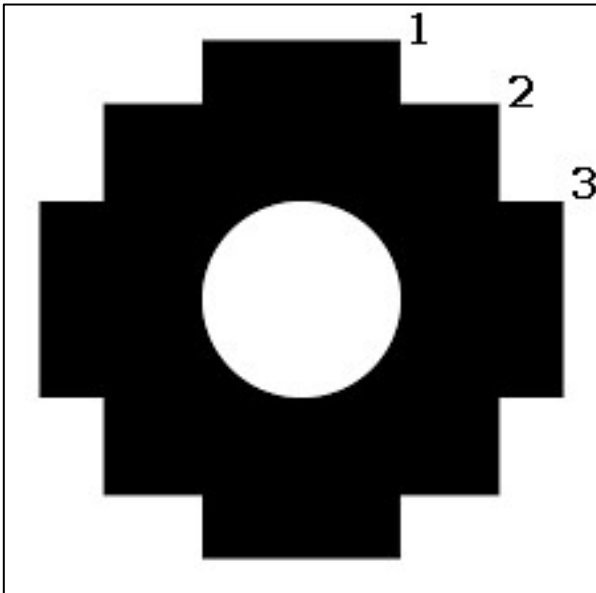

Figure 14:
Image by Guillermo Romero (2006)

As Harris suggests (1987), the tripartite world expressed in the Chakana's three-step staircase has been reinterpreted and readapted since the early colonies by the Christianisation of the Andes. The Christians found fertile ground in the region to impose their own Trinitarian approach of Heaven, Earth and Hell. But as mentioned above, this 'evangelisation' was never fully achieved, but led to a syncretism, which retained a deep presence of Andean conceptions. In Harris's opinion, the three-fold model corresponds to three mythological stages known as *Pachas*:[56] *Taypi Pacha*, developed at the heights of Titicaca Lake and a time when all elements co-existed in harmony together; *Puruma*, a time in between periods of light, a place of chaos as well as creativity, associated with deserted lands but also water sources, where wildness dominated humans and their relation to sacred forces; and finally *Awqa Pacha*, the time of the Inka Empire, which is still continuing today.

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[56] In Qechua, *Pacha* brings together notions of time and space; it is sometimes translated as *universe*, not in the sense of an undifferentiated totality or primordial flux, but rather as a composition or encounter between equal and opposed elements (see Harris: 1987; Estermann: 1998; or Lozada: 2006).

In their semi-Christianised version, these three time-space *Pachas* roughly correspond to the heights, the land and the underground forces, renamed as '*Hanan*', '*Kay*' and '*Ukhu*' *Pacha* (Lozada: 2006). The *Hanan Pacha* would then correspond to an ideal cosmos, inhabited by celestial forces, including both Andean and Christian deities; the *Kay Pacha* would correspond to the natural and cultural world; and the *Ukhu Pacha* to chaos and demons. However, as Harris explains, from each of these *Pachas* a set of contradictory forces emerge, and good or evil cannot be fixed into only one of them. For instance, the *Ukhu Pacha* is the place (and time) of the dead, who rather than adopting a celestial or infernal form, as the Christian model proposes, keep playing an active role in the world of the living (*Kay Pacha*) as family guides and nature's guardians.[57] Or devils, rulers of the underground forces and mineral wealth, become sources of ambivalent meanings that might enrich the worker or condemn him to ruin: 'we eat the mine as the mine eats us' (in Nash: 1983). Indeed, the complementary force of the devil of the mines (El Tiú) is Pachamama (his *wife*), usually associated with the Christian Virgin and agriculture. Harris describes her as the 'abundance and totality of the sprouting archetypes of the ground' (1987, 48). Pachamama's alliance with El Tiú reinforces the idea of contradictory elements in each *Pacha*, linking seemingly opposed forces by means of complementary relations.

The Trinitarian cosmology was never imposed on the Americas with complete success, being always resisted by a less rigid conception in which ambivalent elements remained interconnected. In the same vein, the Chakana depicts the three *Pachas* through their interrelations. It bridges the gaps between different strata, preventing them from falling into chaos by connecting them. As in the *talegas*, the Chakana relates differences in such a way that

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[57] Before Christian graveyards were imposed on the territory, the bodies of the dead were spread all over the land and buried in *Mallku* (cairns), usually located at crossroads or at field boundaries, which became sacred landmarks. The need to monopolise burial rites in the hands of the new Church, as well as the urgency of freeing the territory from 'idolatries' in order to make it exchangeable (able to be bought or sold), led to a thorough process of extirpation of these practices in the Andes. However, even in current times some communities still place their ancestors in mountain caves, opening them periodically to share food and drink with the *mallkus.* In some other cases, the crosses placed over the graves are taken out and placed at the family table, welcoming the dead to share dinner with the living. The first example was narrated by the leader of the Polar Bears dance in Ayquina, referring to his own experience when invited to play music in the village of Rio Grande. The second example is a common practice in the village of San Pedro de Atacama.

singularities are not kept apart but neither are limits dissolved. It works by mediating opposite and complementary forces, transiting between them without neglecting either past and future, the dead or the living, female or male, up or down, and so on, setting up the interrelations of all those forces that compose human experience.

As Estermann suggests, 'the human being does not "represent" nature but "co-creates" it in order to reach and keep the full realization of the cosmos' (1998, 195). In this sense, he sees three main principles governing the Chakana: a) correspondence, the vertical relation between the superior and inferior final parts of the figure; b) complementarity, the horizontal relations between left and right; and c) the cyclic course of time, with the conjoined extremities of the figure forming a circle. At the centre of this system of parallel and interconnected realities are the human beings, the axis of a spinning wheel, struggling to articulate the contradictory forces that surround them and being the basal intermediary element of disparate registers of reality.

What the Chakana accomplishes in its current version is the embedding of the parameters of existence within an endless chain of being. Everything is equally alive in this ideal Andean world, from the mountain peaks, home of the most sacred forces, to the water flowing below, from the coca leaf to man-made tools, all of these elements deserving the same respect in the shaping of an interconnected cosmos (Ortman: 2007). This pantheist approach helps explain why the Chakana is rarely depicted alone (Villa-Millena: 1980; Estermann: 1998), having an extraordinary transmutational ability that works at the basis of many Andean artefacts. The Chakana helps define textiles, temples or rituals, acting as a bridge between disparate orders of reality.[58] In Harris's terms, 'What western mentality would have explained through more abstract concepts, is here crystallised in more concrete forms, in more tangible times and

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[58] In Estermann's (1998) view, the Andean cultural system stands far from Western conceptions of rational thought or individualisation processes, and much closer to a celebratory understanding of a fully related cosmos. The Andean world gains its mode of existence, he explains, within the practical dimensions of social life – such as harvests, handicrafts or festivals – and not in the register of abstract theology. It is in lived experience that its meanings are fulfilled: 'For Andean philosophy, "reality" is present (or is presented) in a symbolic way rather than in a representative or conceptual one. The main purpose of the Andean *runa/jaqi* [the Chakana] is not the acquisition of an abstract or theoretical "knowledge" about the surrounding world but the "mythical insertion" and cultic and symbolic/ceremonial (re)presentation of such' (1998, 104).

places' (1987, 14). By means of transmuting into different shapes, the Chakana populates the world with all sorts of figures and creatures. In short, while explaining the totality, the Chakana is adding complexity to it.

From my point of view, when looking at the Chakana and its current reinterpretation based on the three-step staircase, both the *talegas* and the festival gain new meanings. The *kancha*, as the heart (*chhima*), main axis and mediatory space, can be described now as a place of transit across the three steps or *Pachas*, interconnecting them. Under this frame, the courtyard, leading to the water source, can be associated with *Ucku Pacha*, the home of the underground forces and mineral wealth; the sacred temple can be linked to *Hanan Pacha,* the home of celestial divinities (the sacred icon) and ideal image of the cosmos; and the *kancha* could be an analogy for *Kay Pacha*, the place of the living and centre of a 'spinning wheel'. Accordingly, the masked dances are a suggestive simile of the Chakana's mediatory role, an explicit act of balance between gravity and movement, as the dancers struggle to remain on their feet while wearing heavy costumes and following tangled rhythms.

THE ARCHITECTONIC SYNCRETISM OF ANDEAN VILLAGES

TEMPLE   SQUARE - KANCHA   COURTYARD

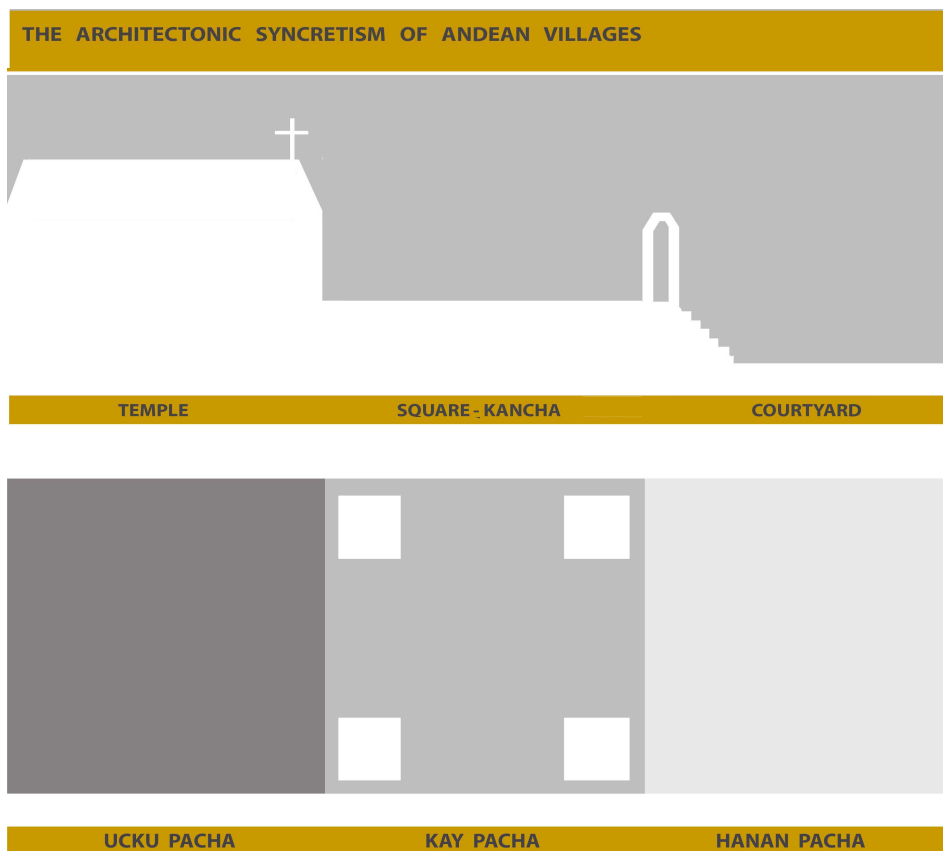UCKU PACHA   KAY PACHA   HANAN PACHA

Figure 15. A visual analogy between the three *Pachas* and the architectonical layout found in Ayquina (own elaboration)

Under this frame, dances in Ayquina can be seen as metaphors of the overall Andean conception of a three-fold world, with humans placed at the heart of a textile-like space. This position is driven by the need to weave together the ambivalent forces of a dynamic universe. By means of idealised analogies, all these forces are brought to the central square, inserting them in a celebratory event that while depicting the cosmos is co-creating it. The task is to transform experience in order to ensure the cycle of life. But as stated above, it is not only the mythical dimension of the Andean world-view that is brought onto the stage, but also all those elements belonging to the surrounding world, including the emerging consequences of mining expansion. Thus, an image of the cosmos in which everything is considered equally alive is laid out. It is not about each isolated part but about the co-existence of multiple registers at once. Precisely for this reason, the reinterpretation of the Chakana within Andean current representation practices is an incredibly useful model, working as a relational principle through which objects gain a malleable form – as in the festival of Ayquina, where its expanding capacity to incorporate new elements has created a textile-like dance model that weaves together opposed forces.

Having stated the transformative ability of the Chakana, which gives form to a wide range of objects and practices throughout the Andes, now it is possible to ask: if this relational model has framed such diversity, why might it not also frame a documentary film about the Atacama? Could this visual representation become a further expression of this widely reinterpreted cosmogram? Of course, such a film might be a marginal achievement when compared with proper Andean-based practices, even more so coming from a single researcher based in the UK. However, these limitations do not decree that the idea is to be discarded.

Yet, this proposal still needs to be applied to the current circumstances of the Atacama. Outside the time-space of the festival of Ayquina, large economic networks are struggling for control of the territory. There is not only an expanding mining industry, but a flourishing tourism industry as well. If the coastal areas and middle pampas of the Atacama are the subject of an ongoing mobilisation of mining resources, people and technologies, the south-

western mountains are co-opted by tens of thousands of foreign visitors each year. While the first trend has cut across the main part of the territory, involving over 500 mines and an annual production of three million tons of copper,[59] tourism has taken over the region's major natural landscapes. At the same time as mining companies have been searching for mineral wealth, tourism entrepreneurs have been collecting a set of 'mystical sights' to exploit.

In order to explore these issues further, in the following chapter I present the results of the qualitative research study I conducted in the area during June and September of 2013, which was complemented by my previous experience and knowledge of the area, where I lived and worked for more than two years. During this fieldwork, the focus was not on the Ayquina festival but on the economic forces surrounding it. This focus was based on the need to place the festival and its changing aesthetic in context, socially and materially speaking, understanding how its current features are in straight relation with what surrounds it.

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[59] Source: *Atlas de las Faenas Mineras* (2011).

CHAPTER 4: Conflicts and Struggles in the Atacama Desert

The previous chapter discussed how a proper understanding of Andean material culture, its objects and ritual practices, must always take into account the broader context (Parry: 2006; Arnold: 2009; Martinez: 2010; and others). Any fixed account of culture needs therefore to be left behind and replaced with a dynamic frame, in which economic and social determinants are central for the analysis. Accordingly, this chapter details the main findings of my ethnographic fieldwork carried out in the Atacama in 2013,[60] which investigated all the forces surrounding the festival of Ayquina in order to frame this ritual phenomenon in relation to its broader surroundings. The Atacama's ritual practices were left to one side, with attention turned to the economic structures of the territory, all of which are invariably linked to the presence of the copper-mining industry. I will argue that these companies have greatly influenced the current social features of the Atacama, with the festival of Ayquina being a further expression of the industry's immense mobilisation of human and non-human resources.

The starting point of this fieldwork, following Becker's (2007) operations of making a representation of society,[61] was selection. Becker explains how any representation of society is always partial, less than the represented in itself. Thus, a selection always occurs when the outside is transformed into a new medium. The representation of society demands that some aspects of the world are highlighted while others are left in the background, limiting the work to a particular set of materials and area of research. The first selection in this qualitative research was in the decision to focus on one specific area of the Atacama: the Antofagasta

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[60] Fieldwork was conducted during a period of four months and organised in three journeys to the area of about four weeks each. A total of twenty-three interviews were recorded and transcribed, covering subjects from the three main researched areas: Antofagasta City, Calama City and San Pedro Village. This chapter combines extracts from several of these interviews, which are complemented by field notes and a historical review of each area. The outcomes of this process are three descriptions that give an overview of the main conflicts and struggles found in the Antofagasta Region, Atacama.

[61] In order to fabricate a representation of society, Becker identifies four main operations: selection, translation, arrangement and interpretation. For more details see the chapter on methodology.

Region, where the festival of Ayquina takes place and the heart of the Atacama's mining industry.

The second selection was in the decision to pay special attention to its main inhabited areas – while leaving aside Ayquina Village itself, as this has been explored in the previous chapter. Within the selected area, three human settlements were distinguished, running in a coast–mountains direction: Antofagasta on the coast, the administrative centre of the Atacama's mining industry; Calama in the pampas, a mining workers' enclave and departure point for Ayquina; and finally San Pedro, centre of Andean communities and current host of a large tourism industry. A third selection was in establishing the interview sample (described in the chapter on methodology), which was collected following a snow-ball process.

Finally, the last selection was in arranging all the gathered data (interviews, field notes, document review, etc.) within these pages in a historical framework, selecting some elements to be narrated while leaving others aside. The result of this selection process has three sections, each of them corresponding to one of the researched areas (Antofagasta, Calama and San Pedro). They are organised in a coast–mountain direction, from the lower to the higher altitudes, following the bioclimatic zones of the area (Fig. 16).[62]

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[62] Many scholars (Murra: 1975; Gartner: 1998; and others) have pointed out that the geography of the Andes is organised around bioclimatic zones, defined by their altitude more than by their position in an imaginary flat plot. The rugged topography of the Andes creates dramatically differentiated areas, each one holding some exclusive productive potential, fostering fluid agreements of exchange between distant areas. Therefore, spatial categories in the Central Andes are based on a complex assemblage of altitude, productive features and inhabitants, embodying space with particular meanings. The relations between different areas are most commonly driven in a coast–mountain direction, shaping routes of exchange, economic control and population migration.
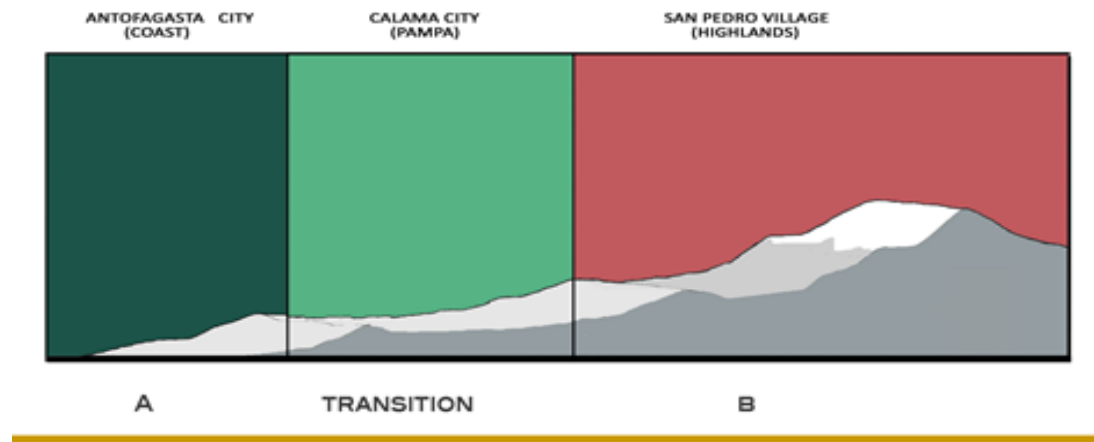
Figure 16: Cross-sections of the Antofagasta Region (own elaboration)

1. Antofagasta: Producing the Ideological

The modern history and development of Antofagasta have been underpinned by iterative boom and bust economic cycles, with a rapid and widespread expansion of economic utility followed by an abrupt end, as are common in resource-based communities (Hefele & Morton: 2009). A single-resource-based community, such as Antofagasta, is characterised by having only one dominant type of industry supporting it. When either the resource is depleted or the price drops, the community experiences a dramatic downturn (Gunter: 1981). Mono-resourced communities are usually located in the hinterlands, far away from urban centres, forcing large-scale immigration during economic booms, which might be reversed once the boom is over. The settlement's infrastructure is not meant to last and urban investment is almost totally subordinated to production, shaping unstable and precarious social organisations (Gilmore: 1976).

The case of Antofagasta follows these patterns almost exactly. After its foundation in 1866, the city was established as a port for the trade in nitrate, a mineral fertiliser for agriculture of

which the desert pampas had plentiful reserves (Gonzales: 2010). Its large-scale exploitation was driven by the Industrial Revolution's demographic expansions and the consequent need to increase North American and European food production. Nitrate was known as 'the white gold' and hundreds of camp towns populated the pampas. But this extraordinary boom abruptly ended after the 1929 economic crash. The mining camps started closing down without warning and thousands of workers were displaced. While Calama managed to absorb part of these populations, the still-incipient city of Antofagasta was faced with the arrival of hordes of impoverished men and women, either planning to sail back south or simply looking to survive by any means. Some managed to set sail for the south, but the majority settled down in the increasingly depressed city. One of the major newspapers of the time described the situation as follows:

> The nitrate industry is dying quickly, exhausted; it is no longer able to continue feeding fiscal voracity. All efforts made by the government to extend the old regime are only serving to precipitate the last gasps of the victim (*Zig-Zag Magazine*, 20 October 1933.)

Notwithstanding this dramatic episode of economic downturn however, the current copper boom, starting around 1990, has expanded all over the desert, bringing an extraordinary rather one-dimensional dynamism to Antofagasta. When the first transnational mining company arrived in the area twenty-six years ago, the city's population did not exceed the 200,000 inhabitants. Its urban area surrounded the port, stretching between the coastal mountains and the Pacific Ocean, and a local bourgeoisie of food producers topped the city's social pyramid. Yet, after the Pinochet dictatorship (1973–1990), the country's borders were opened up to foreign investors and new mines were opened all over the region, greatly expanding its economy in just a couple of years. By the end of the twentieth century, Chile was responsible for one-third of the world's copper production (Aroca: 2001); Antofagasta became one of the major administrative centres of the mining industry and the largest mineral port ever seen in the Atacama Desert.

To a certain extent, Antofagastans seem to think of their city as the 'California of South America', seeing similarities between the gold fever of the nineteenth century and the current copper boom. People come seeking wealth from all over the world, without considering the effort the work here requires or the lack of life quality it implies. Everyone in Antofagasta is a first-, second- or, in a few cases, third-generation immigrant, all of them attracted by the ebb and flow of the mining cycles. It is a city of fluxes: everything – people, capital, copper and everything else – is about to depart for somewhere else, but as much money as possible is being drawn from the depths of the mines in the meanwhile.

However, in spite of the fact that copper production doubled between 1994 and 1999, the mining sector is not important in terms of backward and forward linkages with the region, in the sense that only a very small proportion of the produced wealth stays in the area, where it might improve life quality or contribute to a more sustainable development (Aroca: 2001). Most of the copper income either is invested in the central Chilean territories or goes abroad into the coffers of transnational companies. Although hundreds of people arrive in Antofagasta every day due to the inflated salaries, and new skyscrapers are being built everywhere – as well as all kinds of facilities including highways, airports, casinos and housing – the economic model remains attached to boom–bust cycles (Cademartori: 2000). The city has never looked so splendid, never been so rich, but everything in it is subordinated to extraction of a single resource.[63] This single-resource determinism can be visualised when looking at the

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[63] It is worth noting that scholarly work on the territory is scarce, with few authors having shown a critical interest. The current power of the mining industry is so overwhelming that critics are rapidly shut down. As an example of this territorial subjugation to corporative interests, the story of how the Quillagua oasis met its end is enlightening. In Spanish, the village name sounds like *Qui' ll' Agua'*: *Aqui hay agua* ('here is water'). The oasis was the only place in the pampas where agriculture was practised, and became a kind of free workers' settlement in the context of the private company towns built during the nitrate mining cycle (1870–1930). But at some point during the 1980s the oasis mysteriously dried up. A professor from the local university began to make inquiries, hearing rumours that one of the largest mines had discharged waste into the oasis, acidifying its water and ultimately transforming it into a quagmire of toxic sediments. It remains unclear whether this was an accident or a planned manoeuvre; however, the professor concluded that the disaster was a direct consequence of the mine's action. But corporative interests could not allow this to go public. Providing an indication of the coordination of state and corporative interests in Chile, the professor received a call from a former Senator of the Republic, who told him to cease his inquires, arguing the issue was a 'matter of state'. When he refused, he was quietly removed from his academic position and marginalised in the Chilean academy to the point of invisibility. Some time later, the mining company funded an alternative inquiry into the events at Quillagua. Some German scientists came to the area and suggested there was not enough evidence to

infrastructure in Antofagasta Bay (Fig. 17). It is composed of three ports, all of them fundamental in the mining industry and major landmarks of the city's urban growth.
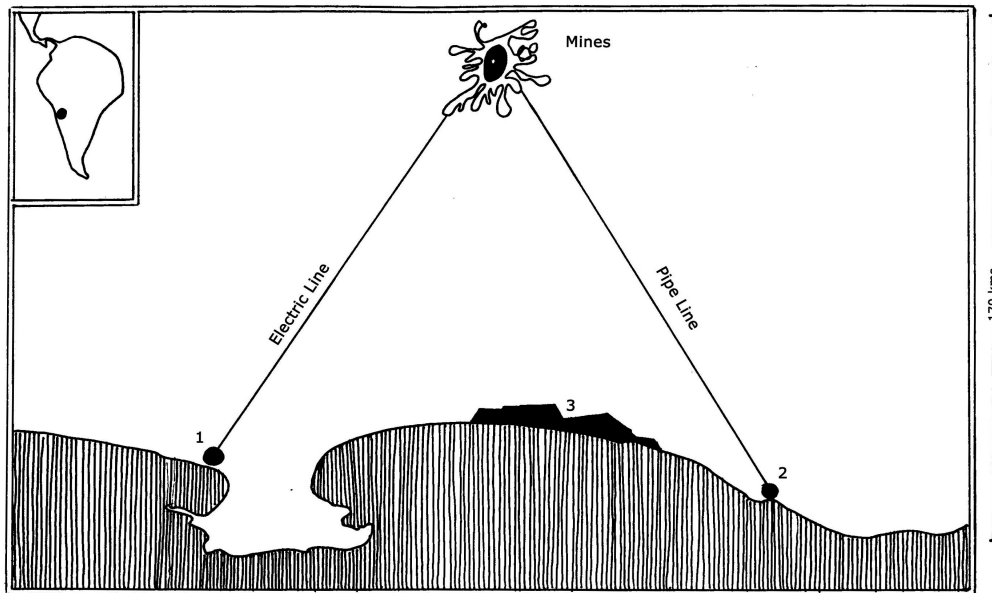

Figure 17: Antofagasta Bay infrastructure.
I: Mejillones; 2: Coloso; 3: Antofagasta (own elaboration)

A few kilometres north of Antofagasta is the port of Mejillones (number 1 in the figure). The area used to be a fishing village and a place Antofagastans would go for recreation, but the copper boom transformed it into the engine of mining production. Currently, seven thermoelectric power stations populate its shores and the port is the entry gate for all kinds of fuels. The energy production follows a quite simple principle: coal is brought by ship and burned to boil seawater; this creates vapour and moves a set of turbines. Energy is transported across the pampas through a cable-based system into the working areas of the mines. One-

establish direct causality between the mine's work and the water pollution. When the local researcher finally met them, the German team took him aside and told him: 'We know what you are saying is right, but it will never be acknowledged in public. Our advice is to let it go.' (This description of the destruction of the Quillagua oasis is based on several oral histories gathered during the fieldwork. The professor in question could not be located).

third of the mines' annual energy demand is produced in Mejillones (3,700 GWh, close to the entire energy consumption of Scotland in 2013).[64]

If Mejillones Bay is the entry gate for energy production, the city port of Antofagasta is the goods disembarkation area (number 3 in the figure). It was built during the last decades of the nitrate boom and expanded to both the north and the south. Although the city port still dispatches a considerable amount of refined copper (42% of the port's transferences in 2010),[65] due to the current scale of the extraction its main function has changed from exit point of minerals to point of entry for goods for the urban population and the mining industry.

The last element of Antofagasta's port infrastructure is Coloso (number 2 in the figure), at the southernmost point of the bay, the largest private port in the region. It belongs to BHP Billiton, the world's number-one producer of copper, whose Antofagastan branch was responsible for 8.1% of the total copper traded in the international markets in 2008.[66] Built in 2001, the Port of Coloso is the most recent addition to the regional mining system, whose specific function is to receive semi-liquid copper from the pampas, embarking it into container vessels. The copper is passed along a 170-kilometre-long pipeline, which ends in Coloso. Those same vessels that previously unloaded fuels in Mejillones are filled up with mud-copper (*barro de cobre*) and dispatched worldwide.

The main 'inconvenience' of Coloso is a small fishing community settled next to its massive structures. The environmental conflict between the two economic systems has been solved through what is known as Corporative Social Responsibility (CSR), also called win-win relations. At the core of this concept is the idea of establishing a channel through which the company delivers goods and services to the community, while the community agrees not to interfere with the production. In other words, the company pays to keep the people quiet.

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[64] Distribution and Energy Consumption in Chile (INE 2008) and Renewable Electricity Statistics for Scotland, Scottish Government (2013).
[65] Annual Memory Report 2010 (EPA).
[66] Annual Report 2008 (FME /BHP).

The main drawback for the company is not the obligation to take responsibility for the negative side-effects of its activities, an insignificant expense when compared with its utilities, but rather that CSR attracts new, impoverished populations to Coloso seeking charity. The main target of any CSR department is to keep the production as invisible as possible so as to minimise the risks of social uprising, but as more people are affected by the inevitable toxic output, these risks increase. A fisherwoman from Coloso describes the relation of her community to the company as follows:

It is like a marriage relationship; we have had good times and bad ones. Bad relationships started when the pipe broke, the pipeline, and there was a spill of concentrate all over the place; then we divorced. But now we are back together again and working better, because formerly they just gave and gave, the company came and gave, gave and gave. Then people did not realise what we were receiving. And when the spill happened we lost great people from the company that worked with us and we went back to the beginning of the relationship. It was hard to trust in them again and to accept the company's new people. But we are fine now, because we understood the idea of work; some per cent comes from them and some comes from the community [...]. That's the idea. (From fieldwork interview in Coloso port, April 2013.)

Every mining corporation in the Atacama, including the national copper company CODELCO, has created a specific department to solve 'the social inconvenience', always worried about losing what they call 'Social Licence to Operate' (LSO). Mining companies have come to understand that a delegitimised productive system cannot withstand emerging social movements or potential struggles over production control. The stability of companies' linkage with their social territory must therefore be maintained at all costs, and the role of CSR departments is to keep this relationship as stable as possible.

From a critical point of view, it can be argued that CSR departments work as an ideological tool, in the sense that they seek to organise reality such that conflicts remain hidden. The goal is to influence public opinion in favour of the corporative interests, rather than actualising well-being. A happy community is one that does not risk the production process. CSR web-slogans often illustrate the rhetorical emphasis.

> We see sustainability as being integral to how we do business, showing our belief that our long-term success requires us to prioritise sustainability over our business. (From BHP-Billington Chile, official webpage.)

Such marketing conceals, in my opinion, the real impacts of the industry's business model, namely, the rapid extraction of commodities while they are profitable, subjugating all social and material forces to a short-term project. The variable to manage is not the impact on the territory but rather the social perception of it. Decisions are typically made on behalf of the private, productive interests, exposing these single-resource-based communities to 'a different set of conditions in which local regions become part of an international economy owned and operated by a hegemonic fraction of capital under the auspice of multinational corporations' (Bradbury: 1979, 149). As Cademartori points out, 'the [Antofagastan] local elites disguise the reproduction of the traditional model of commodities exportation enclave with a modernizing discourse, education, technology, entrepreneurship, social and environmental responsibility, as if hyper-growth meant development' (2008, 352). Antofagasta cannot help but be associated with the definition of mining enclaves where: a) local economic agents do not control production generated in the region; b) commodities exportation profits are a significant part of the country's income; and c) at the centre of the enclave predominate pure capitalist relations between capitalists (transnational corporations), local suppliers (sub-contracted small- and medium-size industries) and a dense proletariat (ibid.).

The fact that the labour force is always insufficient to supply the copper mines has promoted a constant immigration process, pushing up housing prices and expanding gentrified urban areas,

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which have doubled in size since 1990. For the period 2010–2016 the estimated construction investment reached USD 13 billions, corresponding to 40% of the total construction investment expected nationwide.[67] Prior to the copper boom, the cityscape revealed an extended, flat agglomeration of buildings around the port; but now skyscrapers line the seaside, suburbs are growing everywhere and brand new cars are selling like hot cakes.

The inorganic urban growth of Antofagasta is equally expressed in its inhabitants' labour conditions and consumption dynamics, mainly driven by miners' inflated wages and production bonuses. If CSR departments seek fluid links with affected communities, Corporate Human Resources departments aim to keep mineworkers calm, avoiding strikes and thus maintaining production. In order to achieve this, the companies are careful to share with full-contracted workers marginal proportions of their surplus, creating a working-class elite in line with corporative interests. Every two years the miners' unions negotiate their salaries and bonuses for production, obtaining large amounts of money. But as noted, such benefits only reach a restricted group of workers, reintroducing the poor/rich distinction within mine labour. Whoever possesses a full contract will share in the benefits, but those who are sub-contracted, part-time or otherwise excluded, will stay in a precarious situation at the bottom of the wealth distribution pyramid.

Yet, in a booming city like Antofagasta, social distinctions are not only organised around classes – derived from the position in the productive structure – but also driven by discursive antagonisms. In Althusserian terms, such antagonisms are an expression of the ideological, that superstructure under which lies the struggle for control of the means of production: '[The] reproduction of labour requires not only a reproduction of its skills, but also, at the same time, a reproduction of its submission to the rules of the established order' (Althusser: 1971, 132). Reflecting on a similar case of a resource-based community in North Dakota, United States, Chuck (2012) describes these discursive struggles within oil extraction communities. On the one hand, he argues, are those who are certain that the extractive boom will provide well-

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[67] Building Directory (Directorio de la Construccion) Chile, 2013.

being for the community; on the other are those who are concerned with the negative side-effects such development carries along with it (either environmentally or socially speaking).

In the case of Antofagasta, the ideological struggle is over the definition of what is 'the real', not in a metaphysical but rather a material sense. The basic terms of this struggle can be paraphrased as follows: what is the configuration of the Antofagasta Region? Is it a postcolonial mining enclave for capital extraction? Or is it an increasingly improved territory, a land of progress and economic development? If Antofagasta is just a postcolonial enclave, resources must be nationalised and administrated locally to ensure a sustainable development for the people; but, if it is a virtuous case of economic progress, all obstacles should be removed in order to ensure it can continue on its current path.

As Althusser points out, in order to define the control of resources, the ideological must either negate or validate the productive system and its effects in property holding, labour conditions, surplus distribution, etc. Although different sides of the struggle in Antofagasta might agree on the necessity of the industrialisation and the rationalised administration of the Atacama's resources, they disagree on how these processes should be carried out. If the city can be a better place, should it be sustainable or developed? Which comes first? Who should exploit and control its mineral resources? What does the future hold for Antofagasta?

The most visible traces of this struggle are found in a semi-public discussion between two clearly identifiable groups: the Industrialists' Association (AIA) and a group of local scholars. The first comprises the new elite born at the foot of the copper companies, created by the mining companies. The second is mainly composed of economists, linked to the regional universities and concerned with the study of regional productive systems. While the industrialists support the current economic trend, and their interests match with those of the companies, the economists are critical of it, although they recognise the benefits the copper boom has brought to the region. The discourse of the AIA is clearly expressed in a 2013 article

by its president, published in the biggest newspaper in Antofagasta and entitled 'Transform Opportunity into Reality':

> As a region, we have a great opportunity: "Antofagasta, the first developed region of the country". However, it is important to notice opportunities can be either taken or lost. The industrialists and inhabitants of Antofagasta do not want to lose this opportunity and we do not want to have written the book *Antofagasta, A Case of Frustrated Development*. Our dream is to have a developed and sustainable region. (*El Mercurio de Antofagasta*, 28 May 2013)

Developed and sustainable – that is the order of the terms. From the AIA's point of view, Antofagasta cannot be seen as a mining enclave (or company town), in the sense proposed by its adversaries, because this would misconstrue the differences between the old mining system and the new one established since 1990. The shift from one to the other, they argue, is a direct result of the arrival of foreign mining companies and their business strategies. They promote a virtuous growth, not exploitative, pauperising or impoverishing as described by the critical discourses, but rather creating a fruitful alliance with local producers and communities. In other words, foreign investment creates a win-win relation in which corporations extract the resources and the communities take a portion of the surplus.

The economists express an antagonistic discourse. In their view, Antofagasta is not a place of progress and opportunities but a modern mining enclave. Local agents do not control production and resources, which are crucial to national interests. Indeed, Antofagasta has turned out to be dominated by pure relations of production between capitalists, local suppliers and a dense proletariat. Foreign investors take much of their revenue out of the territory, generating a weak bond with local producers; but they reinvest enough to raise a small group over the rest, usually under a relation of complete dependency.

[Mining enclaves] gather large numbers of workers in a small area of the territory, creating what is known as "company towns". Workers have the potential for collective action based on their numerical concentration, the economic relevance of their enclave to the national economy, and because they are victims of exploitation in contrast to the sumptuous lives of foreign elites and their associated local groups'. (Cademartory: 2008)

In a dialectic-like opposition to the industrialists' ideology, the economists' perspective does not imagine a scenario of uninterrupted progress, but rather looks back to the experiences of previous mining cycles. There is no meaningful difference, they argue, between the old mining system and the new 'virtuous' system; both are based on the same production structure and short-term extraction. Why would the copper cycle end differently to previous cycles? A crisis in production remains a lurking possibility in the copper boom. Political action must therefore be taken in order to avoid a total economic collapse. Otherwise, the exodus will be massive; cities will be emptied and only obsolete infrastructure will be left behind. The deathly atmosphere of the pampas will once again consume the territory and the 'Long Antofagastan Night' will return. Only by changing the real relations of production can disaster be avoided.

Despite the antagonistic perspectives held by economists and industrialists, they become equals in the context of defining Antofagasta's present. Defining what Antofagasta is will help show what to expect from its future. If it is immersed in a virtuous mining process, it has a chance to achieve development and resolve its contradictions; but if it is a mining enclave, only social struggle can transform the current productive system and prevent a catastrophic end to the copper boom. Projecting the future by defining the present is what matters here. Both sides struggle to avoid a future economic downturn, although this image seems barely visible given the current boom. Through convergence point between the imaginable and the possible seeps the projection of an abandoned desert, in which life hangs by the thin thread of an almost impossible equilibrium. The artificiality of survival, only achieved through industrial infrastructure, reveals its own finite temporality, as if the Atacaman human and non-human landscapes could at any time actualise the apocalyptic potential they carry within.

2. Calama: Production, Social Struggle and Festivals

The current social features of Antofagasta cannot be fully grasped unless they are inserted in a wider context and in a straight relation with the hinterland city of Calama, a major dorm town for sub-contracted mine workers. Calama's closeness to the mines, many of which are located in the mountains, places it in a key position in the Atacama's mining structure. Unlike Antofagasta, Calama has a long history; it is much older than any of the reviewed mining cycles. This city used to be an oasis at the gates of the Andes, and a pre-colonial connection point between the inner mountain communities (Lickan-Antai) and the nomadic fishing communities spread along the Pacific coasts (Changos).

As Latorre (1997) suggests, the toponym 'Calama' might come from the *Kunza* words *Ckolam* (partridge) and *Hara* (lodging), or from *Kara* (place) and *Ama* (water), both versions referring to some protected space able to host life. Calama is the last oasis on the route from the mountains before entering the pampas, an area of two hundred square kilometres with almost no water source before the Pacific Ocean. Preceding the first mining expansion in Atacama (1860), and existing long before colonial times,[68] Calama was considered a green crossroads, where the inner valleys of Alto Loa (north-east) and San Pedro de Atacama (south-east) were connected, a vital space for commercial exchanges between distant areas.

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[68] The first recorded settlements in Calama date from pre-colonial times, going back 3,000 years and more (Godoy & Westfall: 2007).
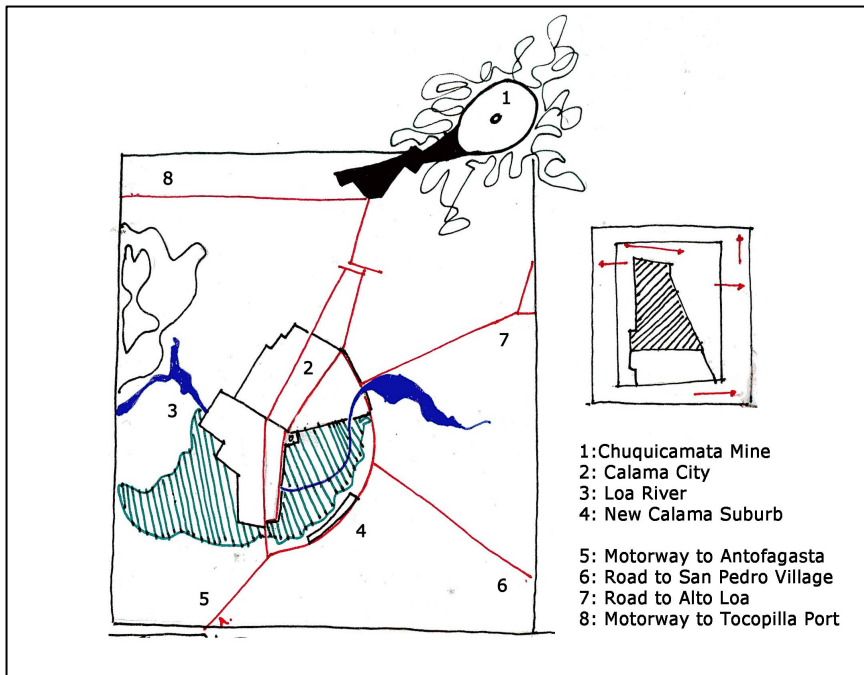
Figure 18: Flat plot of Calama City showing its exits.
Notice they go in every direction, covering the four cardinal points (own elaboration)

This middle ground is also reinforced on a symbolic level, as Calama's miners merged their cultural backgrounds with Andean rituals, giving life to the festival of Ayquina as it is currently known. This double role, as a central city in copper extraction and at the same time as a gateway to the Andean world, means the city works as a hinge between two ways of relating to the surroundings. It is in this sense that Calama is at the region's centre in almost every register: geographically, it connects the coast with the highlands; economically, the copper mines surround it; and culturally, it is the meeting point of traditional Andean and modern mining cultures.

Calama's official history usually starts after it became Chilean territory in 1883.[69] However; the oasis has played an important role throughout different historical developments. If during Pre-

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[69] As briefly described in the previous chapter, the War of the Pacific between Peru, Chile and Bolivia was driven by the expansion of the nitrate cycle, which caused a complete re-evaluation of the 'useless land' of the Atacama as an extraordinary source of mineral wealth. After four years of bloody confrontations, the Chilean oligarchy (supported by British capital) found itself victorious, occupying the Atacama. The newly annexed

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Columbian times its commercial function was crucial, during colonisation it was central in the campaigns to extirpate idolatry, the counterpart of the European inquisition court in the Americas.[70] However, given the limitations of this research, Calama's colonial history needs to be left aside; instead, the focus is on the Chilean history of the oasis.

After the War of the Pacific of 1879, Calama became Chilean territory not because of its as-yet-unknown mineral potential but because of its water sources. In order to make profitable the nitrate mines founded a few years earlier in the pampas, water was crucial, and Calama was the closest source. Thus, the new Chilean boundaries had to be settled beyond the source of the river, in the highest peaks of the mountains, which included the hydrographical systems of Alto Loa and San Pedro, with Calama as the westernmost enclave. Even today, a pipeline transports water three hundred kilometres from the mountains in order to supply the coastal city of Antofagasta.

When the global economic crisis of 1929 drove nitrate extraction into a dramatic downturn, the Chilean former nitrate workers fled to the borders of the pampas, seeking any means of survival. Nothing was left behind and almost every nitrate camp was shut down. Workers went to the coastal cities searching for a ship on which to return south, but also went to the city of Calama. The lucky ones managed to find a position in the growing copper-mining camp of Chuquicamata, which opened near the oasis in 1915.[71] As a result, two cities emerged: one

territories needed to be secured with Chilean workers, giving rise to what MacEvoy (2010) called 'the Chilenisation of the desert'.

[70] An interesting passage of Calama's colonial history is recalled by the ethno-historian Victoria de Castro (2009). She describes how on the night of 23 June 1635, during San Juan's Night Eve, the priest Francisco de Otal guided 'The First Idolatries Extirpation Campaign of Atacama'. Escorted by two more Spaniards, he discovered three old Indians engaging in idolatry practices in a house in Calama. The old men were banished and the idol confiscated. Castro translates the idol's name, 'Sotar Condi', as 'hummingbird', and complements the story with a quote from an Indian who observed the event: 'It is the one all Indians of these provinces have by God; our father [Otal] having it on his hand, a gold-feathered bird, made a preach' (own translation). Otal warned the community that if in three days they did not confess their idolatries, the offenders would be forgiven; if not, they would be burnt. Nothing further is noted by Castro; however, she helps corroborate Latorre (1997) in describing how the idol takes the form of a bird and Calama becomes its house (*Ckolam-Hara*: the house of partridges).

[71] After over a century of exploitation, the Chuquicamata mine has become the largest copper mine in the world, covering an area of 4.5 km in length, 3.5 km in width and 1 km in depth. As I will show, its uninterrupted fast growth has completely transformed the social and urban features of Calama.

close to the mine, richer and better off, and the other a dorm city, built at the Calama oasis. The first became a perfect example of North American enclaves, property of the Guggenheim brothers under the 'Chilean Exploration Company'. It was organised around a strict distinction of social classes and neighbourhoods. Each worker had a given 'role' – A, B, C or D – that classified his work, salary, housing and rank, erasing all distinctions between private and working life.

After the mine was nationalised in 1970, during the socialist government of Salvador Allende, the Chuquicamata camp became one of the main enclaves of Chilean sovereignty over Atacama. Its population became extremely proud of this status, picturing themselves as privileged workers living in an ideal society. An interviewee who grew up in the Chuquicamata camp remembers those days as follows:

Life in Chuquicamata was special. I think we felt really good living there, everyone did. It felt as if we were unique, expanding sovereignty, something relevant for the country. You could see it in sports: we were Chilean champions of boxing, track and field and bowling. Life was beautiful and full of activities. Maybe a little artificial if compared with the rest of the country. It was hard moving down to Calama. In Chuquicamata we felt like we were creating the Chilean nation. Everyone understood that. When the copper was nationalised, all of us were working for Chile. It was strong. I think that encouraged people. Everything was tidy and nice. (From fieldwork interviews in Calama, July 2013.)

Notwithstanding the emotional attachment Chuquicamatans had with their camp city, the mine's uninterrupted growth ultimately covered the place with the mine's waste products. Unable to keep workers living by the production area, the national company (CODELCO) decided to relocate them to Calama, closing the camp in 2007. The relocated families settled down in the 'New Calama Neighbourhood', specially built for them. One of the last new settlements was located on what is known as Topater, one of the few green areas on the outskirts of the city. Topater was also the place where Bolivian troops resisted the Chilean

invasion of 1879; furthermore, the construction work for the new houses revealed it was the site of a large indigenous cemetery, whose oldest burials dated back to 500 BC. It contained several hundred bodies and an impressive collection of funeral artefacts including textiles, ceramics, weapons and homeware. The mining company stored all these archaeological finds in a warehouse, and continued building.

The power of CODELCO over Calama has always been all-pervasive and uncontested; the old oasis was seen by the company as nothing but Chuquicamata's backyard. For Chuquicamatans, Calama was a place of violence and dirt when compared with their idealised camp. For Calamans, CODELCO has destroyed their natural environment and subjugated its people to the company's selfish interests. One inhabitant of Calama comments:

Calama is hard to bear. It is said it has 50,000 inhabitants; but, adding the commuting population, it is saturated. It's crazy. CODELCO transports hazardous substances via the city's ring road. There is much procrastination on the part of some of the actors involved in developing the city. The town hall wants to do things, but CODELCO always intervenes. They have reached the town hall's head and managed to install a former employee as mayor to gain influence on the city's master plan. They adjust things to their interests. Topater used to be the most beautiful area in the city; it belonged to a private person, but he never closed it. It was everyone's recreational area. CODELCO said, straightforwardly and almost laughing at us: if we are coming down to Calama, we will settle in the best place in the city. And that's where they built the suburbs. (From fieldwork interviews in Calama, July 2013.)

Despite this uneven social structure, with mining production controlling everything else, large numbers of workers are constantly arriving in Calama. It is said a job can be found in twenty-four hours due to the always-expanding demand for labour. People from all the neighbouring countries gather in the city: women from Bolivia working as cooks, Chilean men sub-contracted in the mines, Colombian carpenters building new houses, and so on. Informal and illegal activities, supported by the authorities turning a blind eye, also contribute to ensure money is

available here that cannot be found anywhere else. Another interviewee, the oldest attendee at the festival of Ayquina, adds the following description of Calama:

> Calama is like a whirlpool, like those cowboy movies during the gold fever. It's more civilised and with more laws, but life is as hard here [...]. There is money in Calama, but you need to work hard. Outsiders find work right away, good work, and the salary gap is large, but things also cost more here. To purchase a house you need to spend three or four times more than in the south, because here there are very few available. People come to Calama seeking adventure, work and money; but then they get used to it all and stay for good. (From fieldwork interviews in Calama, July 2013.)

From a broader and less considered perspective, outsiders often see Calama as a kind of 'doomed city' where wealth can be easily obtained, but only in return for an extreme loss of life quality (ORDUM: 2009). However, a more accurate description of Calama's social dynamics would reveal a quite complex environment, challenging the idea that its inhabitants are passive recipients of mining externalities.

Calama's modern history is strongly attached to the rise of labour unions in the north of Chile, whose first expression is clearly traceable in the old nitrate camps (Salazar: 2006; Gonzales: 2009; Mercado: 2009; etc.). The pauperised labour conditions that affected nitrate workers gave rise to the Chilean working-class movements, which openly challenged capitalist modes of production. In Mercado's view (2009), the figure of the early-twentieth-century nitrate worker emerged as the political avant-garde of Latin America, becoming its first, almost mythical expression. The imposition across the pampas of an extraction system based on pure capitalist relations, he argues, led to the emergence of its counterpart, the class-conscious proletariat, which became crucial during the subsequent struggles for a more equal society.

Accordingly, the oasis of Calama inherited not only the displaced populations of the nitrate industry, but also their political understanding of working conditions. It is this *ideological*

continuity that partially explains why the military government, after the coup d'état of 1973 against the socialist president Salvador Allende, was so strongly repressive in the Atacama. The collective memory still recalls what was known as the 'Caravan of Death', a military delegation commanded by the General Brigadier Sergio Arellano Stark, which traversed the northern cities of La Serena, Copiapó, Antofagasta, Calama, Iquique, Pisagua and Arica, leaving behind seventy-one dead men and women after six days.

After this serious blow suffered by the labour movement, the following seventeen years of dictatorship involved the repression of practices of social struggle in Calama. Nevertheless, in 2008 a new mayor was elected, and with him the collective memory seemed to be awakened. He proclaimed that Calama was not just a copper city but also an agricultural oasis, inhabited for centuries: *Calama is the Whipala, the Oasis, and the Copper*, he proclaimed. If the image of the city used to be mainly associated with the mines, now that *second identity* – as part of an indigenous territory – was also politically articulated. Even the festival of Ayquina gained a political dimension, playing a substantial role in Calama's identity construction, becoming a further expression of this territory's unique way of being.

The success of the hybrid rhetoric among Calamans is shown in the mayor's ability to create a discursive image where industrial extraction and the Andean world co-exist as one. The political climax of the new approach came when a general strike was organised by the inhabitants of the oasis. On 29 April 2011, more than a third of Calamans marched on the streets, with the mayor heading the column, in the largest demonstration ever seen in the oasis. That same year almost every house in the city had a black flag hanging from its door, in a clear sign of support for the emerging social movement and its demands. One of its most active agents recalls what the movement was, and still is, fighting for:

1. Keeping 5% of the copper production utilities in the city.
2. Economic compensation for the lack of governmental investment in the city (USD 400 million).

3. Definition of Calama as an *Extreme Zone*.[72]

4. Economic compensation for the re-settlement of the inhabitants of the Chuquicamata camp in Calama.

5. Start of a long-term process towards the re-nationalisation of mining and water resources.

During my fieldwork carried out in the Atacama, almost every week I noticed a new strike going on. Most did not entirely succeed; however, they evidenced the constant development of an interconnected social movement, with iterative episodes of ebb and flow. At the base of all the strikes is the recent emergence of a new type of worker – the sub-contracted employee. This kind of labour implies several hundred people working for the mining company but none actually belonging to it. They are hired through an intermediary – usually the owner of a small services provider enterprise – to take on specific tasks in the production chain. Many of these tasks are exactly the same as those done by the company's full-contracted workers, but there is a large gap dividing the two kinds of worker. On the one hand, this externalisation of the human labour releases the company from any responsibility over the workers; on the other, the precariousness of working conditions experienced by sub-contracted workers not only means lower salaries and fewer benefits, but also the fragmentation of workers' unions into several small groups.[73]

As an example of the ongoing struggles, in April of 2013 the sub-contracted workers of BHP Billiton managed to strike together, paralysing production. Demands focused on workers' long journeys back home during off-days, asking for plane tickets to avoid the 20-hour-long bus journeys (most of these sub-contracted workers have to commute from the southern cities to the desert, covering a distance of 2,000 kilometres or even more). Phone calls were made to

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[72] According to the Chilean law, there are some areas of the country that, given their isolation, are granted with benefits such as lower taxes, higher salaries for some strategic professionals and economic benefits for investments in the territory.

[73] The current Chilean Labour Code, sealed during Pinochet's dictatorship, forbids unions to be organised around productive areas such as mining, construction or transport. Instead, workers' legal associability is in relation to their contractual affiliation. For sub-contracted work, this means that collective negotiations must be carried out between the owner of a service provider enterprise and his direct dependants, protecting mining companies from having to deal with their externalised human inputs.

several parties, local union leaders as well as central government agents. The day after the strike began, the company had already made up its mind: all sub-contracted workers had to be fired and contracts with the services providers directly responsible for those workers cancelled. The company elected to assume the economic cost rather than yielding to the workers' demands.

During a public debate broadcasted by a local radio station of Calama in September 2010 and available on the web, the heads of the sub-contracted copper workers of the city, Cristian Cuevas, argued:

> What situation are we in, the workers? Working more than twelve hours a day, and even then the right to be with our families is denied us. We suffer exceptional working journeys, which violate the workers' dignity, pauperising us. We, the workers, must convene to demand our rights, labour justice and human dignity.

Close to the end he adds:

> If we don't strike we will not have rights; if we don't organise ourselves we are going to keep on being smashed. With the strength of the workers, with the force that Luis Emilio Recabarren, father of the labour movement, left us, with the women and men of this province, Calama will rise up as one, and the country will follow, representing those millions of people that feel alone. Together we will fight to make the bread reach everyone's table.

From an economic point of view, Calamans' social struggle is directly related to the control of the productive forces in the Atacama, challenging its international ownership as well as its centralised and oligarchical administration. The workers' political desire is to build a new social structure with them at its centre, to redistribute the country's wealth less controversially, among all its citizens. This is the ideal – or ideology, in Jameson's terms (1991) – that guides political action, aiming for a future in which structural contradictions can be solved.

3. San Pedro: The Last King of the Atacama

This third and final section looks at the village of San Pedro in the inner mountains, which, as I will show, diverges from the previously described structures of mining production to unfold a different yet related kind of political conflict. The much smaller scale of San Pedro when compared with Antofagasta or Calama[74] drove my ethnographic fieldwork to pay closer attention to the history and specific actors involved in shaping the village as it is today.

Most scholars agree that Spanish control of the Atacama began in 1557, as a direct result of the Battle of the Quitor Fortress (Pukará de Quitor), located a few kilometres from San Pedro Village. The oral history recalls that after several days of unsuccessful siege, Francisco de Aguirre – the Spanish commander, a veteran of colonial wars since 1530 – rode his horse against the *pukara*'s walls, killing the animal in the effort but opening a gap through which the invading troops would finally take the fortress. Three hundred men were decapitated, their heads nailed on high stakes to let them rot under the sun. No Lickan-Antai warrior survived, and their women and children came back from their hideouts in the mountains to surrender (Hidalgo: 2011).

After the Spanish victory, a holy mass was celebrated to cement peace. Gerónimo de Vivar (1558) recorded how the surviving population built a chapel to express the inclusion of the victorious creed as part of their own religious practices, as they had done during previous Tiawanaku and Inka domination. But this kind of symbolic submission was not going to be easily accepted by the invading authorities. For them, what was important was not the inclusion of the European credo into the natives' religious universe, but the complete extirpation of any 'false belief' and its absolute replacement by the 'Only True God'. Throughout this forced conversion process, the extirpation of 'idolatries' was the hardest to consolidate.

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[74] Permanent inhabitants for: Antofagasta – 300,000; Calama – 140,000; San Pedro – 4,000

In 1614, for example, the priest of Chiu-Chiu denounced to the ecclesiastical authorities of the Archbishop of La Plata the existence of idolatrous practices among some Atacamans. In his role as 'Vicar and Ecclesiastical Judge for the Punishment and Extirpation of Idolatries' he described [...] the continuity of certain ceremonies and performances related to local deities in Atacaman ritual practices. (Sanhueza: 2009, 73)

Within this continuous process of colonisation, control of the Atacama was finally cemented by the Spanish in the late sixteenth century, when the village of San Pedro was re-founded as the governmental centre of the region. Its urban design followed the usual chessboard pattern of Spanish enclaves in America, although it was surrounded by autonomous indigenous settlements (*Ayllus*) spread along the valley, hampering the effectiveness of centralised power and forcing alliances with local chiefs.

The Spaniards domain over the Atacama stayed relatively stable during the two following centuries, until the Bourbon Reforms of the Spanish Crown unleashed what is known as the 'General Indigenous Uprising'. In 1780 Túpac Amaru II (José Gabriel Condorcanqui), a mestizo descended from Inka nobility, headed an army against the colonial power, with the struggle expanding all over the South-Central Andes. Proclaiming himself 'Inka, Lord of Caesars and Amazonia', he sought to integrate Indians, criollos[75] and black populations against colonial abuses; but the movement's own expansion reshaped it into a racial struggle against Spaniards and *Criollos*, leading the rebel army to its final defeat in 1781 (Gutierrez: 2006). All revolutionary leaders were captured and tortured and suffered public executions, and those in the Atacama were no exception. The local leader was Tomás Paniri and his execution is recalled as a similar event to that of Túpac Amaru: Paniri's hands and feet were tied to four horses and his extremities thus pulled in opposite directions, so that his body was dismembered. Each part was taken to one corner of the Atacama and his head left in Chiu-Chiu, site of the oldest Christian church in the territory (1611). Despite the failure of the indigenous revolt, forty years

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[75] Criollo' is the name given to descendants of Spaniards born in America, who were the local elites during the colonial period.

later the Spanish Crown would lose all its American colonies, as its power was challenged and replaced by the emergence of nation-states under criollo control.

As a result of the Latin American Wars of Independence, in 1825 San Pedro de Atacama became part of the Bolivian nation and the Encomienda became a system of patronage based on serfdom. The Atacama's role as a connecting point between Peru and Chile remained unchanged but the exploitation of new minerals on the coast changed the scale of its productions. San Pedro's first post-colonial economic boom was achieved during the nitrate mining cycle (1880–1930), when cattle were brought from the other side of the mountain range (Salta, Argentina) and delivered to the pampas. After an extremely hard journey through the mountains, the cattle needed to rest and be fed in order to be delivered in good condition to the mining camps. The muleteers went back and forth, the image of thousands of heads of cattle marching from the heights towards the desert still remaining in the social imaginary. As it had done before, San Pedro was interconnecting vast territories, political centres and economic enterprises.

By the end of the nineteenth century the cattle trade was controlled by an oligarchy of recent immigrants to the territory, attracted by the nitrate mining, known as 'the Croatians'.[76] This new economic elite ruled the area without significant challenge for about seventy years, until the Chilean invasion of 1879 and remained for several decades afterwards. The Croatians' presence is still traceable all over the Atacama Desert, but their commercial activities in San Pedro were abruptly ended after the nitrate crisis of 1929; they definitively left the area during the 1950s, when they moved to the coastal cities. In the context of the widespread economic crisis and this retreating elite, a new figure emerges in San Pedro de Atacama whose actions proved extremely influential for the village's current social configuration: a Belgian priest, Gustave Le Paige.

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[76] The Croatians were economic migrants from the Balkans, who established themselves in Chile and Argentina.

Le Paige arrived in the Atacama after several years of missionary work in the Belgian Congo, settling down in the mining camp of Chuquicamata. He was a member of the Jesuit Congregation and had a strong inclination for science. However, Le Paige rapidly came to dislike mining life, moving to San Pedro in 1955, attracted by the widespread archaeological sites found in the mountain oases. Influenced by the liberation theology movement,[77] Le Paige rapidly managed to get the local population on his side by confronting the remnants of the old Croatian oligarchy. From the pulpit he railed against the abuses and exploitations landowners were inflicting on the peasants, portraying them as an illegitimate source of power in open conflict with the true owners of the land: the Atacamans. A few years later, no Croatian was left in the village, as they abandoned the now-unprofitable lands, and the priest grew to resemble a kind of messianic liberator of the oppressed communities.

Thereafter, Le Paige started to be known as the 'Last King of the Atacama'. His control over the village became absolute. No one entered or left San Pedro without his approval. Some unconfirmed rumours even suggested the existence of a secret police under the control of the parish, in charge of enforcing the correct behaviour of any outsiders. One interviewee, who currently lives in the coastal city of Antofagasta, relates how he arrived in San Pedro for a few days during the mid 1970s, as a young hitchhiker. He remembers quite well his first meeting with the priest. In his opinion, Le Paige was an almost mythological figure, and he forbade him to leave the village when he found out the new outsider could work as an architect. Completely seduced by the priest's charisma, he stayed in San Pedro for the next five years.

Another interviewee describes a quite specific episode indirectly related to Le Paige. One afternoon she was having some drinks in the only bar in San Pedro open to outsiders, when suddenly a group of men entered the place and started beating one of her friends. All the outsiders jumped off their seats to intervene, but one of the assailants turned around to

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[77] Liberation theology was a movement originated in Latin America during the 1950s and 1960s, which proclaimed the need to reinterpret Christian doctrines 'through the eyes of the poor', seeking social change towards a more socially equal society (Gutierrez: 1972).

threaten the crowd: 'Anyone who dares to intervene will be the next'. The beaten man was left semi-unconscious at the border of the village, and no one tried to stop it.

Despite the completeness of his political control, the 'Last King of the Atacama' never abandoned his interests in science and archaeology, the areas in which he grounded his spiritual power. While placing himself at the head of San Pedro's society, he dug up hundreds of funeral sites around the oasis, accumulating the findings in his personal residence, which would later be transformed into the Archaeological Museum of San Pedro de Atacama (MASPA). After the Croatians' final departure, he would preach from the pulpit with a skull in his hand, commanding the audience to realise it was just a bone, and no old spirits were hiding in it. 'Dead souls are in Heaven', he would say, 'as God commands' – that is, not among the living, so no ritual should be offered to them. Such rituals, he said, were just ignorance, misunderstanding and primitivism. Le Paige came not only to control politics in San Pedro, but also, most of all, the crops and their symbolic meanings. Perhaps without noticing it, the priest had turned into the last extirpator of idolatries in the Atacama, dissecting the cult of the dead to make the body an object of science.[78]

However, the struggle over control of the dead is still fully under way in San Pedro. Atacaman communities have claimed their ancestors back from Le Paige's museum, but scholars refuse to surrender them. They argue corpses must be preserved in good condition, and reburying them will only destroy all meaningful data; so, they must stay locked up in specially designed warehouses – 'We are keeping them for further research', Le Paige would have said, with a skull in his left hand. None of the interviewed scholars from the museum seemed to fully

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[78] From a broader historical perspective, the goal of monopolising funeral rites in the Atacama has been a central part of every idolatry extirpation campaign, yet it has never been totally achieved. It was in this arena that the most violent ideological struggle took place, due to indigenous communities' resistance to abandoning their existing funeral cults. One anthropologist interviewed during the fieldwork thought the images worshipped in Andean festivals are a reified replacement of the cult of the dead, which included taking the bodies (*gentíles*) out of their tombs and carrying them in procession, a ritual celebration. Even in current times, during early May, some Atacaman families place the dining table by the window, with the cross from some relative's grave lain upon it. All the family members have dinner together, sharing with the *gentíl* food and alcohol and celebrating until sunrise. Like the crosses, in ritual festivities plaster icons become the material replacement for the corpse, transmuting the *gentíl*'s powers into a Christian figure.

understand why the communities are so keen on retrieving the corpses, if prior to their arrival locals did not concern themselves with them at all.[79] As a hypothetical explanation, anthropologists have proposed the term re-ethnification to describe how researched communities re-appropriate academic discourses, turning them against those who built the narratives in the first place. Consequently, every anthropologist in San Pedro suffers some degree of guilt regarding her or his work in the area.

The group of scholars in San Pedro was built up during Le Paige's 'reign', as he constructed a network beyond the limits of the village and contacted ecclesiastic and academic elites in the Chilean capital. A few years before he passed away (in 1980), people began to come to the village to study Le Paige's magnificent archaeological collection and a young group of scholars began to assemble at the Museum – the same ones who are currently refusing to return the cadavers. At the time of these young scholars' arrival, Le Paige had already collected hundreds of archaeological objects, and the pristine beauty of this tiny village in the middle of the Andes amazed the new visitors. One interviewee who arrived to conduct ethno-historical research in the mid 1980s describes the place as follows:

San Pedro was a tiny village, with just a bit of tourism, a couple of hostels, just one public phone; electric light was cut off at 11 p.m. It was a frontier village with a simple life (...). The landscape is central here; there are many beautiful places, and it has that kind of beauty that produces a special experience in several cultures. (From fieldwork interviews in San Pedro, August 2013.)

After Le Paige passed away the number of visitors underwent an exponential growth. The first group of young scholars attracted others, and a constant flow of visitors developed. There was no longer rigid control on who could stay or should leave, so the new immigrants settled down and started to exert control over land and houses. In the following years, San Pedro became widely known as a touristic spot, framed as a magical, mystical mountain place, a perfect

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[79] Three scholars working at the museum were interviewed. Surprisingly, all of them agreed upon the need to keep the bodies in the museum while appearing unaware of the long-term fight over their return.

destination to get in touch with nature, far away from mundanity of urban life. Currently, more than 60,000 tourists arrive in the village annually, and it is now packed with premium hotels as well as cheap hostels. Horseback riding, hot springs, bird watching, exotic food and incredible landscapes are advertised on every street corner. A room at one of the village's most famous premium hotels costs USD 1,700 per night, offering a maximum level of comfort. From the outside, everyone looks wealthy and happy, living in a village that promotes itself as 'the archaeological capital of Chile', and, as a touristic business webpage describes it, 'place in perfect harmony with Mother Nature and a destination of magical contrasts'. San Pedro has become a cosmopolitan centre, gathering people from all over the world at the heart of the Andes.

Notwithstanding this attractive notion of harmony, the tourism industry has developed a strong presence in the territory, replacing dominance of ecclesiastical discourse with its own structures of commercial power. It is the touristic rhetoric that now monopolises both the economy and the meanings of San Pedro de Atacama, transforming it into an aseptic landscape, the main commodity of the industry. The environment is understood as an asset that must be preserved untouched. Even the indigenous communities have been dragged into this staged performance, in the development of what is known as ethno-tourism. One tourism entrepreneur interviewed comments:

> A tourist entrepreneur who just refers to the landscape but not to the culture does not have a clear vision. There is a value in the Atacaman people and that value is profitable. Tourists want to get in touch with the Atacamans; but without being told, they would never know. (From fieldwork interviews in San Pedro, August 2013.)

As could be expected by looking at San Pedro's history, underneath the current touristic merchandising lies a complex set of tensions and controversies – not just between the tourism industry and indigenous communities, with both fighting over land ownership, but also between the industry and the Archaeological Museum, which thinks tourism has fostered a

loss of indigenous traditions and ways of life. To add another layer of complexity, a fourth actor completes the scenario: the expanding mining industry.

In the following, I transcribe the main passages of an interview conducted during the fieldwork, interweaving these with my own observations.[80] I give special attention to this because it highlights many of the main conflicts and struggles of San Pedro de Atacama described in this section. The transcribed passages provide insights into the dynamics of the tourism business and its explicit opposition to the mining industry.

The Hacienda Beter

At the northern border of San Pedro de Atacama's salt lake stands the 'Hacienda Beter'. This manor house follows the usual shape of colonial buildings, forming a 'U' around a central courtyard that overlooks the countryside and the Lickankabur volcano. Every detail is carefully planned: a realistic portrait immortalises a Bengali tiger; some beautifully carved Hindu doors are used as tables on the terrace cover; and four large clay jars decorates the corners of the inner patio.

Don Miguel,[81] the general manager, is sitting in the administration office. The room occupies the greater part of the house's northern wing, leading directly to the courtyard and flanked by four lines of wooden pillars. He claims to be a Buddhist and to enjoy the looking at the stars during the dark nights of San Pedro. He says it improves his meditation exercises. Don Miguel is discussing with the field administrator, a sizeable Atacaman. After around fifteen minutes, he bids him farewell, and starts calling in the workers one by one. All of them are Bolivians. The

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[80] Here I follow Denzin's (2001) description of 'the performative interview', which is described as a way of acknowledging the world and, at the same time, co-creating it and giving it its situated meaningfulness: 'The interview is a fabrication, a construction, a fiction, an ordering or rearrangement of selected materials from the actual world' (2001, 25). I am aware this sub-section's style does not match entirely with the previous and following sub-sections, but I think this is justified by the insights it provides in regards of how San Pedro's social structure is currently articulated.

[81] The original name of the interviewee has been changed for the purposes of this transcription.

time is approaching noon and it is nearly the end of the month. Apparently Don Miguel is negotiating the wages owed to the workers. He indicates to each worker his total salary and proceeds to subtract all the expenses the Hacienda has incurred for the worker's maintenance: food, water, shelter, etc. Don Miguel cites the final amount and calls the next Bolivian into his office.

Shortly after the interview begins, the field manager bounces into the office:

- Excuse me – says the Atacaman – I left my keys somewhere.

- Don Miguel replies: Are these what you are looking for?

- No, no, no...

- They are not here then.

Don Miguel continues explaining how the Hacienda works:

What at the beginning was a boutique hotel project is now an endeavour to safeguard territory [and] local traditions too. But mixed with bits of modernity. That is the company's aim. Company and foundation.

The discussion goes on and now Don Miguel elaborates on what he calls the creation of a '"green territory", then a "green region" and, why not, a "green country"'. What he is proposing is the creation of a territorial 'pinstripe', differentiating inner sectors for different kinds of productions. Yet, what underlies his proposal is a direct attack against the Hacienda Beter's worst enemy: the mining industry. Both compete for the same resource: land property and valuation control. While the former is a tenacious agent of premium tourism in San Pedro, the latter strives to expand mineral extraction. If conservationists define territory as landscape, miners are interested in what is underneath. The first wants to watch while the second wants to dig.

Some territory is closed, let's say...for tourism, and what is left out is for mining use, but these industries must make their social investment in the protected area.

But Don Miguel's proposal goes further. He suggests not only a territorial green enclave but also its social purification. After the territory is fenced, and with the active cooperation of the local government, thieves and drunkards shall be persecuted and expelled from the area.

It's an idea I love so much. When I was in the SERNATUR [Governmental Tourism Office] I fought for it. Maybe it's a little discriminatory; I don't know... It's a good system for everyone. Ultimately, the miners and their families will enjoy this park, but if they come to live here, they must behave.

At this point of the interview several stories about mining are told, all of them pointing out the industry's perversity: for example, the current geothermic projects taking place in the highlands, Don Miguel thinks, are not searching for clean energy but for water inside the mountains that could serve mining production. The industry is desperately searching for water, turning valleys upside down, draining wetlands, drying ravines, sucking everything bone dry. All in the task of enlarging their extraction processes. *'WHEN ARE WE GOING TO STOP THEM?!!'* – he exclaims.

He stands, reaches for the office door and closes it. He is speaking too much and needs to be more careful.

Tourism can be quite sustainable while mining can kill the entire region. Mining eats everything. Catarpe, a town full of beautiful places, touristic ones, is already hosting miners. How is that going to end? You can see the taverns all around here...in them you find any kind of people. They are not the profile we are willing to receive; it is not convenient for us. The miner is not someone who feels a need to be clean and tidy.

Then he adds:

> We must safeguard the autochthonous, everything that characterises the village aesthetic. We must build a territory that doesn't affect the visual experience you hope to have during your trip. Visitors want to experience a landscape, and nothing must be allowed to interrupt or affect that landscape aesthetic. And in that context, the products are inserted.

As I had been informed beforehand, the Hacienda Beter is the property of Fallabela Enterprises, the largest retail industry in Chile, with a presence in several South American countries. The eldest daughter of the clan runs this conservation project. She often flies with friends in a private helicopter to San Pedro, looking for a moonlight dinner. She feels intimately linked to the place. She wears all white and enjoys yoga.

Don Miguel also finds space in his diatribe for the Atacamans. Somehow he manages to assert his interest in people; he says that good and bad people are everywhere, so he deals with specific subjects and never with communities or social organisations. Subtly enough, he is separating individuals from groups, isolating every individual from any kind of social organisation. *And only then* – he proposes – *can you start negotiating.*

> What does "my land" mean? My land? What is that? After all, this planet belongs to everyone. I lived ten years in Pucón but members of the local authority considered me an outsider. But they are outsider like me too. How long have they been in that territory? A hundred? Two hundred years? So, what is their land? My land? What is all that about?

It is about 1 p.m. and everyone in the Hacienda is going for lunch. Don Miguel lost track of time while explaining his thoughts so passionately. He looks at his watch and starts closing the speech. He finishes by wondering aloud about a potential relation we may have in common, some cousin of his in Colico Lake, in the south, Sergio Palma. He asks me if by any chance I

know him. Just before leaving the place, after forbidding me to take pictures, Don Miguel gives a final warning or confession:

Tourism is like a virus: if you don't control it, it may eat you!

Chapter 5: History of a Visual Translation

This last chapter analyses how the written and the visual parts of this project are connected as two complementary outcomes, with the first exploring the possible translations of the Atacama and the second actually undertaking such a translation into the audiovisual medium. The chapter starts by describing in more detail what I have referred to in chapter 2 as the imaginary script, and then provides a written description of the collection of footage and its arrangement at the montage stage; finally, the final outcome – in the form of a 62-minute documentary film – and its distribution are described. The chapter works as a reflexive piece in the sense that it describes the stages, negotiations and people involved in this visual fabrication as part of the research outcome. Throughout it, I explore how the relationship between me (and the filming team) and the film's participants shaped the contents and form of the final piece. The overall chapter is inspired by what Rose (2007) described as 'multilayer image-making', referring to how images are comprised by their internal meanings, the context in which they were produced and the agency they gain once placed in circulation.

The first section describes in detail the imaginary script that was used to guide the shooting stage, presenting a list of possible scenes and their descriptions. It also lists the team I put together to undertake the film production, and describes how it was assembled. The second section turns to how this script was transformed as our relationship with the filmed subjects developed. Its third section discusses how the collected images were arranged at the montage stage, and how the Chakana model and film industry standards contributed to give the documentary film its final form. To conclude, the last section describes the film's afterlife since it was released in September 2015, and how it is still producing new encounters.

1. Revisiting the Chakana: Towards an Imaginary Script

The fabrication of a visual translation of the Atacama began with the composition of what I have called an imaginary script. This refers to a 'transitional space' (Guzman: 1997) between designing and actually making a documentary film, which guides and narrows down what it is being looked for throughout the process. It is imaginary because it is always open to change and variation, being as sensitive as possible to what is found while making the film. The imaginary script works like a map that needs to be constantly contrasted with what is actually discovered on the terrain, searching for the balance between a guided approach and an open one that allows changes to be constantly added to it.

The imaginary script for this particular film production was based on an interpretive model of my own that translated the main actors and central conflicts found in the Antofagasta Region (chapter 4) into the parameters of the Chakana cosmogram (chapter 3). It was an effort to transform the findings of this written thesis into a tool that helped visualise the territory and thus guided the shooting. This imaginary script was the last translation within the written medium before moving into the audiovisual one, and it corresponds to what Becker (2007) calls the operation of selection. By this concept he indicates that, in order to create a representation of society, it is necessary to define criteria that guide the process, identifying what to highlight and what to leave in the background, which was precisely the role performed by the imaginary script in this film production.

As this is a sociological study concerned with translating the Atacama, the imaginary script was the result of a process of data collection and combination. At the base of this process was the Chakana model, a cosmogrammatic pattern that is present in a series of Andean objects and practices and organises different, often contradictory, dimensions of reality within one system of relations.[82] As shown in chapter 3, the Chakana allows different layers of social life to be

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[82] In chapter 2 it was discussed why there is no agreement as to whether the Chakana really exists as a historical figure, or whether it is an invented tradition. However, in the last few decades, an emergence of Andean symbols has been prompted among indigenous groups and newcomers as well, who reinterpret them as tools

articulated within a tripartite model of relations, with upper, middle and lower sides. In addition, the Chakana organises these relations around a central point that allows mediation or transition between them, and at each of its four extremes is a given, labelled actor (human or non-human).

The outcome of this translation process visualises the Antofagasta Region within a partial representation that has selected, transcoded and combined the findings of chapters 3 and 4, rendering its main actors and conflicts into the parameters of the Chakana model. It translates a complex and diverse multiplicity into a two-dimensional scheme, bringing order to it. In doing so, this representation had to leave many elements aside, fabricating a stable and ideal system of relations that was put together by a series of operations and is now opened to interpretation. The combination of the Chakana cosmogram and the main actors and struggles in the Antofagasta Region modelled a representation of the totality of this territory that, by laying out a central element, located the opposing forces within it.

The following image (Fig. 19) shows the result of this translation of the Antofagasta Region into the Chakana model. At the centre of the diagram, working as the axis of a spinning wheel, was located the notion of 'Land', around which everything else was organised. Each end of the squared-cross diagram shows one of the main actors identified in the area and its relation to this notion of 'Land'. The upper side of the diagram was labelled 'Indigenous Communities' (Lickan-Antai), corresponding to the longest-standing inhabitants of the territory, whose relation to the land can be represented by the idea of inheritance, understanding land as the base of their historical and cultural development, or as a living entity that they must protect and preserve. Conversely, the lower end of the diagram was labelled 'Museum', referring to the Archaeological Museum of San Pedro de Atacama and the people working in it, for whom

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for knowledge and action. One of the many examples of this trend can be found in the political discourse the major of Calama has made of the city, in which Andean symbols and mining traditions coexist as part of the city's culture (see chapter 4). Among all the reinterpreted symbols, the Chakana has a prominent position, being re-appropriated by several groups as an image of resistance and local identity. Whether it is a historical figure or not, the Chakana is part of the current imaginary in the Antofagasta Region and in the Atacama Desert at large, and this project is a further reinterpretation of it.

land is a source for research and a heritage that should be kept as unchanging as possible.[83] The middle part of the model was labelled to refer to the 'Mining' and 'Touristic' sectors, both driven by a capitalist-oriented relationship with the area, and for which land is a source of minerals or a commoditised landscape, respectively.[84]
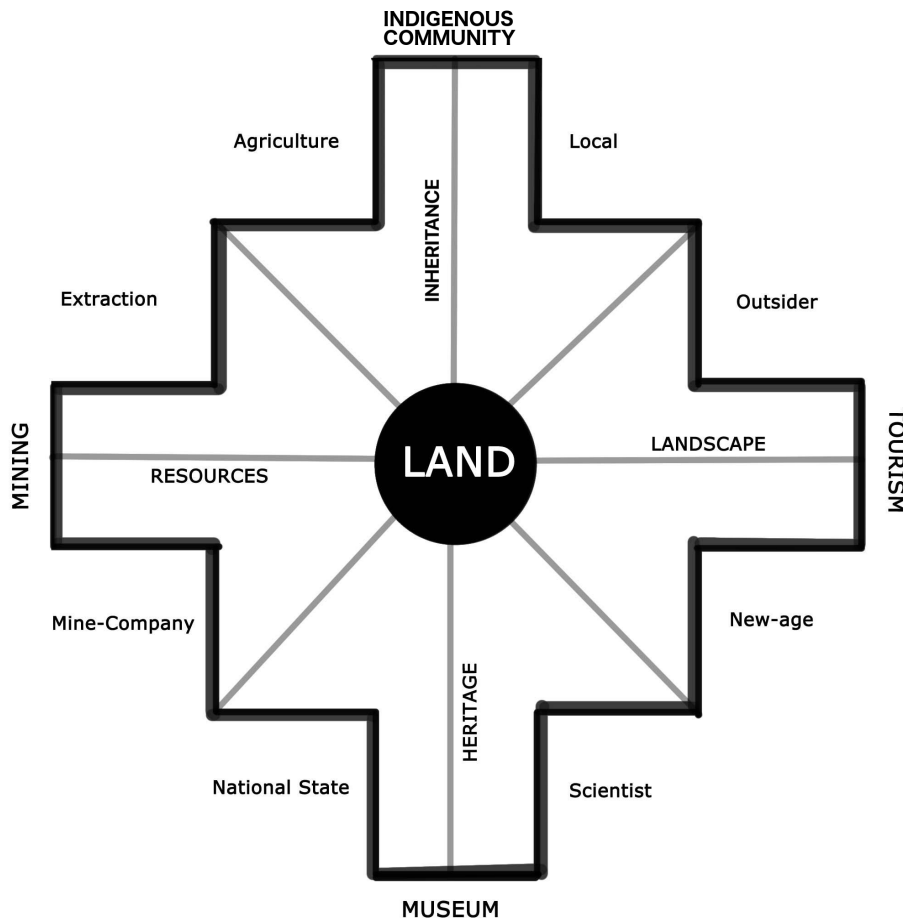

Figure 19: The Chakana modelling of the Antofagasta Region

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[83] The difference between inheritance and heritage is here understood such that the first is what is passed from one generation to another by reason of birth, while the second refers to the institutional effort of preserving objects and traditions from the past.

[84] On each step-like side of the figure appears a pair of opposing concepts (extraction/agriculture; local/outsider; etc.), referring to some of the main conflicts between the different actors. For example, the conflict between Community (at the top of the figure) and Mining (at the left of the figure) is represented by the opposition between local farming and mining extraction, which are often antagonistic due to competition for control of water. The relation between Community and Tourism (on the right side of the figure) is rendered as the opposition between local inhabitants and outsiders, who fight over the property of farming lands. The relation between Museum (bottom of the figure) and Tourism is driven by the struggle between two kinds of knowledge. The first, represented by anthropologists and archaeologists, is described as 'scientific' knowledge, which is in competition with a 'new-age-like' kind of knowledge that is not guided by systematic research and is focused on self-improvement rather than on making a contribution to science. Finally, Museum and Mining are related in terms of national-state and mine-company in the sense that the first depends on public founding and the second on private capitals.

After having translated the Antofagasta Region into this diagram, the next step was to transform it into a more detailed imaginary script. Although the diagram rendered all those elements that might have been included, at this stage it still presented a high level of complexity, with too many actors and possible conflicts to look at. In order to narrow down the selection, the imaginary script design was focused on only one main pair of relations, leaving the others in the background: the struggles and linkages between the mining industry and the indigenous communities. This selection was driven by the fact that these two actors are more widespread throughout the territory than any of the others, and at the same time, because there is a transition between the mining sector and the indigenous communities at the festival of Ayquina, where the Chakana cosmogram was found.

This new selection allowed a more precise focus that guided the collection of images and the overall construction of the documentary film, making it possible to design an imaginary script that included types of images, locations, characters and a shooting plan. The zoomed-in selection is visualised as in Fig. 20:
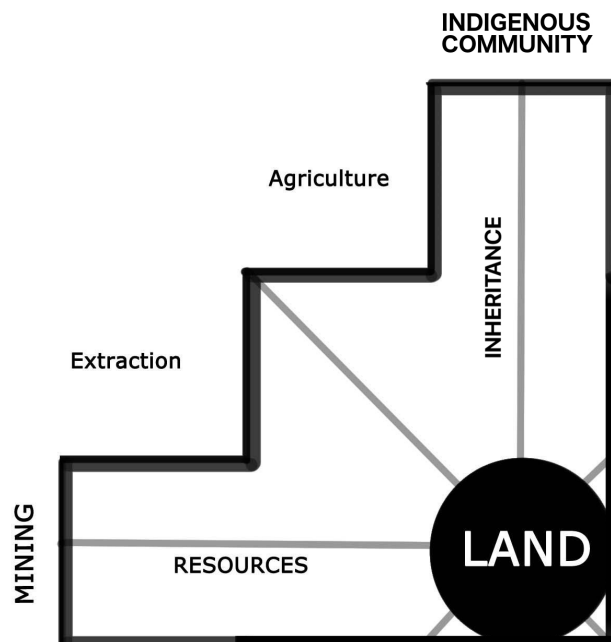

Figure 20: Sub-section of the Chakana model

Following the relational principles of the Chakana cosmogram, the imaginary script was framed to delve into the relation between the extractive industry of the Antofagasta Region and the indigenous communities by exploring the religious festival in Ayquina. As shown in chapter 4, this festival is the result of several hybridisation processes that have combined indigenous ritual practices with Christianised icons and, more recently, it has been taken under the control of the miners living in Calama City. This combination has led the festival to become a meeting point where both the mining sector and the indigenous communities are merged within one social event, leading to new hybridisations and conflicts.

By focusing on this festival and the actors that are gathered in it, the selected sub-section of the diagram was transformed one last time before writing the imaginary script (Fig. 21). At the centre of the diagram was placed the festival of Ayquina, corresponding to the mediatory element of the diagram around which everything else is organised. At the top of the figure the label 'Indigenous Communities' was retained, and at the bottom was now placed the label 'Mining Industries'. These two actors and their opposed locations within the diagram established the main conflicts or tensions the imaginary script was going to work with, having the festival of Ayquina as their meeting point.

The right and left of the diagram were labelled 'Urban Life' and 'Mountains Life', respectively. This horizontal axis (Urban–Mountain) emphasises the opposing worlds in the Antofagasta Region (Miners–Indigenous) and the transformation experienced by its urban inhabitants when leaving behind their work in the mines to become ritual dancers during the festival. The clearest expression of this transit from one world to the other is in the walk some inhabitants of Calama City undertake to the village of Ayquina in the mountains, covering a route of more than fifty miles to reach the festival. The superb effort this journey demands brings with it the cross between two different kinds of rationalities – the capitalist-oriented and the ritual-based.
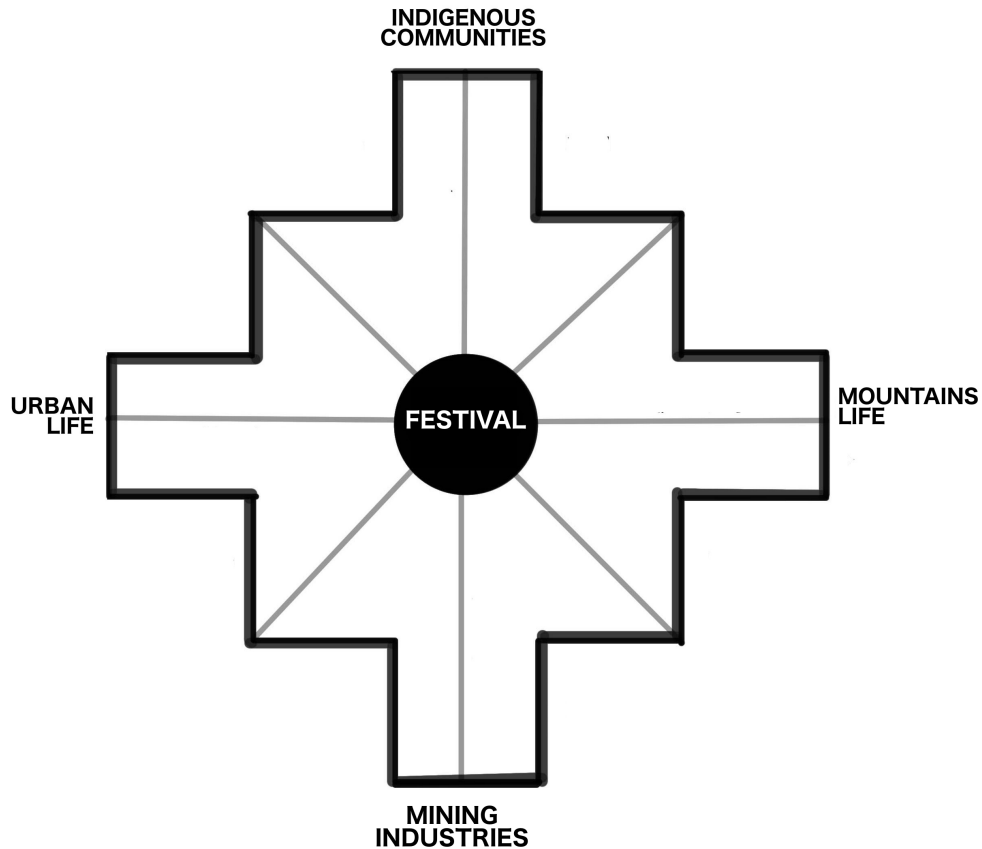
**Figure 21: The Chakana model for the
relation between the mining industry and indigenous communities**

The layout of this diagram, simple as it is, was used as the guiding structure to elaborate a precise list of possible scenes to be collected during the filming process and as a model for the following montage. It showed that the collection of images needed to cover three major issues: a) the industrial mining; b) the festival; and c) the indigenous communities, with the journey from the urban settlements to the inner mountains traversing all of them.

To facilitate the collection of scenes, the imaginary script design was divided into three settings. The first was Antofagasta City and the coasts of the region, where the mining industry has its major administrative centres. The second setting was Calama City and the journey its inhabitants undertake to the mountains. The last was the festival itself, its ritual dances and

the indigenous communities living in its surroundings. One stay in the region lasting about three weeks was allocated for each setting.

Before providing the list of scenes, it is worth reminding that the imaginary script was designed to provide the research with a map of relations to look for and translate into the audiovisual medium, selecting beforehand those elements that were to be sought out, but always leaving room for the unexpected. It was through this dialogue between the planned and the unknown that the filming process was designed and undertaken.

List of potential scenes:

After having designed the selection to guide the inscription and collection of the images, the Chakana diagram was translated into a list of ten possible scenes. The list was divided into three groups, each one corresponding to a specific setting; their specific contents were based on the findings of chapter 4. Three scenes were designed for the Antofagasta Region and Calama City, respectively, and four scenes for the festival and the indigenous communities. Each scene was numbered and given a title to identify it, with a brief description. The general design was thought as a journey from the mining industry in the coastal areas to the inner mountains, where the festival takes place. Finally, a closing scene was added to the list, referring to the return from the inner mountains to the urban settlements once the festival is over.

A. For Antofagasta and the mining industry:

1. Abandoned mining area: An old mining centre, a reminder of the boom and bust cycles of the mining industry in the region. The scene shows abandoned mining infrastructure, ruined factory interiors; the ocean is heard in the distance. The mining centre's life is over; only the waves crushing on the rocks stay in movement.

2. Functioning mining industry: The scene opens with a mining explosion; it shows the work of the miners, the machines they use and the process through which copper is produced. Everything is in movement; the copper extraction is never interrupted. The mountains are dug up, the mineral is melted and a loud siren marks the shift change.

3. The city of Antofagasta and its urban expansion: Everywhere in the city, new buildings are being built; the traffic is intense. At a disco venue a group of workers dance and relax after what seems a long shift. The city never sleeps; all the time, workers are returning from or leaving for the mining enclaves.

B. For Calama City and its inhabitants:

1. The city of Calama: These scenes begin with open shots of the city. Slowly, the camera approaches, showing situations of the daily lives of the inhabitants of Calama. A group of children is playing football on the streets; a man is at work, discussing with his colleagues. A taxi driver arrives home to have supper with his family.

2. Preparation for the festival: The same people shown in the previous scene are now making the arrangements to depart for the festival. Some of them are fixing their costumes and masks, others are preparing their bags to start the annual walk into the inner mountains.

3. The walker: A lonely man walks through the desert. He has begun his journey one day ago and now finds himself surrounded by an overwhelming landscape. His family is waiting for him at the festival, where they will all dance together during the five days.

C. For the festival in the inner mountains and the indigenous communities.

1. The dance: It is dark in the village of Ayquina. A group of people are dressing up in fancy costumes. They resemble polar bears with their furry white outfits. Once dressed up, they join

a much larger group of people, all wearing the same polar bear-like costumes. Music starts playing and they all dance together towards the village's main square.

2. The village festival: It is daytime and the scene shows life at the village. It is crowded with people and there is loud music everywhere. People are wearing all kinds of outfits – devils, cowboys and Indians, monsters are seen everywhere. In the main square, dances are performed one after another, uninterrupted.

3. The walker's arrival: The man who was walking through the desert arrives at the village. He is exhausted and his family receives him with joy. They all go to rest and prepare together – it is now the turn of the family to perform in the square.

4. The indigenous community: We hear the voices of some members of the indigenous community, who tell how their world has changed since the arrival of the mining industry. We see them looking at the festival, wondering how things could have changed so much in such a short period of time.

D. Closing scene: The festival is over. People are returning to Calama City, and the camera travels with them down from the mountains, back to the industry and the pampas. Everything returns to the way it was. The village of Ayquina is now empty, and must wait a whole year to see its streets crowded with dancers again.

This list of eleven scenes comprised a minimum working plan for the collection of the images, to which would be added more intimate glimpses into the characters' lives. Though schematic, the list followed the general idea of depicting the transit between the cities and the mountains, showing how these two worlds co-exist in the lives of the people who live there. However, before showing how this imaginary script changed once we were engaged in collecting the images, it is necessary to describe the film crew I managed to put together.

The team:

Once the scenes were listed and consolidated it was necessary to put together the material elements to enable the collection of the images. Two main issues needed to be sorted out before going into the field: first, establishing an estimated budget and to finding the necessary funding find the corresponding founding; and second, assembling a film crew.

The first of these issues was solved quite unexpectedly. While writing this thesis in London, I put together an initial draft of what the film might look like using some previous footage I had collected in the Atacama in 2010. With it I composed a 20-minute short film about the festival of Ayquina and, on the advice of one of my colleagues at Goldsmiths, sent it to a small film festival in east London, the Hackney Wick Film Festival. The film's reception was better than expected and it was named Best Documentary Film at the festival. Given this success, I met with one of the festival's organisers, who after some discussions declared his interest in funding the project, becoming its executive producer. Funds were given by his non-profit organisation Openvizor, and we agreed the copyright of the film would be shared in equal parts between the both of us.[85]

Securing these resources rapidly changed the scale of what I was initially planning, which was a small and low-budget documentary film. It presented me with an opportunity to make a professional piece of work as a visual outcome of my PhD work, investing more time and resources than initially planned. The first step in this new context was to put together a film team, of which I became the director and producer. I did know how to use the equipment but, given this unexpected change of plan, I got in touch with a camera person and an editor to help me undertake the project. I also contacted a local producer from Antofagasta whose help was

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[85] Before getting in touch with the executive producer, the estimated budget for the project was around GPB 5,000, which I was going to fund by myself, potentially with some help from the Chilean Government. However, the executive producer thought this sum was not going to be enough and he was willing to contribute more generously to the project. The initial budget granted for the film was GPB 18,000, some of which was used to purchase recording equipment and finance the production of the film, while half was spent on financing the team in the field and the corresponding expenses (transport, food, housing, etc.). A second sum of about GPB 8,000 was later added, dedicated to post-producing the film (montage, sound design and colour grading).

constant and invaluable, and with who quickly became an equal partner in the film. Given this new scenario, it became increasingly clear that this thesis (in both its written and visual element) was being transformed into a deeply collaborative enterprise in which many different skills and kinds of knowledge had to be coordinated. Thus the project was able to cross disciplinary borders, dealing with technical issues beyond the sociological work and also with my partners' approaches to our matter of concern: the Antofagasta Region.

Opening the project to a collaborative enterprise was without doubt, I think, the right choice; however, it brought some unexpected difficulties. First of all, being in charge of a film production of this scale demanded complete dedication on my part, with the work taking much longer than initially planned. This was true to an extent during the shooting process but mainly throughout the montage and post-production stages of the project (I will address these stages in more detail later on, showing how film industry standards were introduced to the project through the voice of the editor). A second unexpected involvement caused by the change of scale was the need to secure professional post-production, which was conducted in Soho, London, by Molinare TV and Film. For me this was entering a totally unknown world, full of words and references I had never heard before. It was a hard but incredibly instructive experience.

The change of scale of the project, involving new actors and challenges, greatly influenced the collection and arrangement of the images. However, the image-making was also highly influenced by the field itself, whose inhabitants determined, to a great extent, the kind of images we were able to make and collect. In the following section I describe the main challenges we faced when shooting in the Antofagasta Region, describing the relationships we established with our participants and the complexities we encountered during our journey. Through this description, I show how the imaginary script, remaining open to what the field was suggesting and presenting to us, was reshaped during the shooting.

2. The Collection of Inscriptions

Just before travelling to the Atacama to start shooting, I met with the camera woman in Santiago, the Chilean capital. She was going to be in charge of the project's direction of photography, while I was to direct sound and conduct the production. The last equipment was bought in April 2014 and soon afterwards we travelled by plane to Antofagasta City, which is located 1,800 kilometres north of Santiago. Once we arrived, we met the local producer, who was born in the area and had been working in the film industry for about ten years. The crew was then completed and the shooting could start. During about six months of working together, we would collect thirty-two hours of footage, all of which was classified in groups, folders and standard titles, transferred and backed up in a digital archive interface.

The first thing we did in Antofagasta City was to get in touch with the participants of the project (I had already discussed their participation with them during the exploratory fieldwork I undertook in 2013 – see chapter 4). During the writing of the script, I had decided to work with three families who had shown an interest in the project, all of them being active participants of the festival of Ayquina. The plan was to join them at the festival and record how they lived the experience. Starting from there, the idea was to travel to the different settings of the region, exploring the other actors I had identified and how they related to the festival.

The chosen families had already been interviewed during the previous fieldwork, so a relationship was quickly able to grow between them and our film crew. Among the many subjects I had interviewed, I chose to work with the three families for of two reasons. Firstly, I had to limit the sample to ensure the shooting program was feasible and the amount of data remained manageable. Secondly, I chose these subjects in particular because the head of each family was working or had worked in the mining sector,[86] providing us with a good opportunity

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[86] Although I searched for a family whose head was female and was willing to participate in the project, I was unsuccessful. Among the fifty-two dances performed each year during the festival, only two of them have a female dancer as leader, further complicating the achievement of a gender-balanced sample. After being contacted, the two women both explained that they preferred to live the festival more privately, and they declined to take part in the film project.

to see how the productive and the ritual dimensions interact in the Antofagasta Region. In addition, each of the three selected families belonged to a particular kind of dance: the Tinku dance, whose origin is found in Andean ritual fights; the Polar Bears dance (*Osada Devota*), which has emerged since the expansion of copper mining in the area was begun in 1990; and the Cowboys dance (*Vaqueros del Norte*), a small group compared with the other two, inspired by the old movies screened in the pampas.

The good relationships we established with these participants were based on trust and mutual cooperation, and remain strong today. I think the relationship was driven by the common interest of both parties in the project. If for us, the film crew, the project was part of our professional development, for them, the participants, it was a way to add value to their ritual dances by having them recorded and later shown on the big screen. I believe that a process of producing a visually based artefact like this documentary film in itself provides a foundation to establish a relationship with participants, because it enables a common ground that is equally meaningful for both sides. Researchers and participants can relate to a well-known object (a film in this case), which later can be appropriated by both parties.

During the filming process it became evident to me that the potentiality of working with visual media did not reside only in finding a new language to achieve a representation of society; beyond this, it could enable an understanding of research as a reciprocal relationship. By this I mean that fabricating a representation that relies on both the written and the visual allows participants to be offered something back, a precise object they can use for their own purposes. To use Rose's (2007) multilayered view of images, a visually based outcome increases the possibilities for the circulation of research results, both within and beyond the limits of academic discourses and audiences.

The reciprocal encounter between the filmmaking team and the filmed subjects reached its climax during one particular scene: the Cowboy duel.[87] As explained in chapter 2, the camera was not taken into the field to show the *truth* of what it was looking at. On the contrary, I was fully aware that the collected footage was the result of a co-production between the researcher, the subjects of research and the employed machine (or inscription device, to use B. Latour's term). By this I point out that the camera was not intended to work as a 'fly on the wall', invisible and unnoticed, but rather as a provocative presence that explicitly interacted with the filmed subjects.

Following this approach, two of the participants of the Cowboys dance were asked to perform directly to the camera during the festival, acting out the cinematic imaginary of their dance (Fig. 22). We agreed with them that they would act out a Western-movie-like duel,[88] following the Hollywood productions of John Ford[89] and others: close-ups of the faces, hands and guns; medium-long shots of the two men poised to shoot; and a fast finale. This was a way of putting ourselves (the filmmakers) within the film, as it was obvious that the scene was acted – a shift away from any naturalistic approach to documentary filmmaking. The presence of the camera was not hidden; on the contrary, it was used to drive our participants into an explicitly cinematographic space.

At the same time, this scene allowed us to create a dialogue with the participants, creating an image that would have never have existed if we were not filming it. The camera became a means to see what would otherwise have been invisible, that is, the desire of the Cowboys dancers to be part of a Western-like film. At this point, I think, the idea that research practices co-construct their objects by transforming them (Latour: 2005) was fully in evidence, with the camera as an active inscription device that produced what it was looking at. This scene does

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[87] Scene number 8 in the final film. For more details about the numbering of scenes, see the next section, 'Back to the script in the montage room'.

[88] When the Cowboys dance leader was asked why the group performed this dance, he straightforwardly answered: 'Because there [are] too many Indians in the festival'. By this he was referring to the 'Red-Skin Indian' dances, based equally on the Hollywood and Spaghetti Western films, which were abundantly screened during the nitrate mining cycle in the pampas.

[89] See for example *The Good, the Bad and the Ugly*, final duel scenes (Ford: 1966).

not inscribe a transparent mirror of reality; rather, it records how participants behave when standing in front of a camera, and here more precisely, how they perform their dream of taking part in a cowboy film. I think this was a central scene, which helped us conduct all the other shot scenes. All the time, the participants knew we were making a film, and acted according to the standards they thought a film should have. They were performing to the camera in the way they were willing to be seen.

Figure 22: The duel scene

This co-construction by the film team and the filmed subjects was not only carried out on a narrative level (the content of the image), but also underpinned our technical understanding of the audiovisual inscriptions we were producing. At every stage of the filming process, the camera was translating into a new medium the things it was looking at, transforming the light in-motion and sound of things into a two-dimensional digital interface. While framing a given subject the camera was not recording, for example, there were also things happening out of

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frame. The camera's framing was producing a selection that cut down the surrounding three-dimensional world into a 16:9 digital frame. The inscriptions were therefore always defined by the type of shot, the frame or camera movement in question, which had often not been decided beforehand but was improvised as we were shooting and interacting with our participants. Throughout the filming process, the images were being produced out of the interaction between an inscription device (the camera), the researchers (the film team) and the researched subjects (the inhabitants of the desert).

However, these ideal terms of exchange were not always met. During the image collection process we also had to face some difficulties that escaped our control. After shooting the festival and the journey its participants undertook to the village of Ayquina, we had to focus on two more settings: on the one hand, the coastal cities and their mining infrastructure, which posed no considerable problem as their subjects were non-human (machines, buildings, landscape, etc.); on the other, the indigenous communities and their relations with the mining sector and the festival of Ayquina. It was principally in the latter setting that the initial script had to change to adapt to the limitations and opportunities posed in the field.

In the following I pay special attention to our unsuccessful attempts to establish a relationship with the local community of Ayquina,[90] who have seen the village transformed by the immense numbers of miners and dancers who arrive every year for the festival. Although we managed to establish a dialogue with the community's members, its terms strongly addressed some of the images collection and their consequent combination at the montage stage. The following description was chosen among others because of the conflict it describes, acknowledging the key problems we faced during the filming process.

During the festival of Ayquina, while we were working with the Cowboys dancers, someone approached us to say that the community wanted talk with us. Some minutes later we were guided to the communal office. Once there, we were interrogated about our work and whom

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[90] 'Community' or '*Pueblo*' is the name by which local inhabitants of the inner mountains refer to the members of a given village.

had we spoken to before filming:[91] *Are you filming just the dances, the village, the Virgin, or something else as well?* They told us that, according to the ILO Convention 169,[92] nothing could be done in the village without talking with them first. We struggled to make our position clear, explaining that we were following some dancers from Calama City, filming their daily lives at the festival. They seemed to weigh up our words, and suddenly the conversation changed direction. The community was not against our filming; rather, we were requested to widen our perspective. They wanted us to film not just the *exciting bits* of the festival but also its *ugly side*, more precisely, the problems that arose every year with the hundreds of dancers arriving in the village: the collapsed sewers, the heaps of rubbish left behind, and the community members who had to work constantly to provide the visitors with facilities. In short, they sought to highlight the hard times they went through every year during the festival.

As we had heard beforehand, behind this confrontation lay a larger, deeper conflict between community members and miner dancers. On one side, the pilgrims and dancers complained that the *Pueblo* was taking advantage of them: *They are making a business out of our faith*. Visitors were indeed charged to enter the village (an entry tax), and a single room, without any facilities, could cost over GBP 600 for the festive week. Some of the visitors added, in some dismay, that the Virgin seemed more like a community asset than something belonging to the people. *And for us, the devotees, there is nothing for it but to suffer the community's greed*.

On the other side, the *Pueblo* was shouldering a festival that drew an immense number of urban visitors. If throughout the year no more than ten or fifteen people inhabited the village, during the celebrations the population exceeded 10,000.[93] Every year, the festival brings a tide of bodies, pushing the urban infrastructure to its limits and leaving many negative externalities

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[91] All quotes in this section are from the recorded material, which was fully transcribed into text and translated into English.

[92] The ILO Convention 169 (International Labour Convention) is the major binding international convention concerning indigenous people, which the Chilean Government signed in 2008. By the Convention, indigenous communities are granted the right of consultation whenever an external party within their territories conducts an action.

[93] Most of the younger and middle-aged villagers (that is, members of the community of Ayquina) live down in Calama. But they also hold permanent residences in Ayquina and have relatives living in it, taking care of the village when required.

behind afterwards. The money they were charging, the villager argued, was needed to maintain the village in these circumstances, and was a fair price for what they were offering. Subtly enough, what was underlying the community's argument was an effort to keep the territory under their control.

From my point of view, the dispute between dancers and villagers can be thought under several perspectives. Which was more legitimate: the devotees' clamour to freely express their faith, or the community's resistance to the urban invasion? Was the festival's sacred icon a universal image, accessible to all, or was it rather at the mercy of the community's interests? Did the Andean communities have the right to defend their historical lands? Who was making money out of all this? Should the interests of one group outweigh those of the others?

By the end of our encounter at the communal office, the community was suggesting we should film the village and the difficulties it faced during the festival. In short, the villagers were asking to have their voice in the film as well, the ability to give their own view on what was happening. Acquiescing to this request, we headed to the village's tollhouse, where visitors had to pay three pounds (3,000 Chilean pesos) to access the village. The tax collectors were mostly young people who did not have much to do with the elders' decision-making, yet they received all the visitors' complaints.

We also went to film the departure of San Santiago (a sacred icon from the village of Toconce), which was being taken back home after visiting Ayquina's Virgin of Guadalupe.[94] The departing icon was wrapped up at the very border of Ayquina, by the new graveyard, and carried the thirty kilometres into the inner mountains where Toconce Village is located. With a following procession, the saint was taken by car, stopping once in a while at little covered shrines along the route. At each of them, people gathered to play music, drink and make an offering to

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[94] Toconce Village is an indigenous settlement located to the west of Ayquina, whose inhabitants belong to the same ethnic group (Lickan-Antai) as all the other villages spread along these inner mountains. A common practice among these communities is to carry sacred icons from one village to another during festive periods, reinforcing the bonds between the communities and their belonging to the same cultural area.

Pachamama.[95] We went with them, but at our first opportunity to film the shrines, we were stopped from doing so. The people of Toconce did not want their image to be filmed. We were allowed to continue filming but only from a distance, and without disturbing or getting too close to the icon. After discussing the terms of our project with them, the last promise given by the head of the community of Ayquina, Mr Mario Berna, was that we could meet again on December the 12th for the *Fiesta del Pueblo.*[96] The initial agreement was that, although we could not film the icon of Toconce, we were welcomed to take part in the community of Ayquina's festival.

The following photographs (Figs. 23 and 24) were taken just after the community of Toconce demanded that the camera keep its distance. As the stills show, the terms of this dialogue directly informed the image making, with the result being a collection of open shots, depicting distant subjects walking in procession towards the mountains.

Figure 23: Procession departing from the outskirts of Ayquina to Toconce

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[95] Pachamama refers to 'Mother Earth' in the Andean cosmology. For further references see chapter 3.
[96] The *Fiestas de Pueblo* are part of the ritual calendar of the inner mountains, being exclusively reserved for the indigenous communities' members.

Figure 24:
Entering the
village of
Toconce

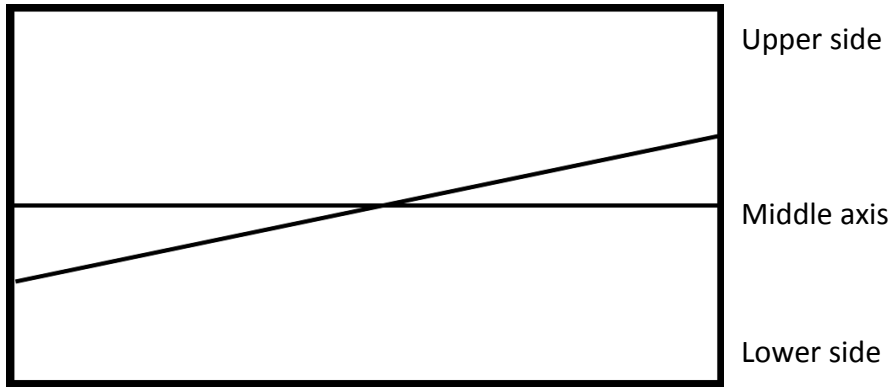Upper side

Middle axis

Lower side

Figure 25: Abstracted composition of Figures 23 and 24

In a similar way to many of the images we collected from the Antofagasta Region, these photographs are influenced by the context that produced them. They assemble within one frame the inscription of the landscape, the people and the presence of the camera, with each of these dimensions informing the others. Careful examination shows that the composition of both these images involves a horizontal line across the middle that divides the frame into two equal sides (upper and lower). The inscribed action is at the very centre of the frame, around which the rest of the composition is arranged. There is also a diagonal line suggesting movement. This visual composition, I think, worked as a way of translating the Chakana diagram within the very construction of the audiovisual inscriptions, in the sense that the

layout of the images set a division of elements around a central axis (the people in procession) that articulates them.

We were back in Calama City by 1 December, waiting to attend Ayquina's local festival on the 12th. Several conversations had been conducted by phone with Mr Berna, seeking to secure his agreement for us to film the local festival. Unfortunately, this was harder than expected. Mr Berna, though president of the community, did not entirely speak on its behalf; he needed to consult with all its members before reaching an understanding with us. The day after our arrival in Calama, we rang Mr Berna, who answered the phone sounding upset. He had already cancelled our meeting the day before but now suggested meeting at the community's office in the city centre. I waited for more than an hour for him to show up, and a crisis of confidence start to grip me: *Was it a mistake to call him in advance? Maybe this meeting would fall through too. What if he doesn't come? Does that mean it's all over?* Eventually the president arrived. Another, older man had been waiting as well. He greeted us in quite a friendly manner. The president went into the office with the other man while I kept waiting outside. Their talk sounded loud and cheerful and went on for quite a while. They said goodbye to each other more than five times. There was always something left to say.

About twenty minutes later it was my turn. The president maintained eye contact and spoke kindly. He explained that there had been a meeting with the community, where the priest had pushed them to make up their minds: *We've talked enough; make up your minds. Do you want the village to be filmed or not?* At the end the community had concluded that did not want their festival to be filmed. We could attend anyway and take pictures or record sound, but no filming was allowed. The position was clear, so we left the cameras aside. No filmic inscriptions were collected during Ayquina's local festival.[97]

These negotiations with participants did not only inform the kind and number of inscriptions

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[97] Although the described conflict is not shown in the film (as this was not authorised), it highlights how different media suit different situations. We were not allowed to undertake audiovisual recordings, but there was no resistance to our reporting through alphabetic inscriptions (writing). In this sense, achieving the translations of the social world into a new media requires to select the right medium for each circumstance.

collected; they also opened a space for more anthropological, theoretical ideas. First of all, the image-making in the inner mountains of the Atacama proved problematic. Almost every Andean ritual is organised around an iconic image, fixed and unique, a source of veneration and worship. Thus, the filmic image, immutable but mobile and reproducible, became a source of dispute, mistrust and, overall, something to be strongly rejected. In fact, a strong taboo is constructed around filming in the inner mountains of the region. Taking part in Andean rituals is not forbidden for foreigners; on the contrary, the community welcomes such participation. Rather, the taboo is on inscribing the iconic image and ritual practices into an immutable but portable format such as the audiovisual. The sacred image cannot to be split off from its time and space; it cannot be translated into another materiality in order to move freely. The worshipped icon must stay under the community's control, and foreigners cannot take its image-inscription away. It might be photographed or filmed by lay people and used as a mnemonic tool, but a film production cannot inscribe it in order to use it as part of a publishable project.

This taboo surrounding sacred icons gave us a deeper understanding of our film production. Its constructions involved not only the technical complexities found in any image collection process, but also the politics involved in such an endeavour. While we were trying to translate the life of the inhabitants of the Antofagasta Region into the audiovisual medium, the subjects of our research carried with them a set of ideas regarding being filmed, placing them at the core of any negotiation process. It was the researched subjects who had the greatest influence on the kind of footage we could collect, and this brought limitations that we had to deal with.

When we took the camera into the field, we found ourselves caught in a network of pre-existing relations – though we were uncertain of our place in it. We were not only surrounded but stared at: *What are they doing here? What do these strangers want from us?* And we needed to give a reply that went beyond merely recording what we were looking at. What kind of relationship were we establishing with the field and its inhabitants? Such a relationship was

necessary, but it might have taken any form. And it was through the search for this relationship that the images were collected.

In my view, a documentary film depends on the makers' relationship with their subjects; without such a relationship, it is doomed to fail. Filming others has never been a realistic endeavour based on the transparency of translations; rather, it must always be based on a dialogic encounter between the filmed subjects and the filmmaker(s). It demands a constant exchange of agency with the studied groups because the camera films what it is allowed to much more than what it wants. Thus, a negotiation process always comes to the forefront. By its mere presence, the camera interferes with what is being recorded, in both a material and a political dimension. While translating the rebounded light of objects, it makes everyone aware of its presence. The filmed subjects might react to its presence either playfully (*We're going to be on the telly!*) or politically (*Why are you filming us?*) – but they always react.

Like any social group that is made the subject of recordings, this project's participants brought their own concerns and expectations regarding the filming process, which differed from place to place and from time to time. Yet, in every situation it was the participants who influenced the possibilities of the image-making. They comprised the *outside* and thus showed or concealed what the camera could look at. The filming process was subject to multiple constraints, from technical to narrative in nature, but the participants were certainly the most influential. The recordings were dependent on what it was provided by the subjects the camera was looking at. Once the camera was placed in the field, the participants stood back, demanding explanations, and a dialogue had to be opened up. It was only through this inescapable negotiation that the collection of images of the Antofagasta Region could be undertaken.

Once the collection of footage was complete, it was taken to the editing room, where a new set of criteria demanded consideration. In the following, I underline the main issues regarding the editing process, showing how the in-motion images were arranged during the montage

stage by following a system of relations, expectations and composition rules that emerged from the dialogue between this project's own trajectory and the discipline of filmmaking.

3. Back to the script in the montage room

Similar to Latour's (2005) description of how science transforms its objects by a step-by-step process, from the collection of inscriptions to their superimposition onto a coherent system of relations, the visual representation of the Antofagasta Region was based on a chain of transformations that went from the collection of audiovisual inscriptions to their combination within a timeline sequence.

This process of transformation can also be understood through the operations Becker (2007) describes when explaining how a representation of society is fabricated. In his view, the process starts with selection from among different possibilities, followed by the translation of the selection into a new medium and then the arrangement of the collected pieces within a given material and language. For both Latour and Becker, the final outcome (written, visual or otherwise) of the research is fabricated by following a step-by-step transformation process that changes the phenomenon into a new object, co-constructing what it seeks to explain. The new object adds complexity to the phenomenon by providing a given audience with a new point of view to relate to it. This is the case, for example, with cartography, which transforms certain geography into a flat plot by collecting spatial landmarks and printing them, providing users with a portable object that helps them read or visualise the surroundings.

In the case of the visual representation of the Antofagasta Region, a similar transformation process took place. It started with a selection (guided by an imaginary script and the Chakana model), which was then translated into the audiovisual medium. Thirty-two hours of footage were collected and brought back to London, where a new transformation had to take place:

the montage. This transformation followed a systematic plan of selection and combination, ending in a feature-length documentary film entitled *The Region*.

The first step of this process was to transcode all the footage into a light format (ProRes LT: 442) to facilitate its manipulation. All the dialogues were transcribed and translated into English. The editor and I watched all the footage twice, taking notes and judging what worked best, creating a sequence in Final Cut Pro 7.0 for each scene we had recorded in the field. At the end of this first stage, we had identified twenty-eight scenes as successful, and discarded about ten others that did not work as we thought they would.

After having everything now ready to start combining the scenes within one audiovisual narrative, we turned back to the imaginary script and compared it with what we had actually filmed. Among the eleven originally proposed scenes, we had collected all but the one referring to Ayquina's indigenous community, where only a brief dialogue had been recorded. We also had eighteen additional scenes to work with. The first choice we made was to replace the missing scene with archive footage, which was obtained for free from the Chilean Film Institute due to their interest in the project. The footage came from a film shot by P. Petrovic in 1950 entitled *Cobre, vida y milagro de un metal* (Copper, life and miracles of a metal), which mixed documentary footage of the Atacama with enacted scenes.

The number of collected scenes (twenty-nine) exceeded the initial design so it was necessary to rework the script. After trying several montage options, looking for what each scene had to tell us, I decided to go back to the Chakana model that had guided the beginning of the process, this time using it as a template to organise the actual scenes we were working with (Fig. 25). We selected thirteen scenes that we thought would work within this template and that would allow the montage to follow the Chakana diagram structure. At its core was placed the festival, as the mediating factor between the mining industry and the indigenous communities. On the upper side were placed the images of the mining infrastructure and at its base those related to the indigenous communities (the archive footage). On the left side were

the scenes about Calama City and on the right those corresponding to the landscape of the inner mountains, all of which were traversed by the dancer's walk from Calama City to the mountains.

These montage choices were equally informed by the previous findings of the research (chapter 3), which showed the dual conformation of the Antofagasta Region. On the one hand, its economic structure is mainly organised around mining labour and, on the other, its inhabitants take part in the dancing performances of Ayquina. Many of the interviewed subjects described the experience of transformation they went through at the festival each year, leaving behind their daily urban life to become part of the ritual in the inner mountains. The thirteen selected scenes therefore followed the criterion of showing this dual configuration of the region, the transit or transformation between two worlds: the mines and the Andes.

The montage in itself became a kind of analytical tool, not just in terms of collecting and combining inscriptions about the Antofagasta Region, but also in terms of understanding how the filmed subjects performed in front of the camera and, above all, what elements of their lives they were willing to show and which to hide. At the same time, having collected and organising the footage was a way of looking back on the region, now mediated by its audiovisual inscriptions, to understand how landscape was a central issue, even a highly relevant actor, in the lives of people living there. It also helped us think more deeply about the performances at the festival, and how easily the camera was accepted by those who were already involved in the staging of the fiction-like world of the Fiesta.

Finally, the montage showed how the Chakana was more than just a template to guide the selection and combination of the footage, becoming a model that helped to understand the diverse actors and conflicts of the Atacama. In spite of its unclear origins, historical or otherwise, the Chakana proved to be a highly useful tool to interpret a wide range of phenomena within a relatively simple layout, underlining the idea that a cosmogram of this type is a way to give order to chaos, rendering visible what would otherwise remain

unobserved. The following images (Fig. 26) show the thirteen selected scenes and their arrangement within the Chakana template:

Figure 26: The Chakana template and scenes
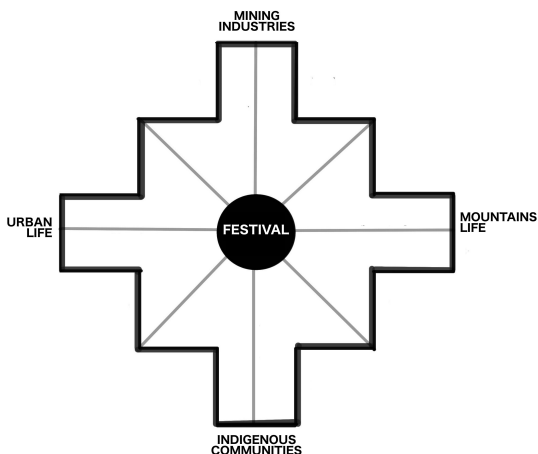
1. The abandoned mining town
2. The mining industry
3. The coastal city of Antofagasta
4. Urban life in Antofagasta
5. Calama City outskirts
6. Inside Calama City
7. The walk to the mountains
8. The mountains
9. The arrival of the walker
10. The festival
11. The Cowboys' duel
12. The indigenous community
13. Archive footage

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This layout hereafter became the guideline of the montage, visualising the entire film we were looking for within a single image. However, the three major segments that the template was articulating (mining industry, festival and indigenous communities) did not relate to each other in terms of an engaging audiovisual narrative. Once we placed the scenes on a sequential timeline, it was not easy to see what was the film talking about. At this point the cross-over between sociology and filmmaking reached a new, unexpected point where negotiations had to take place.

The translation of the collected data (the images) into the materials and language of documentary films involved the encounter between two disciplines that do not work in exactly the same direction. On the one side, sociology is usually based on a strict method that produces a set of results guided by black-box procedures (the input is never a good predictor of the outcome), and its results are valid when a solid and logical argumentation is presented. On the other side, filmmaking does not follow a strict method of production, subordinating it to the final piece it is looking for. Moreover, the argumentative logic is replaced by a different source of legitimacy, which is dependent on its audience and their perception of an aesthetic experience (Munch: 2001). While sociology seeks to construct facts, filmmaking aims to create an engaging piece based on emotion, rhythm and coherence.

In negotiating how both disciplines could relate to each other, the montage process became a kind of writing in itself, searching for visual grammar and syntax that, though sometimes feeling insightful, often seemed far away from our experiences in the field. The undertaking was no longer about what actually happened in the Antofagasta Region while we were shooting; more precisely, the goal was to build a film narrative that could stand by itself.

At the same time, this narrative was designed to follow the overall proposal of this thesis, namely to create a visual translation able to become part of the world it has translated. As I shall show in the next section, the social life the film gained after its release yields important insights about how the research outcome has engaged with different audiences and, above all, how it has been re-appropriated by the film's participants and their social circles. The narrative

presented by the film has worked as a powerful tool in visualising the Antofagasta Region and in promoting the festival of Ayquina as one of the major events of the Atacama Desert.

Through the montage process the film's narrative demanded its own right to exist, taking it beyond the often-strict accuracy that social researchers are used to. It stopped mattering whether a close-up of a face, for instance, was recorded on a different day or in a different location. If it served a narrative purpose, we decided, images would be inserted in places that, strictly speaking, they did not belong. The search for a narrative gained priority over almost all other criteria, subsuming them under the task of making a strong, meaningful and cinematographic piece of work. The goal, in short, was to fabricate a representation of society that was born out of sociological practice but structured according to the language of film.

Of course the written aspects of this thesis and its findings were still present throughout the montage, but now an extra dimension was needed. The collected pieces and their arrangement into the Chakana template had to leave some room for different criteria of combination, which would emphasise the connection between the scenes more strongly. The first option in this regard was to visualise 'the man walking through the desert' throughout a large part of the film, dividing the original scene into different sections and placing them in between other scenes. This would be one way to make the audience identify with a character, following the man's journey as a leitmotif throughout the film. The second choice was to change the original positions of some of the scenes, without changing the general structure of the Chakana (mines, festival, mountains), in order to better interweave them into the overall narrative of the film. The task was to recombine the scenes in order to stress a certain mood or to clarify some aspect of the narrative; they would be combined as if they were part of a network of images that acted independently and reacted on each other simultaneously. The timeline of the final arrangement of the thirteen numbered scenes can be visualised as follows (Fig. 27):

Figure 27: Consolidated timeline and the Chakana template

To a certain extent, the final montage resembled the idea of the cosmogram as discussed in chapter 1 (Tresch: 2004), as a particular kind of object that displays an entire universe by means of its elements' positioning, sequentiality, appearance, colour, sonority, etc. That is, a cosmogram is a single artefact that can display a self-contained universe within the material limits of a particular object. It lays out an ecology of relations that are harmonically and ideally suited to each other, articulating a living body of interconnected organs. In an analogous way, the montage was directed towards composing a visual world within its limits, fabricating a universe of interconnected bodies and environments that worked as a living narrative. The montage starts in the old mining centres, moving through the current extractive industry and the cities connected to it. Then, a journey to the inner mountains begins, where the festival is encountered and along with it the history of this territory and its indigenous inhabitants. At the end, the festival participants travel back to the cities, to their work and the mines, closing a circular narrative.

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Regardless of the success or otherwise of this representation of the Antofagasta Region, what became most relevant for this project was the attempted cross-over between sociology and film, to produce a material outcome created by both, a written and a visual work. The two fields were brought together as complementary approaches to the same objective, which was to reflect upon how the social world can be translated into a new medium and, from there, to attempt a translation that went beyond, yet not against, the written. While the written was the exploration of how to translate the Atacama by following a locally grounded model (the Chakana), the visual element was the concrete testing of this idea.

Finally, once the montage was consolidated and had been discussed with others in a series of private screenings, it was time to enter the post-production stage. Since the budget was available to finish the work with film industry professionals, the consolidated timeline was taken to Molinare TV & Films, a production house located in the Soho area of London. During this stage, an extended discussion took place over whether or not to include a specially designed soundtrack. In my view, this might have seemed too exotic, and would have invalidated much of the work already made during the montage process. In the editors' view, a soundtrack could only improve the work. After discussions, we agreed upon a last transformation, which would imply a reworking of some of the originally recorded sounds and the composition of a new soundtrack using in-studio instruments. Thus, a new participant was brought in, a London-based composer who created the soundtrack for us. We also added some Foley sounds to the film and produced a detailed 5.1 surround sound mix that suited cinema screenings. Lastly, the film was colour graded and burned as Blue-ray.

Without doubt, the post-production process we went through was key in securing a professional piece of work, which has increased the film's circulation possibilities and allowed its engagement with broader audiences. It improved the aesthetic experience of the film and made it suitable for different venues, from classrooms to cinemas.

I think that the decision to make a film as a complementary outcome of my research practice allowed this project to establish a better engagement with its participants, co-constructing a piece of work that was equally useful for both sides. In this way, I think, this project was able to work beyond the strict limits of my PhD, leading to new encounters with other disciplines such as filmmaking and, at the same time, stimulating reflections on how social research can use different media to create its final results.

However, the making of the film did also impose some limitations on my PhD research practice, mainly in terms of the time and energy required. I sometimes felt I was making two projects at the same time, the written and the visual, which, although deeply connected, demanded double the attention. On the one hand I had to meet the expectations of any PhD research and, on the other, I had to learn and deal with the techniques and discourses of filmmaking. Ultimately, I think the project has been a success and, as I show in the next section, it has allowed me to create a visual work that has circulated in many directions and is still producing new encounters.

4. The social life of the film

Only after the montage was consolidated and the post-production stage completed in August 2015 was the film released. As the executive producer of the project suggested, the film would only be fully complete when put into circulation. By this he was pointing out that this film, like any other, needed to be distributed in order to exist. We designed a distribution plan that focused on three potential audiences: first, the academic audience; second, the film industry audience; and third, but not least, the audience comprised by the film's participants and the inhabitants of the Atacama Desert.

The first public screening of the film took place in Goldsmiths College, London, and it was well received by this academic audience. It provoked an interesting discussion about the world it was visualising, mainly in relation to the festival and the dancing performances, as well as in

respect of the process of constructing the film. For many of my PhD colleagues it was surprising to see an outcome whose making had involved so many people, emphasising the disciplinary cross-over of the project.

After this opening screening, which has been repeated in several academic contexts during the past couple of years, the film was sent out in applications to take part in documentary film festivals. These included two main kinds of festivals: those specially concerned with ethnographic filmmaking (among which the Göttingen Ethnographic Film Festival was the most relevant of them, but which also included festivals screenings in Mexico, Spain, the USA and Chile), and those concerned with film industry productions. In this second group of festivals, the film received two prizes: 'Best Foreign Documentary Film' at the Arizona Film Festival 2016 in the USA, and forerunner as 'Best Documentary Film' at the INEDIT Music Film Festival in Chile, 2017.
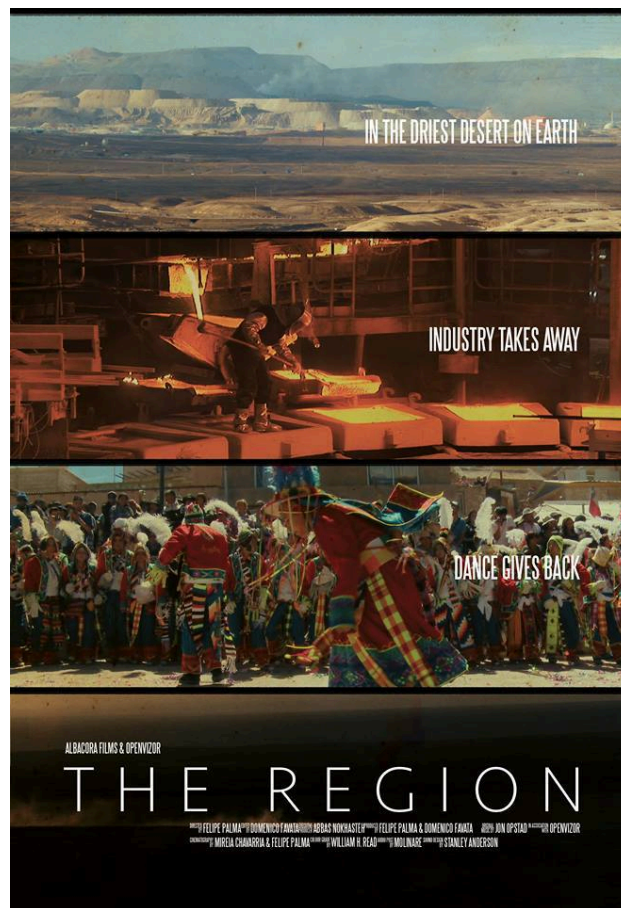

Figure 28:
The Region, **released poster**

However, the translation of the Antofagasta Region into the film medium and its subsequent distribution was only fully complete when it was screened back in the Atacama, with the first public non-ticketed screening taking place in Calama City's municipal theatre. People were invited via social media and the main participants of the film contacted by phone. Calama City Council provided us with the venue and the necessary equipment, all free of charge, and more than two hundred people arrived at the event. Returning the film to the Atacama, it needs to be said, took longer than initially expected, mainly due to montage and post-production schedules. During this unexpected delay, people from Calama City contacted us on many occasions asking for a release date, expressing how much they were looking forward to the film screening in their city.

On the evening of 7 April 2016, the screening finally took place. We hired a brass band for the event and everyone showed up in their best outfits, crowding the theatre with participants of the festival of Ayquina and many others. People laughed and whispered while the film was running, and some of the kids even got up to dance every time a dance appeared on screen. Once the film was over, the audience clapped enthusiastically, although no comments were made inside the theatre. I knew beforehand that people in Calama do not talk easily in public, being known for their long silences before speaking out loud. Yet, once outside the venue, many of them approached us and commented on the film. Everyone appeared quite excited about what they had just watched, wishing us blessings and congratulations for our work. We gave out some of the film posters and committed to a new screening, this time during the festival itself, in September 2017. The plan is to have the film showing on a loop during the festival, and to have copies available to buy throughout (as it has been requested by the festival of Ayquina's participants). Though it is still in the future, we have received written confirmation of the event.

Figure 28: First public screening in Calama City, April 2016

Figure 29: Local brass band performing outside the council theatre of Calama

As a brief glimpse on the new encounters prompted by after this first screening in Calama City, we were approached by a group of young people who asked us to keep filming the festival. They wanted us to film a specific dance group, the *Sambo Saya*, which will be celebrating its fortieth anniversary this year. Some of these young people belong to the indigenous community of Toconce, and are willing to be part of the production team. This shows how a long-term relationship can develop, opening up access to those communities who did not want to be filmed during this project.

The day after the event, we travelled into the pampas to give a second screening in the village of María Elena, the last inhabited nitrate mining camp, where we met a group of middle-aged women who had briefly taken part in the project. During our visit we committed to a new audiovisual project, this time focused on the urban settlements left behind by industry after its massive exploitation of the land's resources, which its inhabitants refuse to abandon. This is a work in progress that will be released in December 2017.

From an analytical point of view, overall this project has tested how a given territory can be translated, exploring the potentials and limitations of the audiovisual medium. It has also shown how social research outcomes can stand on a supplementary dimension of their objects of knowledge, engaging at the same time as adding complexity to them. Equally importantly, it has attempted to create an image of the Antofagasta Region based on a cosmogram (the Chakana) that is currently in use, designing a piece of work that combines different regimes of signs within one single artefact. The visual outcome was not only the result of a combination of film with my research practice; it also assembled the aesthetics of Andean objects, an analysis of how translations can be made and, last but not least, the experiences and discourses collected from the inhabitants of the Atacama.

At the centre of this project was the methodological approach proposed by Latour (2005), who sees research as a step-by-step chain of translations that must transform its objects within a

new medium in order to visualise them. The written aspects of this project set the parameters for making a visual translation of the Atacama, while the film was constructed by following a concatenated process of collecting and superimposing audiovisual inscriptions towards stabilising a final piece. The process was equally inspired by Becker's (2007) four operations in the construction of a representation of society, which implied selecting a given phenomenon and traces to translate, followed by their actual translation, arrangement and release. The film this thesis is presenting is an exploration of how social research can open up to other media that complement the written form, towards creating engaging images that help us understand the social world we live in.

4. Film Details

Title: LA REGION (THE REGION)

URL: https://vimeo.com/198880201

Password: laregion

Trailer: https://vimeo.com/154105922

Social Media: https://www.facebook.com/laregiondocumental

IMbD: http://www.imdb.com/title/tt5440904/

CONCLUSIONS

In this thesis I have explored the notion of translation as understood in social sciences, which refers to the process through which an object of knowledge is displaced into other media. Several authors I have discussed (Callon: 1986; Latour: 2005; Guggenheim: 2014; and others) have used the concept of translation to replace the idea of objectivity, asserting that the creation of knowledge is based on the manipulation of both, the object of knowledge and its representation. By this it is meant that whenever research is conducted it needs to translate its object of knowledge into a new media, written, visual or otherwise, that necessarily transforms this object of knowledge in order to visualise it. As B. Latour (2005) has proposed research production methods are based on a series of operations that collect, inscribe and superimpose the traces of a given phenomenon towards stabilising a new artefact, which is never the phenomenon itself but its figuration within a new media. This is the case, for instance, of an academic paper that has been created by a set of operations that started with observations in the field, which are translated into notes, then transcoded into tables, tables into charts and charts into conclusions. At each stage, a transformation has occurred, modifying and transforming the object of knowledge into something else.

Following these ideas, I have proposed that sociological practice can expand the languages and materials it employs to undertake translations of the social world, opening it to new media beyond, yet not against, the written text. Relying on the work done by visual anthropologists and visual sociologists, I composed a project that had two interconnected lives. The first consisted of a written inquiry into how the social world can be translated into a visual layout, and the second attempted to actually fabricate a visual outcome as a result of my research practice, which took the form of a feature-length documentary film entitled 'The Region'. The two complementary outcomes, the written and the visual, were aimed at establishing a dialogue across disciplinary borders by following the standards both of sociological practice

and professional film production. Together, they explored how social research could learn from filmmaking and vice versa, how the creation of images could learn from social research.

By exploring the concept of translation and its relation with other theoretical approaches within the social sciences (Jameson: 1991; Toscano: 2012; and others), the written aspects of this project set the parameters to undertake the translation of a given object of knowledge, namely, the Atacama Desert, into the media of documentary filmmaking. This visual artefact was equally guided by the four operations that H. Becker (2007) describes as being involved in the fabrication of any representation of society, which are selection, translation, arrangement and interpretation (see chapter 2).

Using this approach, I developed the first of these operations (selection) within the written form, which was organised into two complementary steps. First, I undertook a literary review of cultural studies about the Andes World (South America) and its southern area (the Atacama Desert), which focused on a set of representations and ritual practices found in the area and looked for the common aesthetic patterns they share. Second, I selected a given area within the Atacama Desert to develop qualitative research, namely the Antofagasta Region, where a strong relation between large-scale mining industries and ritual festivities is found.

The combination of these two stages drove me to design what the documentary filmmaker P. Guzmán (1997) has called an 'imaginary script', which is a transitional space between designing and actually making a film. The actual imaginary script I designed in the context of this project was based on the findings presented in chapter 3, which main outcome was to distinguish a local cosmogram (Tresch: 2004).[98] This cosmogram is known as the Chakana and it is found at the basis of many Andean representation strategies. Despite the fact that there is no agreement as to whether the Chakana is a historical figure, or whether it is an invented tradition, I argued that because of being a wide spread model throughout the Andes, it could

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[98]   As discussed in chapter 1, the notion of cosmogram refers to a particular kind of object on which an image of the whole is inscribed, visualising a living body of interconnected organisms and environments among which is the context for human experience.

equally be used as the basis to design the imaginary script and, therefore, guide the translation of the Antofagasta Region into the media of documentary filmmaking.

The Chakana cosmogram is a relational system of representation that models dissimilar orders of reality within a network of connections, in which opposing forces (such as mining exploitation and indigenous communities) are mediated by ritually based practices. Accordingly, the imaginary script I designed in order to undertake the visual translation of the Antofagasta Region, followed the Chakana's relational structure. I combined the findings of my qualitative research in the area (chapter 4) with this structure, which was presented in the first section of chapter 5.

After having set the imaginary script that was going to guide the film production, the written aspects of this thesis gave room to follow) Becker´s operation: translation.[99] At this point Becker´s description of how to fabricate a representation of society was considered in relation to Latour's (2005) description of how research methods produce their outcomes, which are based on the necessary transformation of their objects of knowledge and driven by collecting and combining sets of inscriptions. In the particular context of this research, the collection of inscriptions was based on the video-camera, which produced large-format digital files that recorded the light, movement and the sound of things, these being the materials with which the representation of how the Atacama was going to be made.

At this stage of the visual artefact fabrication, the imaginary script was a highly useful tool that, by proposing a set of thirteen potential scenes to be recorded, guided the collection of audiovisual inscriptions. However, the collection process showed that the script needed to be adapted and re-written during the shooting, opening it up to the unexpected events that we, as a film team, found in the field, among which two are worth highlighting. On the one hand, we realised that the camera was recording without interference and the camera was an active

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[99] Despite the fact that the written aspects of this work had already achieved a translation process in terms of combining a set of traces of the Atacama Desert (literary review & qualitative research) within the text media, I refer here to translation as the process of producing and collecting audiovisual inscriptions about the Antofagasta Region.

presence in relation to the film participants' behaviour. Thus, we decided to take this fact as an advantage rather than trying to minimise it. Much of the collected footage was a direct result of the relation between the camera, the filmed subjects and my research practice, co-constructing the collected footage together. This was the case, for instance, of the Chilean Cowboys' duel scene, in which two of the participants of the dance were asked to perform directly facing the camera during the festival, acting out the cinematic imaginary of their dance (see chapter 5).

On the other hand, some of the planned scenes about life in the indigenous communities were not filmed as the participants believed in a taboo about filming sacred icons. Although we tried hard to establish a relationship with a group of members from the indigenous communities living in the inner mountains, we were not allowed to film them. Due to this restriction we had to re-write some of the scenes of the imaginary script and adapt others, showing how the visual artefact this thesis was producing was highly dependant on the film participants' own requests. It was not about what we wanted to film but more precisely, about what the researched subjects wanted to show or to keep from us. It is in this sense, I think, that any representation of society is a co-construction between inscription, researcher and object, and that it is only through this triple assemblage that a new artefact can be produced as result of a research practice.

Once the collection of inscriptions was completed, they were brought back to London and arranged during the montage stage. Throughout this process of arranging and combining the collected footage, the Chakana was used to guide the footage editing, providing a general model of how the different scenes should be organised in relation to each other. The final outcome of this stage produced a sixty-two minute long documentary film that depicts a journey from the mining areas of the desert into the inner mountains, where a ritual festival takes place which populates a tiny village with all kinds of fantastic creatures. This final outcome was also driven by film industry standards, which provided the project with a proper visual language to work with and, therefore, achieved the crossover between social research

and filmmaking practice. Finally, the film was released in 2015 and distributed on several circuits, including film festivals, academic contexts and, last but not least, among the inhabitants of the Antofagasta Region.

This research process, including both written and visual aspects, was designed as an experimental approach to the expansion of languages and materials in the outcomes research fabricates, thus opening the range of artefacts it can design. At the core of my proposal was the idea that the research process is directed towards the creation of an artefact (written, visual or otherwise) that is placed in circulation in the world. These artefacts are not a mimetic representation of phenomena, but their transformation into a new media, being placed in a supplementary dimension to their objects of knowledge and insert a point of view from which to read or relate to the translated phenomena.

Rose's (2007) description of images as having a site of production, a site of internal meanings and a site of the audience, is equally useful to describe artefacts produced by a research practice. In the first place, artefacts of this kind need to acknowledge the way in which they are produced, working as reflexive pieces that include the history of their making as part of the research results. In the second place, these artefacts are composed of a set of internal meanings, which are the substantive contents they arrange together as a result of a translation process. Thirdly, these artefacts can display their full potential only when put into circulation, meeting audiences who might interpret or use them in ways the artefact design did not plan beforehand. Only when these artefacts are made public might they become an actor in the wider system of relations that compose the social.

However, the engaging potential of a published artefact (an academic paper, a film, or multimedia project) demand an awareness of the power the artefact has in shaping the world in a certain way, thus triggering actions accordingly. The material and substantive features of an artefact define the way in which the phenomenon it has translated is seen and understood by the artefact´s readers or users. At this point, I think, a political dimension needs to be added

to the process by which the social world is transformed into a new media. Because a transformation is both *arbitrary* – there is always a different way the pieces could have been arranged – and *determined* by standard ways of doing things as given by the community of makers in which the representation operates (Becker: 2007), these artefacts co-construct the world they visualise by providing a point of view that prescribes what they are describing. Both dimensions determine this point of view, the curatorial approach of the researcher and the institutional constrains surrounding the artefacts production. It is on this level that these artefacts create an argument about the world that is not objective but rather political.

As Toscano (2012) has suggested, the idea that in order to represent society it needs to be transformed into a new media, does not imply that representing the structures that govern social life have to be excluded from social research. On the contrary, he argues that, because of providing a point of view, these artefacts can represent an idea of totality that acknowledges in an explicit way how that representation was fabricated, paying painstaking attention to the employed devices, signs and materials. These representations can provide readers and users with a point of view that, although arbitrary as well as determined, help to visualise what would otherwise remain invisible. Furthermore, Jameson (1991) shows that the role of these artefacts is to stress the gap between isolated experience and a broader sense of totality, connecting the monadic point of view that we, as individuals, are restricted to with the wider structures that define the social.

The construction of artefacts within sociology is therefore not just a matter of translations, materials and devices; it is also a way of imagining what is not visible to the naked eye. Artefacts are a way of transforming a chaotic multiplicity within a coherent and stable system of relations, making it available for new readings and interpretations. These artefacts can render an image of totality by translating it into a new media, like maps do when a whole territory is rendered onto paper, making them visible. However, it is not possible to fabricate a representation of this kind if the reader is not aware of both the rendered image and also the point of view and craftwork behind it.

From the researcher's perspective, the process by which a phenomenon is transformed into a new media is also a way of studying and learning about that phenomenon. This was the case of this written and visually based project. Its development was not only an exploration of how a translation of the Atacama into the media of documentary filmmaking could be undertaken, but it was also a way of understanding this territory and its current economic and social features. It showed how different rationalities coexist in this desert and what relations they establish with one another.

On the one hand, this research has shown how a highly developed mining industry controls almost every aspect of the lives of the inhabitants of the Atacama. However, as has being the case in previous historical stages of economic development of this desert, this mining boom cycle is based on the rapid extraction of mineral resources that might end abruptly once the business stops being profitable, along with all the associated consequences this might trigger.

On the other hand, this research has also shown how mining immigrants that have been attracted by this iterative boom and bust economic cycles, have entangled their own rituals and background with the indigenous ritual practices in the area, adding new layers to the traditional festivals found in the Desert´s inner mountains. In this context, the newcomers have appropriated some of these festivals, changing their scale and performances but keeping many of the features belonging to the Andean World, composing of a meeting point between mine workers and indigenous communities. In my view, the current features of the ritual festivals in the Atacama are a privileged space to inquire into the continuities and ruptures that have shaped this territory during the past few decades.

When tracing the historical development of these festivals, the different layers that have been added to them over time can be associated with the different historical stages the Atacama has gone through. From the early evangelisation of indigenous communities during the colonial period, followed by the *Chilenization* of the Desert after the Pacific War of 1879-1883, to the

current expansion of the mining industry. Each of these stages has added new layers to the festivals (Christian Icons, Chilean symbols and pop-culture images, respectively), all of them now simultaneously participating in these events.

Finally, this research has shown how the festival of Ayquina, a major ritual event in the Antofagasta Region, shares many of the aesthetic features found in other Andean objects and practices, all of them governed by the Chakana cosmogram. The three-fold architectonical layout on which the festival of Ayquina is displayed can be interpreted as an expression of the Chakana which, despite the uncertainty of its actual origin, is seen to be structuring the Andean worldview within a three-fold template (the heights, the land and the underground).

Accordingly, the festival of Ayquina is structured in a closed space (where the sacred icon of the festival is kept), there is an open courtyard leading to the water source, and an intermediate space (the square) where the ritual dances take place. In my view, this three-fold template is a metaphor of one of the most common Andean representation strategies, in which opposing dimensions (the closed space and open courtyard in this case) are mediated by iconic figurations (the ritual dances of Ayquina). I have concluded from this thesis that what is at stake is that by means of representing the world and its creatures, the Ayquina dancers are able to connect the sacred and natural forces in a symbolic way, ensuring the cycle of the world keeps flowing in relative balance.

The combination of the written and visual aspects of this thesis have brought to light how the transformation of a given phenomenon into a new media is not just a matter of fabricating a visually mediated artefact but is also a way of exploring and understanding the translated phenomena. Fabricating an artefact of this kind is a way of expanding research practice to be used for new languages, materials and medias, which does not imply neglecting the written text as a tool for conducting research. On the contrary, the written may be complemented with other strategies of representation that help to understand the sensorial and visual aspects of social life.

As S. Pink (2010) has argued, research should not only be interested in describing the senses but using them to guide and influence our understanding of the world, opening research beyond the text to the tacit, unspoken, non-verbal dimensions of social life, from writing to documentary film and photography and to new engagements with art practices. Following this approach, I think that this thesis attempts to explore how the translation of the social world into the media of documentary filmmaking is just a first step in widening the strategies sociologists can use to conduct research.

When it is assumed that research can operate by creating and collecting inscriptions, it implies that these inscriptions do not need to be exclusively based on written text. It is also possible to design research based on a collection of images, drawings or even objects, which can later be combined with and /or contribute towards the composition of different kinds of artefacts. Thus, research can be directed towards working with different medias to construct and present results, from the written to the visual, but also from cartography to multimedia and art installation or performance. Whatever the features of the chosen media onto which the social is translated are, what this process of transformation demands is to engage research with other disciplines, exploring the crossover between different strategies when representing the social. The central task, in my view, is to fabricate artefacts that help us to visualise and engage with the wider phenomena that surround our individual experience.

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