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The extreme case of La Rinconada, Peru

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April 2024

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Introduction

Artisanal and small-scale gold mining (ASGM) areas are commonly pictured as 'unruly' and 'remote' places where the state is barely present, and informality and/or illegality are the norm. Research has evidenced tough ASGM realities with harsh and dangerous working conditions (Verbrugge and Geenen, 2020); Zabyelina and Van Uhm, 2020), in which the health and physical security of workers are constantly at risk (Long et al., 2015; Pavilonis et al., 2017; Bryceson and Geenen, 2016). Encountered and constant challenges in ASGM encompass the intricate dynamics of organized crime and corruption (Hunter, 2019; Crawford and Botwey, 2020), the complexities of prostitution and gender-based violence (Bryceson et al., 2013; Mayes et al., 2015), and the hazardous exposure to mercury (Esdalie and Chalker, 2018; Smith, 2019; Taux et al., 2022). Thus, those who decide to enter the mining activity are exposed to extremely challenging and risky contexts. Despite the uncertainty, the vast majority manage to endure such circumstances for many years.

Various studies have focused on the reasons why miners decide to enter ASGM. Most research points to poverty as the main push factor (Fisher et al., 2009; Siegel and Veiga, 2010; Hilson and Garforth, 2012; Wilson et al., 2015). From this perspective, the motivation of miners to work and reside in hostile conditions can be regarded as a survival strategy driven by economic imperatives. The pursuit of improved economic conditions is therefore considered the primary motivation for their involvement in ASGM areas. Although poverty is certainly a significant factor that contributes to people's attraction toward gold mining activities, we argue that it offers only a limited explanation of the reasons why miners opt to work in ASGM activities. It fails to offer a comprehensive understanding of the miners' daily interactions in the various social spheres within a specific context of a mining area. Furthermore, it disregards trajectories and personal choices, which homogenizes their existence as mere victims of larger structural forces (André and Godin, 2014), a position that is similarly argued by Verbrugge & Geenen (2020).

Although the literature on ASGM has long pondered the question as to why miners initially engage in gold mining, the question of how they endure in such environments remains unanswered. By observing the endurance of miners' navigation within their cultural and social mining context, we can identify entry motives that go beyond ideals of wealth (Fisher et al., 2019) and the need to get out of sheer poverty (Wilson et al., 2015). Miners' endurance forces us to consider miners' identities, their social and economic backgrounds, and how those factors translate into decision-making. In that sense, endurance recognizes miners' agency as non-static, constantly influencing and being influenced by their specific context.

This paper aims to offer a deep understanding of miners' endurance by focusing on research conducted in the informal mine of La Rinconada, Peru. This location encapsulates the most challenging characteristics of an informal ASGM area, making it an ideal candidate for an extreme case study, as defined by Flyvbjerg (2006). Employing this approach involves a meticulous examination of an atypical or extreme situation, such as La Rinconada, with the aim of extracting unique insights for theoretical contributions.

We define endurance as 'the capacity to keep doing something difficult, even unpleasant, or painful' (Acuña and Tirnoni, 2022, p.2) for an undetermined period of time. It is the art of persisting while facing uncertainty in an unpredictable context. In this sense, endurance seems to be enclosed in a forever-present (Weiss, 2022) and built upon on an everyday basis, nevertheless, it is in constant dialogue with an imagined future. It requires not only an act of continuous adaptation but 'the capacity to change in adverse conditions' (Acuña and Tirnoni 2022, p.2)'. To understand how endurance occurs, we build on Vigh's (2010) theory of *social navigation*, which focuses on the observation of agents' praxis in a 'relatively unpredictable context' (p. 155). By analysing miners' praxis while they navigate La Rinconada, different forms of endurance can be identified: social connections, rituals, experience and entertainment.

The purpose of this paper is to immerse the reader in the mining world and the daily lives of miners in La Rinconada, with the aim of fostering empathy and understanding. To achieve this goal, the paper is divided into nine sections. The Introduction provides an overview of the paper. In Section 2, we build and define the concept of endurance. Section 3 presents the theoretical framework. Section 4 outlines the methodology employed in the study. In Section 5, a detailed description of the extreme context of La Rinconada is presented. This includes an overview of the town's demographics, Andean cosmovision, rituals, and basic services, as well as the challenges it faces, such as pollution, crime, alcoholism, and gender inequality. Section 6 provides an historical account of the origins and development of mining in La Rinconada, describing underground mining, mining positions, hierarchical power, and the primary payment system used in La Rinconada: *cachorreo*. Section 7 provides a 'thick description' (Geertz, 1973) of the case by immersing the reader in what is called the 'miners' journey'. This section tracks the miners' lives in two phases: the first, 'miners inside the tunnel', provides a detailed description of their labour relations, payment systems, and the spiritual connection between mining and the Andean cosmovision, in the form of rituals. The second, 'miners outside of the tunnel', looks specifically at their lives after finishing their shifts in the mines, focusing on the bar-brothels in the town, which are central to understanding endurance since they are the primary entertainment spaces for the miners. Section 8 provides an analysis and discussion of the praxis of endurance. Finally, Section 9 presents the conclusions.

1. Building on the concept of endurance

1.1. Endurance

As a concept and definition, endurance has been mostly looked at from a body-physical and sport-performative perspective in health science-related fields. However, endurance is more than just a bodily reaction, it is also a human-social behaviour. Nevertheless, few contributions have used and analysed endurance in social sciences. From an anthropological and sociological perspective, Elizabeth A. Povinelli (2011, 2012) introduces this concept vis à vis the neoliberal political era. According to Povinelli, endurance would be the most typical way of persisting and surviving in a neoliberal context without a concrete horizon of growth or complete fulfilment. She argues that enduring occurs in a context of indifference toward the 'otherwise'. The otherwise in this case is the one who speaks the truth from the margins and persists in existing within these spaces. According to Povinelli, those enduring as the otherwise are forced to manoeuvre to keep their truth highlighted within a cramped space (Povinelli et al., 2017). This space is nothing other than the space taken by capitalism, and of those who occupy power spheres within this system.

Hadas Weiss (2022) uses the concept of endurance to analyse livelihoods and ideologies shaped by contemporary capitalism in the village of Los Olivos in Spain. According to Weiss, endurance reflects the ability of villagers to persevere in the face of hardship. Villagers decided to endure and stay in Los Olivos after the 2008 financial crisis, even when their job opportunities were scarce. The great majority took pride in enduring, relying on seasonal jobs and short contracts. For Weiss, endurance is crucial for sustaining livelihoods amid uncertain conditions (2022, p. 59). Unlike desire (which Weiss uses to illustrate the ideology of villagers in Los Olivos prior to the 2008 crisis) that promises a future, endurance is arrested in the present (2022, p. 54). It must be realised daily and can only be asserted to the extent that it succeeds (2022, p. 65). Moreover, the villagers of Los Olivos considered it a virtue, as it forges strength of character because of the efforts that are required in order to persist.

In the research field of extractivism, Acuña and Tironi (2022) analyse endurance through the resistance actions of the Aymara community of Quillagua, in the north of Chile, to water dispossessions as a result of droughts caused by mining. Based on historical ethnographic research, Acuña and Tironi argue that extractivist droughts have forced Quillagueños and

Quillagueñas to develop multiple tactics and strategies to persevere in the face of the entwined effects of drought and colonialism, which they call 'indigenous hydrosocial endurance'. They define hydrosocial endurance as 'the multiple practices Quillagueños and Quillagueñas carry out to resist and coexist with water-related tensions on their lands' (2022, p. 2). Endurance, in this context, is explained as 'the capacity to keep doing something difficult, unpleasant, or painful for a long time' (2022, p. 2). Pivotal in this contribution is the use of indigenous knowledge as a way to understanding adaptation to water droughts. The authors propose that considering indigenous knowledge in the adaptation to extractivism accounts for 'embodied, place-based, practice embedded, and relational principles that sustain the spiritual, economic, legal, ecological, and scientific perseverance of community and more-than-human kinship' (2022, p. 3). In this sense, endurance is also necessary for the transmission of indigenous knowledge in contexts of settler colonialism (Coulthard and Simpson, 2016).

In this paper, we draw on these contributions, but also introduce our own definition of endurance, for it must be understood from two perspectives: first, the structural conditions that do not allow for better alternatives or for leaving La Rinconada, thus, influencing the decision of the subject to stay and persist. Secondly, within the context of La Rinconada, where the dynamics of the environment contribute to shaping the concept of endurance. It is only through this dual lens that we can grasp how miners confront and endure (in ways that are not always evidently confrontational), an adverse context of challenges such as extreme geographic conditions, uncertainty, danger, and risk.

Endurance, as conceptualized here, refers to the capacity to persevere through difficult circumstances, even when they are unpleasant or painful, for an unspecified duration (Acuña and Tirnoni, 2022, p. 2). In this formulation, inspired by the insights of Acuña and Tirnoni and further supported by observations akin to those of Weiss (2022), endurance is understood as a quality deeply entrenched in the fabric of La Rinconada. It is not merely about adapting to challenges but also about embracing change amidst adverse conditions, as individuals navigate the unique hardships of their environment. This understanding of endurance is manifested in a myriad of actions and behaviors, demonstrating the agency of individuals as they confront the formidable obstacles present in La Rinconada.

1.1.1. Structural conditions to understanding endurance

In order to better understand the concept of endurance, it is essential to unravel the structural conditions that drove individuals into the mining activity in La Rinconada. Moreover, it is important to understand what horizons exist beyond mining activities for individuals to subsist. Additionally, what options were available to those making the decision to enter the mining industry? Why is mining such an attractive option for these individuals?

First, it is crucial to consider the rural and economic background of the miners in La Rinconada, which is predominantly agricultural and compels them to seek opportunities beyond their communities. The majority of miners in La Rinconada belong to the Quechua ethnic group, comprising 92%, with the remaining 8% identifying as Aymara, which are prevalent throughout the highlands of Peru and Bolivia. These miners were raised in rural areas where their parents' primary sources of income were agriculture (54% of fathers and 49% of mothers) and livestock (18% of fathers and 26% of mothers) (Robles et al., 2022). In Peru, particularly in the region of Puno, poverty has become increasingly prevalent in the rural and agrarian sectors (Zegarra, 2016). Based on the national household survey 2007 – 2015 (Encuesta Nacional de Hogares - ENAHO), Zegarra (2016) observed that farmers in the Puno region who were up to 35 years old were 22.2% more likely to be impoverished than the baseline group (51 years old to 64 years old). Interestingly, younger farmers had higher education levels than their older counterparts. According to our data, in La Rinconada, a significant proportion of young workers possess a secondary (55%) or technical education (18%) and began working for the

first time between the ages of 10 years old and 20 years old (50.3%) (Robles et al., 2022). This implies that although many of these young people have the educational background to pursue higher education, they have chosen to engage in informal mining. Additionally, only 10% of the interviewees reported that their fathers had previously worked in mining, indicating that entry into mining is a relatively recent phenomenon, because agriculture and livestock are no longer viable sources of income for young people in Puno.

Education has been a key factor in fostering the aspiration for social mobility within Peruvian indigenous populations. It has served as an opportunity and tool for rural families to break with the historical discrimination and uneven conditions experienced throughout Peruvian political and economic history. However, the government's inability to provide support for those with higher education and to facilitate their access to employment has turned agricultural workers' expectations into bitter dreams. The anticipated success promised by education often fails to materialize, at least not through the support provided by the state. Young men and women are pushed to look for employment opportunities outside their villages, far from their family bonds. Families place their hopes on their younger members who migrate to achieve a better social status avoiding the label 'poor peasant' (Degregori, 2022), and improve their current positions in the context of their communities.

Based on our findings, it was determined that 99% of individuals residing in La Rinconada are migrants, with the majority arriving from the neighbouring provinces of Azángaro (47.92%), San Román (8.33%), and Carabaya (7.64%), and smaller proportions from Melgar, Lampa, Huancané, El Collao, and Moho. According to the Regional Government of Puno, Carabaya districts exhibit the highest poverty rates within the region, at 67.8%. Furthermore, over half of San Román's population (58.10%) lives below the poverty line (Ministerio de Desarrollo e Inclusión Social, 2016). Agriculture is an economic activity deeply rooted in the populations of the provinces of Puno and the Andean regions. However, the agricultural sector in these provinces has been significantly affected by climate change, leading many inhabitants to seek alternative sources of income. Informal mining has emerged as the most appealing option, as it offers a relatively easy entry point to earning a living. Informal mining is perceived as a lucrative venture with greater income potential than agriculture, providing a sense of autonomy and control to its workers without necessitating university degrees or an educational background (Robles et al., 2022).

Migration to mining areas, such as La Rinconada, should not be looked at as a rupture of young workers from their rural communities of origin. The bond that young migrants have with their communities of origin endures despite the fact that they have readjusted their lives to more urbanized spaces. While these workers have acquired new aspirations, they maintain a connection with their rural communities. They invest in the construction or remodelling of their households, and in several cases send remittances back to their families (for more on this rural-to-urban bond in the Peruvian Andes, see Trivelli & Gil, 2021; Urrutia & Trivelli, 2019). The decision of younger generations to migrate from rural areas is neither simply an act of boredom or for a break. As previously noted, economic hardships, limited employment prospects, and a sense of unattainable social aspirations are among the primary reasons for youth migration. However, despite leaving their rural homes, young people often revisit their cultural roots through visits to their hometowns or the reproduction of their rural backgrounds in their new environments. This demonstrates that, although they may physically leave their rural origins, the cultural ties they have developed are still deeply ingrained and continue to influence their lives.

1.1.2. The constant uncertainty in Andean agriculture

Uncertainty plays a significant role in the development of endurance in contexts such as La Rinconada. It is also part of the daily reality of rural areas and the Andean inhabitants

who engage in agriculture. As previously mentioned, the majority of miners in La Rinconada come from a rural agricultural background. Thus, they have been familiar with uncertain scenarios since childhood. According to Gasselin and Vaillant (2010), migration is one of the strategies adopted in Andean rural contexts to cope with the climatic changes impacting on agricultural work. The authors argue that migrating away from rural contexts manifests as a resilience capacity of rural families in order to face the uncertainty of changing bioclimatic conditions. Migration is necessary to diversify income sources and face this uncertainty. It is important, however, to note that such climatic changes are not new. Communities in the Peruvian Andes have always had to deal with risk and uncertainty. In a detailed study, agronomist Pierre Morlon (1987) observes the struggles and adaptation strategies against climatic risks of Andean peasants in a region near Lake Titikaka (the highest lake in the world). In this contribution written in the late 1980s, Morlon examines the unpredictability of frost seasons, the timing of which is crucial for initiating the growth cycles of various crops. For certain crops, a significant frost event can result in complete destruction (i.e. quinoa), whereas for others (such as the chuño tuber), frost may contribute to improved production. Faced with this climatic uncertainty, Andean agricultural communities employ varied planting and harvesting techniques to mitigate risks. Nevertheless, Morlon underscores the increasing difficulty in adapting to climate change. Thus, one way to face this uncertainty was through "pluriactivity", which could be temporary or seasonal jobs in, for example, a city, a mine, or some commercial enterprise. According to Morlon, 'after a hailstorm destroyed almost all of the crops of two families [we] studied, one of them resumed a blacksmith activity that had been abandoned for some years, and the other sold cattle. In another case, the death (due to meteorism) of the only cow, which with its milk production ensured the only source of income, forced the family to make knitwear at home with alpaca wool … All of this illustrates how the combination of the precariousness of the crops, with uncertainties related to marketing or temporary work, lead families to spread risks among a whole set of activities, none of which constitute a reliable production system in isolation' (1987, p. 173–174).

In 2023, the world is going through an unprecedented climate crisis, which has increased the unpredictability of agriculture in rural areas, making agricultural activity increasingly less reliable. The younger generations are not only forced to migrate, but have also opted to seek activities that may be more profitable and better paid than agricultural ones, for example, mining. Turning to informal mining is a decision that involves facing uncertainty. Dealing with this unpredictability is perhaps one of the key aspects of endurance. This reveals the resilience capacity that has been gestating and building in miners since childhood, being part of agricultural rural families from the Peruvian Andes. Therefore, the unpredictable situation in La Rinconada resonates within this changing landscape. Elements of surprise and diverse strategies to cope with unexpected challenges constitute an integral part of the miners' genetic memory. They were part of the *modus vivendi* and *modus operandi* of their ancestors, their fathers, and mothers. Therefore, this uncertainty does not imply an obstacle terrifying enough to give up informal mining. This knowledge is also useful and even privileged when navigating the risks they will face in La Rinconada.

2. Theoretical framework

2.1.1. 3.1.Social navigation and praxis

When trying to analyse the extreme context of La Rinconada, we noticed the difficulty of finding a concept or theoretical framework that could encompass the elements and circumstances that miners, as agents, encounter and interact with on an everyday basis. Moreover, miners do not live and work in a static environment; instead, their surroundings and interactions are constantly changing. In this sense, social navigation is a concept that can help us to explain **how** miners endure the extreme context of La Rinconada.

Henrik Vigh (2009) introduced the concept of social navigation with the aim of providing an analytical optic able to 'understand the way people act in their social worlds' (2009, p. 419). These 'social worlds', which he also calls 'social environments', are in a state of constant mobility and uncertainty. According to Vigh, when trying to analyse agents and the way they interact in a social environment, the literature traditionally looks at them 'synchronically, at the way agents move within solid social coordinates or structures, or diachronically at the way in which social coordinates and structures move and change over time' (Vigh, 2010, p. 157). In contrast, social navigation 'highlights motion within motion; it is the act of moving in an environment that is wavering and unsettled, and when used to illuminate social life it directs our attention to the fact that we move in social environments of actors and actants, individuals and institutions, that engage and move us as we move along' (Vigh, 2009, p. 420). In this sense, social navigation grants us an alternative perspective from which to observe the dynamic between agency and social environments.

Using the case of Bissau in West Africa, Vigh (2010) analyses the mobilization of urban youth in the presence of a militia group (the Aguentas). In a context of high violence and uncertainty, Vigh observes how they 'configure their actions towards hardship and instability as a current and future social fact and how they navigate the event of war towards improving life opportunities' (Vigh, 2010, p. 141). For Vigh, navigating an environment where war is 'like a rainy season' requires a focus on praxis, rather than on the war itself. Praxis refers to the practical and embodied knowledge that individuals use to navigate their social and material environments. Through praxis, individuals transform their possibilities by tactically manipulating rules, systems, or structures (Vigh, 2010, p. 155). The intersection between agency and structure is where praxis is constantly shaped (Vigh, 2010, p. 157), as it is deeply intertwined with the physical and material dimensions of everyday life. Praxis involves the use of body and senses, as well as tools and other physical objects for navigation. In some cases, physical structures (i.e. bars, tunnels) serve as instruments to deal with adversity, while in others, these same spaces may be where risks are found. This latter point is what Vigh refers to when he talks about 'movement within movement' (2009, p. 420). Analysing moving structures and the praxis executed within them enables us to identify and understand forms of endurance in the daily lives of miners in La Rinconada.

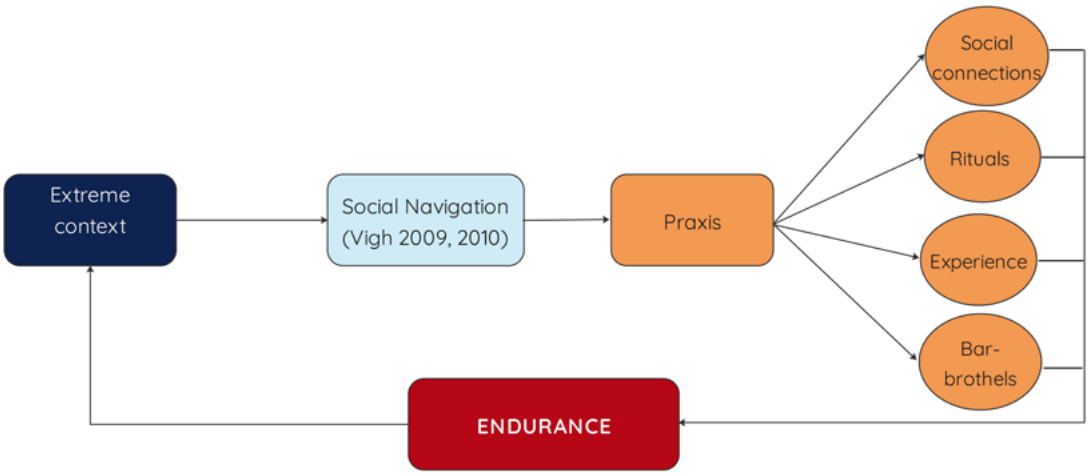
On the other hand, social navigation considers social connections. By analysing social connections, it is possible to map their multidimensionality in the spaces they occupy. In the case of La Rinconada, these connections are relevant because they open up the possibility of entering the mining industry, acquiring experience, and achieving a work reputation. Moving away from the traditional binary of those who have power and those who do not (Vigh, 2010, p. 155), social navigation understands that power is an interchangeable experience. According to Jackson (as cited in Vigh, 2010) power 'may be considered a process of governance and adjustment between self and other … in which individuals adopt strategies to avoid annihilation, as well as to achieve some sense of governance of their own destiny' (p. 156). Power is exchanged from actor to actor, according to their social position and the spaces in which they operate. In La Rinconada, those who hold positions of authority inside the mines (head of the tunnel concession also known as *contratistas*, engineers, master drillers) often have more power and influence than miners in the lower ranks (helpers, drillers, cleaners).

Rituals represent a significant praxis both within and beyond the confines of the mining tunnels, serving as mechanisms to invoke good luck and protection. Rituals are essential to navigate in La Rinconada, as without them, instilling a sense of hope amidst the inherent dangers of thw work inside of the tunnels.

Experience, is considered a form of praxis for which miners can escalate and endure within the power hierarchy based on the practical utility of their expertise. However, these power dynamics undergo transformation beyond the workplace, particularly within bars.

In these settings, the traditional distinctions between high-ranking and low-ranking workers merge to form a consolidated power structure, often to the detriment of women who become targets of gender-based violence. In this sense, male figures exercise economic power over those women who work offering sexual services and who are often victims of sex trafficking (see figure 1).

Figure 1. Endurance: concept formulation



Source: Figure elaborated by first author.

Finally, while social navigation contemplates the present, it does not disregard the importance of the future. It considers the future as part of the 'social imaginary' (Vigh, 2009, p. 425), which guides the goals and desires of the inhabitants of La Rinconada. These goals reinforce the struggle and endurance in an uncertain present.

3. Methodology

The present study aims to construct a comprehensive concept of endurance, grounded in empirical data from La Rinconada, and to elucidate the factors that motivate miners to remain in this challenging environment. To accomplish these goals, the analysis of endurance will be guided by two primary research questions:

RQ1. How can the theoretical framework of endurance be conceptualized and applied to the extreme context of La Rinconada, based on empirical data?

RQ2. How do miners endure the extreme context of La Rinconada?

To answer these research questions, we opted to use a mixed methods approach (Greene et al., 1989; Schoonenboom and Johnson, 2017) that 'combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration' (p. 108). Qualitative methods were used to arrive at a full description of the case study and investigate the reasons behind the endurance phenomenon. Despite conducting multiple in-depth interviews, the researcher faced a substantial high-risk exposure in accessing a wider array of testimonies. Therefore, quantitative data was incorporated to enhance the qualitative findings. This integration not only reinforced interpretations but also facilitated a more comprehensive analysis, enabling a holistic understanding of the

research context.

In addition to primary qualitative and quantitative data, we have also made use of secondary data, such as document reviews and online sources (newspapers, reports, and audio-visual sources). The utilization of secondary data served as a means to scrutinize and assess existing information pertaining to La Rinconada. Additionally, it helped to ensure consistency when analysing the journey of miners before their arrival at La Rinconada. This information was important to answering the first research question. By analysing miners' backgrounds before arriving at the mines, we were able to obtain an overall perspective on their reasons to enter and, later, to endure in La Rinconada.

Finally, to give sense to our data interpretation and support our field findings we devised a theoretical framework that relies on the concept of social navigation, introduced by Henrik Vigh (2009, 2010). This has mostly helped us to explain the 'how' of endurance, by looking at how miners navigate the complex context of La Rinconada.

3.1. Justification for the study case

In 2016, the first author of this paper decided to conduct research on the issue of sex trafficking in La Paz, Bolivia. Initial fieldwork provided information on one of the largest sex-trafficking hotspots connecting Bolivia and Peru: the mining area of La Rinconada. Since then, the first author switched her topic of research and conducted fieldwork between 2016 and 2017, focusing on gender-based violence and masculinities in La Rinconada (Robles, 2017). This prior experience influenced the desire to continue researching La Rinconada's context from different approaches, such as the one we are presenting through this work. Moreover, during the first research experience (2016, 2017), the academic sources consulted were scarce. Unfortunately, little has been written about La Rinconada from an academic and critical standpoint. Although quite well known locally, most attention to La Rinconada comes from local news and some non-governmental organizations' (NGO) consultancy reports. Since 2015, foreign organizations and researchers have looked at issues regarding illegal gold flows from La Rinconada into Europe and the US,[1] and medical hypoxia in miners as a result of extreme working conditions at high altitudes. Similarly, numerous foreign reporters, photographers, and filmmakers have arrived in La Rinconada to portray the harsh reality of the town.

To address the lack of academic research on what we believe is an important case of study for ASGM in Peru and throughout the world, we felt the need to contribute to this literature with an anthropological perspective that could bring a richer understanding of La Rinconada, while adding a valuable case study to the literature of ASGM in Latin America. Additionally, we hoped that our work could be used by policymakers who are in pursuit of a deeper understanding of the local realities of ASGM in the Peruvian Andes.

3.2. La Rinconada as an extreme study case

ASGM case studies have portrayed tough realities with, among other things, harsh and dangerous working conditions (Bryceson and Geenen, 2016; Verbrugge and Geenen 2020; Zabyelina and Van Uhm, 2020), organized crime and corruption (Hunter, 2019; Wagner and Hunter, 2020; Crawford and Botwey, 2020), prostitution (Bryceson et al., 2013; Mayes et al., 2015), and exposure to mercury (Esdalie and Chalker, 2018; Smith, 2019; Taux et al., 2022). La Rinconada encapsulates these characteristics while also embodying elements of an extraordinary yet alarming context. The convergence of multiple features paints a picture of heightened risk and extremity within the ASGM domain. Each of these attributes, as outlined below, enables us to

[1] A report linking La Rinconada with a Swiss gold refinery, was published in 2018. See: https://www.gfbv.ch/wp-content/uploads/bericht_gold_englisch_maerz_18.pdf

place this case study within the paradigm of an extreme case study (Flyvbjerg, 2006; Starman, 2013). According to Flyvbjerg (2006; 2011), extreme cases provide insights into unconventional situations, often revealing more information by activating a wider range of actors and underlying mechanisms. They serve as fertile ground for theory development, helping researchers push the boundaries of existing theories and develop new conceptual frameworks capable of accommodating previously marginalized phenomena (Flyvbjerg, 2011 p. 307).

Situated in the Andean highlands at an altitude of 5,400 meters, La Rinconada experiences temperatures ranging from -6°C to 9°C and frequent rain and snowfall. Inhabitants endure recurrent illnesses due to inadequate housing and extreme cold exposure. Basic services are lacking, with potable water, sewage systems, and electricity absent. Pollution, exacerbated by mercury contamination in glacier-fed water sources and inadequate waste management, poses significant health risks to both local and downstream communities. Moreover, contaminated waters containing mercury from the tailings are discharged into the river basin that feeds into Lake Titicaca.

The social and cultural dynamics are intricate, as mining carries deep spiritual meaning for the primarily Aymara and Quechua inhabitants. However, certain controversial rituals and practices, like human sacrifices, are often associated with gender-based violence and conducted within the mines during gold extraction. These occurrences underscore the cultural distortions and pervasive exploitation within the community.

Crime and the murder of miners add another layer of complexity to La Rinconada's extreme conditions. Theft, violence and death are prevalent both in the town and underground tunnels every hour of the day. Alcoholism, exacerbated by the presence of bar-brothels and justified by cultural beliefs, contributes to social unrest and exploitation, particularly affecting young women who are coerced into the sex trade. Entertainment is directly connected to the consumption of alcohol and sexual services, held by hundreds young minors who are forced into prostitution by sex traffic mafias.

Ultimately, gender inequality and the exploitation of women miners further underscore the extreme nature of La Rinconada. Women miners tasked with labor-intensive work in cold harsh conditions, face discrimination and exclusion from formal mining activities due to cultural beliefs and gender stereotypes.

Despite the harsh living conditions not uncommon in ASGM areas, La Rinconada stands out for the multitude of hardships and risks present in a single mining community. Such a reality offers possible explanations to miners' agency and forms of navigation related to their decision to endure in such circumstances. Therefore, the case study of La Rinconada has the capacity to offer abundant information that enables the advancement of novel concepts within the ASGM literature. By leveraging the autonomy that an extreme case study provides to the design and methodological framework, we were able to introduce and develop the theoretical construct of 'endurance'. To expand on this concept we primarily relied on the analysis and comprehension of our empirical data. Subsequently, we scrutinized various theoretical approaches that could substantiate our argument and provide a strong foundation for our case.

3.3. Target population and sample

The target population of this research was mine workers from La Rinconada, both male and female. The miners were aged from 16 years old (the youngest respondent in our dataset) to 66 years old (the oldest respondent in our dataset). For the quantitative data, the sample targeted 150 workers. For the qualitative data, in-depth interviews were conducted with 14 key actors: ex-local authority, *contratistas*, mine workers, *pallaqueras* (women miners working as rock pickers), and ex-workers from the Corporación Minera Ananea S.A. (Ananea Mining Corporation).

3.4. Quantitative

3.4.1. Data collection

The primary technique for collecting the quantitative data was a survey, containing items in different formats: multiple choice questions; self-assessment items; choices measured on a 7-point Likert-type scale from 'strongly disagree' to 'strongly agree'; and closed and open-ended questions. The survey consisted of 121 questions, divided into different sections: socio-demographic background, economic background, experience in gold mining, labour relations, labour conditions, production, and revenues. To collect this data, a team of ten surveyors was hired. The great majority of the respondents were male mine workers; with only five *pallaqueras*. The survey provided essential information on miners' profiles, which would not have been possible to obtain through in-depth interviews. Relevant quantitative information for this paper was: miners' rural background; the type of economic activities they took part in before entering the mines and while working in the mines; the age of entry to the mines; the type of positions they occupy; if they are often promoted to higher positions, or if they remain in the same ones; their mobility inside and out of La Rinconada; their main risks and health concerns; and their issues with alcoholism and prostitution.

3.4.2. 4.4.2. Data analysis

Data analysis included descriptive statistics for all the variables the survey provided. Since the data set contained a large amount of information with a wide format of responses, descriptive statistics facilitated its visualization and enabled a simplified interpretation. Frequency distribution, central tendency, and variability were analysed for each question. Cross-tabulation for more than two variables was conducted to observe and analyse correlation. When necessary, new variables were created through cross-tabulation. Finally, significance in correlation was evaluated by performing a chi-square test.

3.5. Qualitative

3.5.1. Data collection

Qualitative data consisted of in-depth interviews and ethnographic observation. Additionally, participant observation was one of the main research tools used since access to interviews proved to be challenging. Written and voice notes were used to record daily observations.

The data was collected by the first author in three phases: 2016, 2017, and 2019. During these years, snowball and convenience sampling were used. Visits to La Rinconada were done intermittently to limit risk exposure. When the author was not in La Rinconada, she would spend time in the city of Puno, where interviews were coordinated with miners and *contratistas* who had coincidentally travelled to Puno city (people in La Rinconada are used to travelling to Puno city, since it is the capital of the region, where their relatives and friends reside). Additionally, three remote in-depth interviews with *contratistas* from La Rinconada were held by both authors, in 2020 and 2021, from their respective locations (Brussels and Lima). The identity of the informants remained anonymous (unless agreed otherwise) and pseudonyms have been used instead.

It is important to highlight that La Rinconada is considered a high-risk area because of the great number of crimes that occur on a continuous basis. Entering the area as an outsider without proper connections could cost one one's life. In this sense, key informants, such as local authorities, *contratistas*, and mine workers, only agreed to be interviewed when the researcher was introduced by another contact who they fully trusted. The fourteen inter-

views mentioned were recorded and transcribed; however, there were several conversations that could not be recorded. Workers and inhabitants of La Rinconada are rather reserved when disclosing information to outsiders, perhaps because it was presumed that outsiders could be state auditors in disguise or 'foreign' delinquents known as '*primos*'. In the local context, *primos* is the term used to identify thieves who commit crimes within La Rinconada, stealing goods from residents. The apprehension towards state auditors stems from the fear that they may uncover irregularities in the mining operations in La Rinconada. Simultaneously, there is concern about '*primos*' mapping working areas to strategize and execute robberies, making them a source of anxiety for the community.

Being a female researcher possessed advantages that the first author noticed while in La Rinconada. For instance, as a female there were less likelihood of being thought a state auditor or a delinquent. Nevertheless, it also placed the researcher in a vulnerable position in terms of gender-based violence, which is very frequently experienced by women in La Rinconada. On two occasions, the first author received direct verbal threats from miners demanding that she leave the mining area or she would face consequences. Moreover, verbal harassment and sexual insinuations were made on several occasions by men on the street or after engaging in conversation with a mineworker. These were all factors that, as mentioned above, complicated the access to in-depth interviews. Building a network of informants required meticulous care. Consequently, the number of interviews (in particular those that were recorded) were limited.

3.5.2. Data analysis

Qualitative data was analysed using content, narrative, and thematic analysis methods. In-depth interviews were transcribed and coded through N-Vivo. They were divided into categories based on age, gender, the working position that each interviewee occupied (miners, *contratistas*, *pallaqueras*), and duration of working experience.

To grasp the emic perspective of those observed and interviewed in La Rinconada, the authors relied on their in-depth understanding of the national cultural context, as both are of Peruvian nationality, with work and field research experience in the rural areas of the south of Peru, and specifically the region of Puno. Moreover, the first author was raised within the Andes area of Bolivia and Peru. She had resided for two years in Puno and worked with rural communities of the region. She understands the Andean culture, not only because of her work experience, but because of her family, whose ethnic backgrounds are Quechua and Aymara.

To avoid adopting a biased perspective, the interpretation of the findings and analysis of the field were discussed with other professionals who had conducted research in La Rinconada (professors from the University of El Altiplano and the team of Expédition 5300 from the University of Grenoble – the latter had worked for 4 years in the area). To verify sensitive information and testimonies on issues such as delinquency, gold, human sacrifices, and sex trafficking, a triangulation method was used. Additionally, our final observations and analysis of this paper were discussed and validated in 2021 and 2022 with virtual online interviews held with three miners and eight *pallaqueras* from La Rinconada.

Finally, responses to open questions in the survey dataset were considered as part of the qualitative data. Open responses enabled us to identify or confirm patterns of repetition that were previously observed in the interviews, or vice versa.

4. Describing the extreme context of La Rinconada

Displayed in Figure 2 below is an image taken by Eugenia Robles, capturing a mining road situated at an altitude of 6000 meters. The scene depicts a couple of miners and a pallaquera carrying rocks on her back. Subsequently, these rocks are transported to one of the numerous ball mills present in the town.

Figure 2. Mining roads

Source: Eugenia Robles, 2019

4.1. Demographics

La Rinconada and Cerro Lunar de Oro are two mining towns located in the district of Ananea, within the province of San Antonio de Putina, situated in the department of Puno. Because of their proximity (only a five-minute drive apart), Cerro Lunar de Oro is considered and referred to as part of La Rinconada. The town of La Rinconada is situated in the Andean highlands at an altitude of 5,400 meters, adjacent to glacier-capped mountain peaks. The most prominent mountain is called Nevado Ananea, referred to locally as Nevado Awichita ('Grandma's Mountain', in the native Aymara language) or La Bella Durmiente ('Sleeping Beauty'), because its shape resembles that of a recumbent woman. The inhabitants of La Rinconada confront a significant challenge in enduring extremely low temperatures, ranging from -6°C to 9°C, compounded by rain and snowfall throughout the year. The majority of households are constructed from corrugated aluminium, a material that does not offer sufficient insulation to cope with the extreme cold climate. As a result, workers and the general population report recurrent illnesses such as bronchitis, pneumonia, respiratory tract infections, and urinary tract infections – the latter in the case of women miners (Robles et al., 2022). The town's geography is rugged and difficult to navigate. Since the majority of mining the tunnels are located near the peaks of the snowy mountain, miners have to walk on slippery and muddy narrow paths over precipices to reach to their working areas (see figure 3). Accidents (e.g., landslides, rock falls) on the way to the mines and inside the tunnels are frequent.

According to the national population census of 2017 (INEI, 2018), La Rinconada has an estimated population of 8,294 inhabitants. However, this figure only accounts for people who are officially registered. As a gold mining area with high mobility and migration, the unofficial number of inhabitants is estimated to fluctuate between 40,000 and 60,000, depending upon

seasonality and fluctuating gold prices. It is estimated that 63% of this population is composed of males and 37% females (INEI, 2018). Males arrive at an average age of 24 years old and the women at an average of 25 years old (Robles et al., 2022).

Figure 3. Top of the snow mountains

Source: Eugenia Robles, 2019

4.2. Andean cosmovision and rituals

According to our data, around 90% of the population come from the Aymara and Quechua communities and are heavily attached to their traditions. These indigenous communities live by following the Andes cosmovision.[2] Within this perspective, nature is the domain of Mother Earth, widely known as Pachamama (pacha equals time, space, magnitude, quantity, quality, earth; mama equals protective and providing mother). Pachamama is also referred to as 'La Santa Tierra' (Holy Earth). Mother Earth should not be thought of as an entity located in the soil or ground; rather, she is everything that composes planet Earth (Huarachi Revollo, 2015, p. 14).

Mining and gold in the Andes have a spiritual meaning since they are related to the extraction of natural resources. In other words, mining is considered an activity that extracts the goods that Pachamama provides. For Aymara and Quechua communities, humans and nature are in constant communication and reciprocity. Communication between humans and spiritual entities is performed through rituals and offers involving prayers, cigarettes, coca leaves, and animal sacrifices (with llamas). Through rituals, miners ask permission from Pachamama to work in the mine, and they pray for protection, health, and above all, luck in finding gold.

However, as an extreme form of ritual, locals comment on the practice of human

[2] The Andes cosmovision entails a philosophy of life where all the elements of the cosmos are connected, collectively and individually, to nature. This connection is nurtured by symbols and entities that have endured, from generation to generation, by the oral tradition of the Andean indigenous communities (Alvarez Rivera, 2021).

sacrifices[3] inside the mines of La Rinconada. According to what locals say, human sacrifices are performed as offers for the chinchilico (a greedy gnome) and the Devil of the Mine (known as El Tio de la mina). The figures of the Devil of the Mine and the chinchilico are regarded as underground guardians. A former local government employee cited human sacrifices as potentially linked to the disappearance of women in La Rinconada, during an interview conducted in 2016:

> I have seen everything here. All kinds of things happen here. Sometimes those women's bodies appear in sacs on trash piles. There they are and nobody notices because it smells strong, right? They [the women] disappear. Perhaps they are taken to make an offer (un pago), who knows. Others are getting pregnant and giving their babies for that purpose. The situation is quite serious here.
>
> *(Personal communication, La Rinconada, February 2016)*

Although now tied to the idea of Pachamama, it is important to clarify that rituals of this kind do not form part of the Andes cosmovision. According to Jose Morales Serruto, a Peruvian historian specializing in the Andes region:

> Sacrifices in the Andes are done with llamas as these animals are the only ones considered virtuous to enable communication between humans and divinity. In the past, rituals were not individual, but rather communitarian. I have not seen it, but I have heard of a lot of these human sacrifices in different places in the Andes. Human sacrifices are a distortion of sacrifice rituals made with llamas. These type of individualist sacrifices arose after colonization. For Spanish colonizers, wealth and abundance were important; to achieve them, they made pacts with deities like the devil. This is how this [human sacrifice] was introduced into the mines.
>
> *(Interview, historian Jose Morales Serruto, Puno, October 2022)*

Similarly to Morales Serruto, Van Kessel argues that with the colonization and westernization of the economy in the Andes, Aymara and Quechua people were subjected to new forms of labour organization and technologies. Mining became one of the main pillars sustaining the colonial economy, introducing new norms that compartmentalized the Andean cosmovision and individualized what once was communitarian. The individualistic perspective of this type of economy developed forms of rituals that combined with individual desires to achieve progress. These rituals had less to do with Pachamama and more with the materialization of capitalism (2000, pp. 28–30).

Though this cannot be evidenced, the speculation in town is that human sacrifices are important in La Rinconada. In conversations with locals, they explained its symbolic importance: 'the bigger the offer, the greater will be the reward.'[4] That is, the offer of a human life could bring better luck in finding gold. Moreover, they mentioned that there is a preference for 'offering' young people (especially women) and that the disappearance of girls from bar-brothels could be related to these offerings.

4.3. Basic services and pollution

The provision of essential services in the town is precarious, as La Rinconada lacks fundamental amenities like potable water, a sewage system, and electricity. The absence of a water supply infrastructure has forced the villagers to improvise with house-roof-wiring systems, through which they receive small amounts of water from rainwater and melting snow from pipes connected to the mountain's glacier (see Figure 3). A recent study by the Universidad

[3] International and national journalism has covered this topic and published different reports. See: https://theprisma.co.uk/es/2022/07/18/la-rinconada-y-el-sacrificio-de-la-carne-inocente/ https://www.elmundo.es/cronica/2019/07/04/5d1b43a621efa0c5078b46d5.html
[4] Personal communication with a local from La Rinconada.

del Altiplano in Puno, has evidenced moderate amounts of mercury in the glaciers from where water is supplied to the population (Cuentas Alvarado and Pacheco Tanaka, forthcoming). Moreover, a nearby glacial lagoon, Laguna Grande, flows into the Ramis river basin that is connected to Lake Titikaka. Studies conducted by the universities of the Altiplano and Montana Tech, with water sampling in the Crucero River, note high mercury levels in the headwaters of the Ramis basin (Guerrero Bohorquez and Zavala Carrión, 2006). Both the Ramis Basin and Lake Titikaka water are used by thousands of rural families in Puno for agriculture, livestock, and personal consumption.

Figure 4. Water supply system at the glacier

Source: Cédric Gerbehaye, National Geographic 2022

The lack of a sewage system in La Rinconada contributes significantly to contamination, as all human waste is directed into the streets (see Figure 4). Some improvements have been made to one of the main streets, where the local government has built a concrete drainage channel that funnels waste to the town's outskirts. But this hardly compensates for the large amount of pollution to which the population is exposed on a daily basis. In addition, when the weather is dry and windy, most of the dirt on the ground is inhaled by the inhabitants, leading to problems of infection by coli bacteria (Escherichia coli) that are often found in human and animal faeces (Robles et al., 2022).

Figure 5. Miners ascending the polluted road from the town to the mines

Source: Eugenia Robles, 2017

4.4. Crime and alcoholism

Figure 6. Community justice: a warning for robbers

Source: Eugenia Robles, 2017

Crime and delinquency pose significant challenges to the daily lives of La Rinconada's inhabitants. According to Robles et al., (2022), 32% of workers identified crime as one of the main issues affecting their well-being. Theft and other criminal activities occur at all hours of the day, both in the tunnels and in the town. Miners are often targeted by armed robbers on the streets, especially after returning from work or while working in the tunnels. Thieves and gangs frequently steal valuable minerals, such as rocks or gold nuggets, particularly on payment days. Some of these criminals are said to be former miners who were not paid in the past or who did not receive the amount they were expecting.[5] There are also delinquent groups, known as los primos (the cousins), who arrive from other cities with the intention of committing robbery in La Rinconada. Thieves often wear the same jumpsuits as the miners, enabling them to blend in and commit crimes without drawing attention to themselves. Due to a sense of insecurity, the community has taken alternative measures to convey a message of collective protection (see Figure 5). In certain streets, fake miner dolls are displayed as a symbolic warning to potential criminals, signifying a form of communal justice. This implies that if someone attempts to commit a crime, the residents themselves will assume responsibility for administering punishment to the encountered thief.

In addition to crime, alcoholism also contributes to the high levels of violence and insecurity in La Rinconada. According to Robles et al., (2022), 35% of workers identified alcoholism as one of the major issues affecting the town. Alcohol is provided in the multiple bars in town. Bar-brothels, locally known as prostibares,[6] are one of the most lucrative businesses since they are one of the few places of entertainment in La Rinconada. The local population refers to them as 'the other gold mines', because of the significant income that they make by selling alcoholic beverages and offering the sexual services of women.

> The bars are evil, but they are a good evil in La Rinconada. Because if these bars didn't exist, then I think that here, with all the crime, there would be a lot of rapes. Mostly rapes. Because when the delinquents don't know where to satisfy their needs, then what they would do? ... they would grab the ladies. There are several schoolgirl students here. There are young ladies who work in shops, and restaurants. There are young mothers. So I think that we would be more harmed if bars were not open.
>
> *(Interview with a miner, La Rinconada, June 2022)*

The consumption of alcohol is not only a form of entertainment for workers, it also forms part of a local belief that miners who consume alcoholic beverages will be rewarded with gold. In a focus group undertaken with women miners, two of them referred to alcohol consumption as follows:

> *Woman 1*: I have heard that comment quite a lot here, they say that men are supposed to have a lot of women or drink, have [sexual] relationships with other women, and that's how the gold comes to them.
>
> *Interviewer*: Do you think this is true?
>
> *Woman 1*: In my opinion, from what I have seen, it seems that way too. But I don't think it should be like that.
>
> *Woman 2*: Everything the colleague says about the comments is true; the more men get drunk, the more women they have, and the more gold they find. If they do not drink and are not womanizers, then they cannot find gold. But that's not the case, because I am a pallaquera [women miner] and I also find myself working hard and sacrificing myself,

[5] Interview with Yesica Belisano, former staff of AMC.
[6] Prostibares are bars in Peru where both prostitution and alcohol are offered. The word in Spanish comes from a combination of the words 'prostitution' (as shortened to prosti) and bars (bares). In this article we have opted for a translated English version of our own construction that equates to a similar combination in Spanish: bar-brothels.

> but it's not always necessary that I have to be a drunkard or go from man to man. That's not necessary. But if you work hard there's gold. There is no reason for them [men] to be walking around like that. That's very wrong; it's a lack of respect for the men's families. There is no more respect in the home. It's very bad, going to drink and having several women for gold ... that's very bad. I don't get drunk, I don't walk from man to man, but I find more gold.
>
> *(Interview with two Pallaqueras, La Rinconada, June 2022)*

4.4.1. Bar-brothels women and sex trafficking

Women working in the brothels, most of them minors, are victims of a sex trafficking ring. They are brought to La Rinconada with the promise of a different job and better income opportunities. Yet, upon their arrival, they are forced to work offering sexual services to miners in the bars. These young women are between 14 years old and 25 years old.[7] They are referred to as damas de compañia (escort ladies) or señoritas (misses) and their work is selling boxes of beer in the bar-brothels, while accompanying and drinking with miners. After consuming a few boxes of beer, miners can request the girls' sexual services. Each bar-brothel has an average of ten girls.[8] In interview in 2016 the head of the police in La Rinconada said that the existence of sexual services was voluntary and legal[9]. However, the conversation held with the medical staff at the local health care centre that same year indicated that it was difficult to know whether these women were there voluntarily[10]. It was mentioned that many of them would refuse to speak about their working conditions out of fear of retaliation. In addition to these testimonies, several reports from journalists, newspapers, and international organizations have been published revealing the existence of human trafficking of minors in La Rinconada (United Nations, 2012; Blanco and Marinelli, 2017).[11] The working conditions of these women in the bars remain concealed from the public eye, posing a significant barrier to obtaining detailed information on the violation of their rights.

[7] Interview with police officer, June 2016.
[8] Interview with police officer, June 2016.
[9] Interview with Head of the police body, June 2016
[10] Interview with resident doctor at the local health center, June 2016
[11] For some investigative journalism reports on this matter see: K. Chacón (2021). Trata de personas se consolida en Puno alrededor de la minería ilegal y la venta de cerveza. Retrieved 14 January 2021, from https://ojo-publico.com/1394/trata-de-personas-por-la-mineria-ilegal-crece-en-frontera-con-bolivia and B. Miranda (2021). Las economías perversas del crimen organizado Minería ilegal, trata y explotación sexual | Nueva Sociedad. Retrieved 14 January 2021, from https://nuso.org/articulo/las-economias-perversas-del-crimen-organizado/

4.5. Women miners and gender inequality

Figure 7. Pallaqueras picking rocks on the desmontes

Source: Eugenia Robles, 2019

The challenging working conditions in La Rinconada extend beyond male miners, impacting women miners as well. Pallaqueras,[12] in particular, engage in the demanding task of picking and selecting rocks with traces of gold from the rock dumps left by the contratas[13] (see Figure 6). Their expertise in this selection process is built through shared experiences, where women collectively contribute and exchange knowledge to identify rocks containing the most gold. Pallaqueras help each other to perform the arduous labour that requires them to work for about six to eight hours a day on the large rock piles, while withstanding low temperatures with rain or snow (see Figure 7 below). They start working early in the morning (around 4 a.m. to 5 a.m.), wearing a skirt, wool trousers, and a blanket to cover their legs. To protect themselves, they use rubber gloves, an apron, and sometimes a helmet. In spite of their participation in the productive chain, miners do not refer to them as women miners, and their labour is not considered part of the mining production. Since this type of work does not involve the strength and hardship of the work inside a tunnel, miners consider it to be more a recycling method than mining-related work.

[12] Pallaquera derives from the Quechua Pallaq which means 'to pick'.
[13] A contrata is a mining concession managed and operated by a contratista (Miyagusuku and Vargas, 2009).

Figure 8. A Pallaquera selecting rocks in her working area

Source: Eugenia Robles, 2019

In addition, women are forbidden from entering the mine tunnels, since it is believed that they are bearers of bad luck. Miners claim that if a woman enters the mine, Awichita (grandma in Aymara) could get jealous, and take the gold away from them in revenge. This notion is connected to the idea of Pachamama as a female figure that provides fortune for and engages with male miners. If miners betray this relationship, they will be punished. This cultural prejudice (Van Hoecke, 2006) is part of a well-known belief that permeates all mines in the Andes of Peru and Bolivia (p. 266), which deprives women miners of economic opportunities and promotes gender inequality.

5. Mining and labour in La Rinconada

5.1. Historical background

Figure 9. View of La Rinconada from the side of the mining areas

Source: Eugenia Robles, 2019

La Rinconada began to be exploited in 1945 by a small group of miners who discovered the mineral potential of the area. By the 1950s, the popularity of gold mining had grown, attracting more workers who invested in the mine and increased production. It is likely that mining operations continued at a slow pace during the 50s and 60s, attracting the interest of several investors. In 1979 an investor called Tomás Cenzano Cáceres acquired several mining concessions and constituted the Ana Maria Gold Mining Company S.A. In 1993–1994, Cenzano Cáceres decided to sell 51% of his concessions to Metales y Finanzas S.A. (METALFIN) and 49% to the mining cooperative San Francisco de La Rinconada Ltda.' In 1997, both companies agreed to create what is now known as Corporación Minera Ananea S.A. (hereafter referred to as AMC for its initials in English) (García Larralde et al., 2008).

AMC owns the concessions for the following different mining areas located in La Rinconada: Unidad Económica Administrativa Ana María S.A., Gavilan de Oro N°1, and Rinconada, which together cover an area of approximately 1,137 hectares (Liberato Cueva, 2019).

AMC's job is to administer the work of the contratas. In this sense, a contratista could be considered a concession owner, however, they are not holders of the concession title. Mining concessions are registered under the name of AMC. Contratistas, as revealed in interviews[14], perceive themselves as shareholders by paying a monthly fee to AMC. This fee guarantees the administration of legal regulations for three distinct cooperatives: Cooperativa San Francisco, Cooperativa Minera Cerro San Francisco, and Cooperativa Minera Lunar de Oro. Each cooperative, hosting an average of 150 contratistas, collectively accounts for a total of 450 AMC-affiliated contratistas.

[14] Interview with contratista, June 2016

AMC also undertakes the task of monitoring and overseeing the operations of the contratas. This oversight ensures that each contrata adheres to the boundaries of the designated work areas and provides regular updates on their activity. AMC also conducts ongoing assessments of the number of workers employed by each contrata, maintains a record of active and inactive contratas, and convenes a monthly meeting with the contratistas to discuss matters related to production and any relevant legal, political, or technical issues. Thus, AMC's supervision of the contratas plays a pivotal role in maintaining a productive and active mining operation.

Although AMC is an apparently established corporation, it has not yet finished its process of formalization and does not appear in the formalized mining areas registration list[15] of the Ministry of Energy and Mines (MINEM, 2018). According to local newspapers (Agencia Peruana de Noticias, 2012; RPP, 2012), AMC agreed to formalize in 2012, and miners from the corporation signed a contract of formalization with the government. This first step toward formalization was possible because of new legal regulations passed by the government of Ollanta Humala (2011–2016) that allowed artisanal and small-scale mining operations to continue during the process of formalization. It was only in 2009 that the General Mining Law of 1992 (Ley General de Mineria) incorporated a special legal regime for artisanal and small-scale mining (Law of the Formalization and Promotion of Small and Artisanal Mining No. 27651) (Wiener Ramos, 2019). Under these regulations, the initial formalization processes had a deadline that could be extended for a year. In an interview with an authority of AMC,[16] it was mentioned that in the case of La Rinconada this extension has been granted for 11 years in a row.

The continuous process of formalization appears to be putting a significant strain on the local budget. The latest data on gold production from La Rinconada suggested that in 2008 the annual gold production was estimated at 2.4 tonnes of gold per year, with a gross value (at current prices) of €54 million (Garcia Larralde et al., 2008). It is possible that the current figures for gold production in La Rinconada have decreased slightly over the past decade. However, obtaining an accurate estimate of the total amount of gold produced is challenging, given that production quantities differ among workers, and such information is seldom revealed. Nonetheless, it is crucial to assess the extent of the mining royalties that the Peruvian state loses and the amount of earnings from the mining activity that go untaxed. In 2019, the Ministry of Economy and Finance (MEF) reported that the district of Ananea received 355,396 S./ (approximately €82,835) in mining royalties from the thirty-eight registered and formalized mining areas mentioned earlier (MEF, 2019). This highlights the potential benefit of extending the formalization process in AMC, although further research is necessary to confirm this. Additionally, it underscores the significant amount of money involved in mining at La Rinconada, which may motivate various groups to maintain the informal economy and avoid government intervention or conflicts.

5.2. Type of mining

The mining operations conducted in La Rinconada primarily involve underground excavation and rock picking. The former is strictly undertaken by male miners; the latter by pallaqueras. Underground mining activity involves a combination of technology and machinery, such as excavators, trucks, crushers, tractors, and loading machines, as well as more artisanal tools, such as hammers and chisels. The main entrance to the mine tunnels is called boca mina (pit mouth) and the multiple paths inside the tunnels are called galerias. The average extension of these tunnels is around 5km. because of the lack of coordination in the excavations, many of the galerias intersect with each other, making it difficult for newcomers to navigate and find the correct tunnel.

[15] This list reveals the mining areas that are administrated by different cooperatives and/or companies that are legally recognized and authorized for mining operations.
[16] Interview with the administrative manager of AMC, November 2021

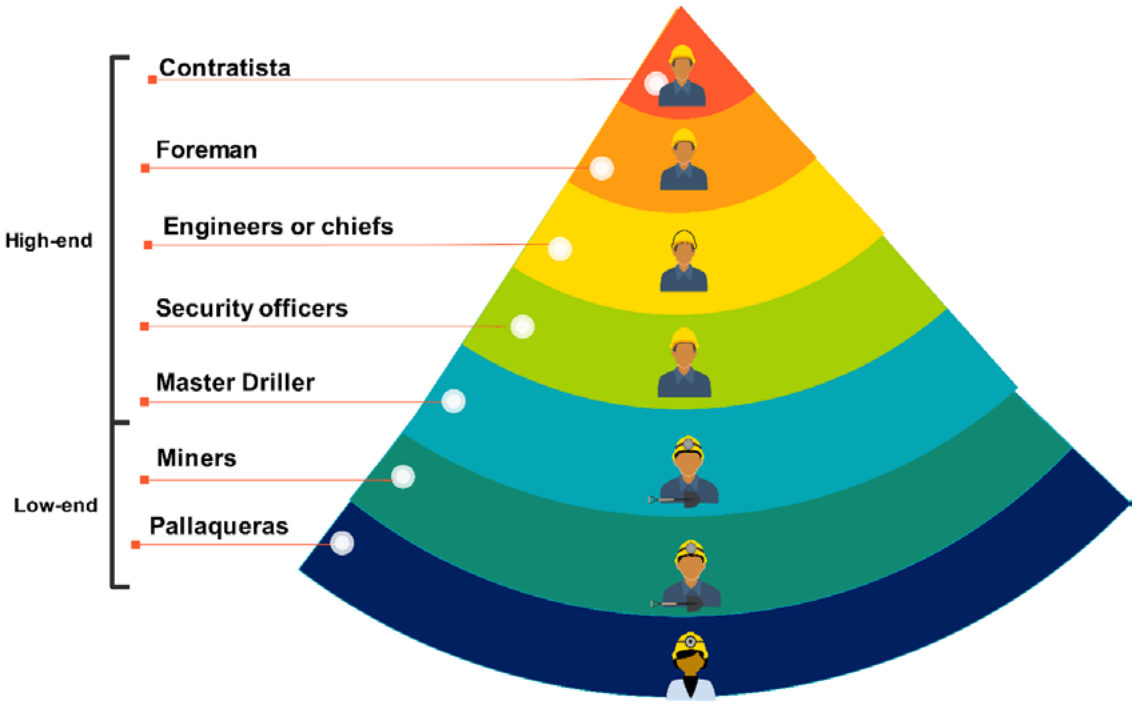
Rock picking involves collecting rocks from the desmontes (rock dumps) by pallaqueras. During times of abundant gold production in La Rinconada (2011–2012), these desmontes were treated as waste by male miners. Pallaqueras would climb up the desmontes, searching for rocks with traces of gold. However, in the past 5 years the scarcity of gold has created a new business around the desmontes as miners also use them for ore processing. In this sense, women miners negotiate rock picking in the desmontes in exchange for providing different services, such as washing miners' trucks, cleaning the mud, or fixing the roads for trucks.

5.3. Mining positions

There is a wide heterogeneity of workers' positions in La Rinconada (see Figure 9). Some positions hold more power and access to gold, while others have fewer benefits. The hierarchy of power is pyramidal. The positions are categorized into two groups: high-end and low-end.

High-end positions can be considered as part of an elite. Workers at the top of the hierarchical pyramid hold more power and authority. They are paid a share of the gold extraction, and a salary. Low-end positions are under the supervision and command of the high-end positions. They are paid under the cachorreo system (see Section 5.4) and do not receive a salary. Pallaqueras are also part of the low-end category. However, miners do not consider them part of their production chain. Pallaqueras work autonomously and have their own associations that are separate from those of the miners.

Figure 10. Labour hierarchy in La Rinconada



Source: First author's elaboration

The following sections describe the different working positions in the labour structure of the mines. The order reflects the level of importance and hierarchal position.

5.3.1. High-end positions

Figure 11. Security chief

Source: Eugenia Robles, 2019

(1) *Contratista* (contractor): head of the tunnel concession. Periodically visits the mining area or when called for an important meeting with the cooperative. Delegates the supervision of production to the foreman and/or engineers. The vast majority of contratistas were mine workers before ascending to these positions. Today many of them have expanded their earnings and invested in commerce and/or other types of businesses in other cities (mainly Juliaca), becoming small businessmen. At the time of the investigation (November 2019) there were 450 contratistas within la Rinconada, of which 200 were actively working. Some of them could be non-active due to lack of money to invest in the tunnel operations. (2) *Capataz* (foreman): supervisor of tunnel operations. Usually present in the mining area. Reports on the progress of gold extractions from the tunnel to the *contratista*. (3) *Engineers and/or chiefs*: occupy specialized positions as follows: (a) *Jefe de perforación* (chief driller), who is a constant presence in the mining area. Supervises and evaluates the work of drilling workers. Searches for possible gold veins to drill. (b) *Jefe de production* (production chief): always present in the mining area. In charge of supervising the work of the miners. (c) *Jefe de vigilancia* (security chief): always present in the mining area. In charge of organizing the safety of the workers who are distributed in the different parts of the mine, from the outside of the tunnel to the different roads inside (see Figure 10). (d) *Trabajadores de vigilancia* (security workers): always present in the mine. They control the arrival of miners to the tunnel, in order to detect the presence of thieves, robbers, or criminals. They also ensure that there is no theft of ore from inside or outside the mine tunnels, guaranteeing that everything that has been extracted stays inside the *contrata*. (e) *Maestro perforista* (master driller): has extensive knowledge of the use of dynamite and the areas to be mined. If he does not use dynamite, he will use the drilling machines for excavation.

5.3.2. Low-end positions

Figure 12: Trucks unloading rocks at the desmontes

Source: Eugenia Robles, 2019

(1) *Ayudante* (helper): in charge of carrying dynamite and assisting in the preparation of a blast. This is a position that requires previous work experience. (2) *Empatador* (bar pusher): works closely with the drill operator. He is in charge of the gun and the rod. His function is to ensure that the drilling worker remains stationary and motionless while drilling. (3) *Pisa Barras* (bar stepper): ensures that the bar that keeps the drill functioning remains stable. His function is to ensure that the drilling machine does not move. (3) *Operadores de maquina* (machine operators): in charge of operating all machinery used for extraction (trucks, drills). (4) *Producción* (production workers): collect the sacks of ore and take them to the processing plant (ball mills or cyanide pits). (5) *Limpiador* (cleaner): in charge of taking the wheelbarrows and filtering the rocks that contain gold. They make this assessment based on a visual evaluation, acquired through experience. This knowledge is passed from other co-workers or family members who have previously worked in mining. (6) *Pallaqueras* (women miners) collect rocks that miners have discarded in the *desmontes* (see figure 11).[17] Once they identify a gold-bearing rock, they use a hammer to crush it and then reserve the gold-bearing pieces for the processing plants. Although not considered by the miners as part of the production chain, the expertise that *pallaqueras* have in recognizing small traces of gold in *desmontes* is highly valuable in the mining areas. In the past 5 years, high-end workers have relied on the knowledge of *pallaqueras* to identify the large piles of rocks that contain more gold. When they observe a large number of *pallaqueras* gathered over one *desmonte*, they know that it is likely that those rocks contain more gold. Once *pallaqueras* have finished their labour, miners will take the remnant rocks to the processing plants. Yet, this is not always the case. Sometimes *pallaqueras* and miners will have conflicts because of the access to *desmontes*. To avoid that, *pallaqueras* and workers have agreed to negotiate permission through AMC to work in the *desmontes*. In this sense, AMC's

[17] A *desmonte* is a mountain of stones that has been formed from the rocks that miners have discarded because they do not contain enough gold. The desmontes are located on the outskirts of the tunnels.

role is to act as a mediator making decisions that both male and female workers respect.

5.4. Payment system: cachorreo, cuñaqueo, and cortes

Since the 1980s, thousands of miners have migrated to La Rinconada to work on temporary verbal contracts under a system known as *cachorreo* (Robles, 2017, p. 18). This system dates back to the nineteenth-century mining in the Peruvian highlands and was originally known as *huachaca*. Under *huachaca*, workers had the right to take a piece of mineral for themselves at the end of each extraction period. This was an efficient mechanism to attract workers only when high-grade veins (mineral veins with high amounts of gold) were being exploited. It also enabled the owners of mines to share the cost risks with the miners. In that sense, if the extraction was not successful, mine owners were not obliged to pay the miners (Contreras, 1986, pp. 6–8).

Under the current *cachorreo* system, miners work 28 days for the *contratista* without any kind of remuneration, and in exchange, they get a day or two for themselves, which they call *cachorreo* days. Whatever amount of gold that a miner gathers during the *cachorreo* days, becomes their payment for the month. The *contratista*, or the individual responsible for overseeing tunnel operations, selects a highly mineralized area that has already been exploited for the purpose of conducting the *cachorreo*. Given that significant quantities of gold have been extracted from such areas in the past, there is a greater likelihood of a miner discovering gold during the *cachorreo*. However, such an outcome is not always guaranteed, which is why many miners place emphasis on luck as a determining factor in their success.

Cuñaqueo is a payment system similar to *cachorreo* that is provided to miners by the *contratista* before the commencement of the *cachorreo* days. The decision to grant *cuñaqueo* can be influenced by two factors. First, it may be due to the *contratrista*'s willingness, from observing that that (low-end) workers are in need of economic support. Second, low production in the *contrata*, may indicate low chances of finding gold during the *cachorreo* days. In either scenario, *cuñaqueo* provides a means of support to workers by granting them permission to find gold for a specified number of hours. The *cuñaqueo* enables miners to work outside their regular working shifts – this could be daily or weekly, depending on what is negotiated with the *contratista*. Unlike the *cachorreo*, the *cuñaqueo* operates in a designated area with low mineralization, where the chances of finding gold are relatively lower. Additionally, miners are restricted to using only a chisel and hammer, as opposed to other tools that are allowed in the *cachorreo*.

Compensation for higher-ranking positions, such as the *contratista* and chiefs, is made through cuts (*cortes*). A single cut is equivalent to drilling a 3x2 metre (width x height) surface of a gold vein to a depth of 1.5 metres. Usually, one to two cuts are extracted from the tunnel per day, and payment is made after a campaign period of around sixteen cuts. The duration of this period can last from two weeks to a month, and the payment is distributed among all the high-ranking workers in the labour hierarchy.

6. Miners' journeys: understanding the social and cultural dynamics of La Rinconada through social navigation

6.1. Miners entering the tunnel

> Right now there must be 30,000 to 40,000 inhabitants in La Rinconada. It is a refuge for the graduates [because] there are no jobs anywhere else. Before, the contratistas did not admit engineers. But now they do, because technical knowledge will always benefit them .... So people who do not have a job go to La Rinconada. You can work on anything there.
>
> *(Interview with contratista, November 2020)*

Figure 13. Miners getting ready to enter the tunnels

Source: Rodrigo Cruz, 2020 https://gatopardo.com/reportajes/la-rinconada-la-vida-de-los-mineros-en-los-andes-peruanos/

For several years, people who came to La Rinconada only required physical strength and a desire to improve their economic circumstances in order to perform the work inside the mines. To begin working as a *contratista*, it was only necessary to have a conversation with the surveillance chief and present an identification card. However, since 2017, the high rate of crime and robberies that occur in the tunnels has resulted in restrictions on accepting new workers. Currently, in 2023, it is important to be referred by a friend or family member who works or has worked for a *contratista*. Without networks of contacts, entering the mines is complicated. Therefore, access to work is subject to the interconnections that are generated inside and outside the geographical area of La Rinconada. It is necessary, even before geographically reaching the mine, to know someone who has worked there. In this sense, entrance into informal mining work is navigated from social relations and connections.

Although there are more restrictions now in 2023, La Rinconada attracts hundreds of workers every year. The flexibility that mining offers in this town is an important attraction to those who decide to enter. It is a job that only requires a verbal contract, without the bureaucratic paraphernalia that many formal institutions demand. It does not require a professional degree or formal education. While having experience may be an advantage, it is not an exclusive requirement to start work. In this context, individuals navigate in a space that welcomes them with few conditions, in exchange for the use of their labour during the work campaign. However, the flexibility to enter the workforce comes with an important condition: accepting *cachorreo* as a payment system.

The entrance to the mines is guarded by gates and security personnel. To gain access, each miner is required to complete a registration form and hand over their national identity card, which will be returned to them at the conclusion of their shift. The work schedule typically comprises four-hour shifts, with miners afforded the flexibility to select the shift or shifts that best suit their needs. An hour-long break is allocated within each shift, during which miners often consume their meals. Subsequent to this interval, a shift change ensues,

with departing miners replaced by their counterparts. The security personnel keep a close eye on each mouth pit, yet despite their efforts to monitor the entrance of miners during shift changes, their control measures seem insufficient to prevent the frequent armed robberies that occur inside the tunnels.

The act of entering the tunnels is the first encounter with risk (see Figure 12) . In light of this, the initial and foremost measure of protection employed is the ritualistic offering made to *Pachamama* addressed also as *Awichita* or *Abuela* (meaning 'grandmother' in Aymara and Spanish). Diverse altars are constructed for the specific aim of making offerings. Furthermore, rituals are conducted both in and outside the tunnels.

Rituals serve as a praxis of endurance, whereby miners exhibit their devotion to their faith in order to acquire a sense of protection and confidence prior to entering the mines. Faith is considered essential for navigating the tunnels, as it is in which the miners' safety is entrusted. Faith dresses the miner in a much more robust, impervious, and reliable uniform than the one they wear for work. It is a symbolic, mental, and spiritual layer of protection that enables the miner to enter and move around with confidence and optimism. Together with faith, luck is an unpredictable and highly coveted factor that determines the miner's fate, as without it, there is no gold. However, to summon it, it is necessary to perform the rituals. In this sense, the praxis of rituals is almost an obligation to affirm faith and call upon the luck of miners.

A designated site for offerings and petitions has been erected atop a distant hill, far from the mines' tunnel (see Figure 13 and 14). Here, three different dolls have been placed representing two *Abuelos* (grand fathers) and the *Awichita*. These dolls wear miners' uniforms, helmets, and masks. Their bodies are adorned with streamers and offerings ranging from food, alcohol, coca leaves, to even women's underwear. It is believed that women's garments, especially the underwear of a virgin woman, bring good luck when searching for gold.

Figure 14. Abuelo and Awichita

Abuelo (left) and Awichita (right). Two of the three dolls that miners revere for different petitions, gold finding being the most important. Various types of offerings ornament their bodies. Source: Norte Minero, 2021

Figure 15. Abuelo: an offering altar outside the mines

Source: Norte Minero, 2021

Inside the tunnels' entrances, several altars are also erected (see Figure 15). They usually accommodate a Catholic religious icon or a doll embodying the *Awichita* or *Pachamama*. The ritual of entering the mine involves either loud or silent prayers in which miners ask the *Pachamama* for protection, luck, gold, and other blessings. As they pray, they place offerings such as coca leaves, alcohol, cigarettes, and flowers at the feet of the representative image.

Figure 16. Altar inside the tunnel

A miner offering coca leaves to the altar of Awichita inside the tunnel. Source: Youtube screenshot taken from Project Expédition 5300, University of Grenoble, France. November, 2020

Once the entrance ritual into the mine is completed, the journey to the work areas inside the tunnel begins. Each contracting company has different work areas. In 2019, out of the 450 contracting companies, an average of 200 were active and working inside the mines. This would suggest that there were approximately 20,000 workers operating in the mines. The work areas are deep, with lenghts of over 1,000 metres. The hills where the contracting companies operate have now been excavated so many times that miners express the view that being inside the mountains feels like being in a large labyrinth. Additionally, until 2021, there was ongoing consideration regarding the potential use of dynamite to prevent unintentional collapses in sectors that had undergone multiple perforations.

Although the risk of accidents is substantial, working equipment is far from sophisticated. Miners are responsible for acquiring their own equipment and uniform, which includes a jumper, chisel, hammer, helmet, and lantern. Machinery such as an electric generator, hammer drill, wheelbarrow, and ventilation fan are provided by the *contratista*. However, these seem insufficient to protect miners from accidents. For instance, according to our data, 29% of miners signalled suffocation as a common type of accident occurring in the tunnels. The exigency of operating under conditions of limited oxygen supply is a formidable challenge when the ventilation system of the tunnels is inadequate. This is problematic for miners, not only due to the depth of the working areas, but even more so, considering that they operate at altitudes nearing 6,000 metres. Furthermore, miners must contend with the prevalence of ore dust and sulphur particles that emanate from the walls of the tunnels, which can cause chronic breathing-related difficulties. In addition to working in thin air, miners are also confronted with landslides (32%), asphyxiation (29%), floods (29%), accidents involving machinery (5%), and falls downhill (5%) (Robles et al., 2022).[18] One of the greatest risks pointed out by our interviewees involves dynamite explosions to open up new areas of exploitation within the tunnel[19]. Miners detonate the dynamite in the exposed rock, and as the fuse burns, they run to evacuate the area, seeking a safe distance. It is a hazardous practice that has, regrettably, led to the loss of numerous lives, potentially numbering in the hundreds. In addition to the risks of accidents, *los primos* are known to attack inside the tunnels, usually at night. Nevertheless, instances of armed robbery have also been reported during daylight hours. Given the perpetual darkness of the tunnels (see Figure 16), potential attacks occur at any time of the day, which is why miners are advised to be cautious toward those in their surroundings.

Figure 17. The narrow paths inside the tunnels

Source: Sebastian Castañeda, 2016 https://www.bbc.com/travel/article/20161003-the-gold-miners-who-work-for-free

[18] These falls are often caused by the narrow mountain paths that must be traversed to reach certain mine entrances, which are situated atop steep cliffs that can extend for hundreds of metres.
[19] Interview with miner, La Rinconada, November 2019

Scarcity of gold is common in the tunnels. This phenomenon known as *blanquear* or 'going blank', refers to the depletion of the gold veins, leaving the miner with nothing but an empty white void. This scenario poses a stressful and challenging situation for miners, especially when the anticipated *cachorreo* days are yet to arrive or have proven unproductive. To endure through this ordeal, miners will recur to the following praxis: request permission from the *contratista* to work under the *cuñaqueo* system and/or seek divine intervention. A significant figure in the latter approach is the gnome known as *chinchilico*, a spiritual being that is said to appear in the depths of the tunnels. Miners have reported encountering *chinchilico* in their dreams, or when they are drunk inside the mines.

The mythological figure of *chinchilico* is prevalent in the Peruvian highlands, with depictions portraying him as a gnome adorned with pointy ears and a long penis that he wears around his waist. Scholars have documented various myths regarding *chinchilico*'s requests, which range from simple desires for alcohol and coca leaves to more complex demands, such as animal[20] and human sacrifices (Ligarda Carrasco, 2016; Gianotti, 2004). *Chinchilico* is considered both generous and greedy. Extensive studies by Ligarda Carrasco (2016) reveal that this mythical creature has an intense sexual appetite, particularly for women. In La Rinconada, *chinchilico* is said to compel miners to engage in sexual acts with young girls, particularly virgins, as he purportedly favours young blood. Compliance with *chinchilico*'s demands is said to result in good fortune, protection, and gold. Additionally, as previously mentioned, animal and human sacrifices are practised in the name of *Pachamama* or *Awichita*, with the significance of the ritual increasing as the availability of gold diminishes.

6.1.1. Labour relations

Figure 18: Miners on a break

Source: Eugenia Robles, 2019

[20] Animal sacrifices usually involve a llama or a vicuña, and the practice consists of deeply cutting its throat, opening the chest, and removing the still-beating heart. Then, the collected blood is thrown on the walls, covering the area to be blessed. Animal sacrifices are prevalent in the Andean highlands, and people believe that failing to bless and give back to Pachamama what they take from her will result in punishment.

As for labour relations and hierarchal interactions, the role of power within the work areas is evident. At the top is the *contratista*, who, having control of the concession, decides and designates the extraction areas where the miners will operate. The *contratista*, along with engineers and highly skilled miners, study the tunnels to determine the presence of highly mineralized areas. These estimations may not always have the expected results, as the gold veins are said to be 'mischievous', appearing and then concealing themselves. The extraction process involves a significant investment. *Contratistas* finance the operational expenses but are not always physically present in the tunnels, delegating supervision to chiefs and engineers (see Section 5.3). They periodically visit to oversee the extraction process, supervise ore processing, and participate in payment rituals such as *ch'allas*, which are offered to *Awichita* at the start and end of the extraction period.

The hyper-masculine environment in mining workplaces creates a culture of male dominance and power (Bradshaw et al., 2017, p. 445), where the accumulation of experience and income determines one's position in the hierarchy, as previously noted. Typically, a miner's position is based on their level of experience. It allows the miner to move up the ladder of power, in order to receive more benefits, and eventually become a *contratista*. Most of the workers who arrive for the first time in La Rinconada come without any prior knowledge. According to one of our interviewees:

> The vast majority come without any knowledge and they come when they are young, say around 17, 18 years old. Even more before, 20 years, 15 years ago, boys came out of the need for a job, to support their family. They came from different places and worked in the mine … Sometimes you learn here, most of it is learned by watching. There are people who are good and tell you how things are done. But there are also people who are a bit reserved and don't tell you anything. But the vast majority will tell you. This is how it is. And you gain experience as you go.
>
> *(Personal interview with a miner, June 2022)*

In situations where miners possess pre-existing knowledge, our interviewee explained that they would be assigned to the initial position of *limpieza* (i.e. responsible for cleaning). This approach enables the assessment of their competencies from fundamental tasks, and subsequently, allows for their relocation based on merit.

> I worked in cleaning for two years. It's like a kind of luck. There are others who are lucky and quickly move from cleaning to drilling or other areas … It's a kind of school here in La Rinconada, the vast majority know how to operate, know how to drill and also know about hauling and surveillance. They know how to do support work.
>
> *(Personal interview with a miner, June 2022)*

Drawing on social navigation, power is considered an interchangeable and mutable element according to the space in which it is found (Vigh, 2010, p. 155). In these tunnels, power falls on the figure of the *contratista* and their high-ranking workers. Miners from the low-end ranks do not hold the power, but they have the possibility of ascension. As a result, the praxis of acquiring experience or advancing to higher positions within the labour hierarchy, becomes a medium-term objective in order to consolidate a position, obtain power, and have greater opportunities to find gold. At the same time, it can serve as an incentive to persevere and demonstrate resilience within the adverse context of the mine.

Bradshaw et al. (2017) assert that male-to-male relationships in ASGM are characterized by both cooperation and conflict, highlighting the significance of solidarity within the group. Such solidarity, as argued by the authors, plays a crucial role in ensuring the safety and well-being of miners who face hazardous work conditions (p. 447). However, the case of

La Rinconada reveals a relatively weak sense of solidarity among workers' groups. Although miners provide mutual support in teaching the fundamental skills necessary for mining, a sense of familiarity and camaraderie is lacking in the tunnels. When surveyed regarding their satisfaction with the relationships between workers, 37% of miners expressed feeling dissatisfied, 18% reported feeling very dissatisfied, and 23% indicated a moderate level of dissatisfaction. Merely 4% of respondents reported being satisfied, and 18% did not provide a response (Robles et al., 2022). The persistent distrust that permeates the working areas significantly affects the miners' relationships with each other. On the one hand, delinquency and crimes committed in the mines generate fear and reinforce the self-preservation instinct of workers, resulting in each individual looking after themselves. On the other hand, miners acknowledge the need to be cautious of these crimes during the *cachorreo* days, as it presents their sole opportunity to find a valuable gold vein.

> Everyone distrusts everyone. We have friends who are criminals, but we can't say anything to them. Sometimes when your colleagues who are criminals enter, they don't do anything to you. But when unknown strangers enter, they beat you, throw you to the ground, tie your hands and feet.
>
> *(Interview with miner, La Rinconada, June 2022)*

As is evident, miners cannot depend on solidarity as a means of protection in the confines of the tunnels. However, a different form of camaraderie is prevalent in another setting, which serves a distinct purpose from that of security. It is also worth noting that this form of camaraderie also serves as a means of navigation outside of the working areas. Tensions and mistrust tend to dissipate when the miners exit the tunnels and decide to visit the bar-brothels, where a temporary sense of friendship is fostered primarily for the purposes of entertainment.

6.2. Miners outside the tunnels

Figure 19. Miners leaving the mining areas

Source: Eugenia Robles, 2017

When a shift is close to the end, miners make their way out of the tunnels, marking the conclusion of their journey underground and the commencement of another above ground (see Figure 18). While some of them will decide to head home and rest, others typically frequent the bar-brothels, which are located in La Rinconada's downtown. During a conversation with two miners, an enquiry was made regarding their perceptions of their work in the mines. One of the miners responded by stating:

'It is hard, the weather is cold and you end up tired. But luckily we have the '*señoritas*' (misses).' Another miner added 'some miners fall in love and get married. A lot of them have found the love of their lives in the bars. In one way or another, it gives you something to be entertained by' (personal communication, La Rinconada, November 2019).

The above conversation is one of various testimonies that allude to the interaction of miners with women at the bar-brothels as their main form of entertainment. In addition, attending bars is also observed as a praxis of endurance against the perils of work in La Rinconada. In the following section, we describe the world of bar-brothels, how entertainment takes place in them, and the way in which miners navigate this space.

6.2.1. Bar-brothels and gender-based violence

Figure 20. Street of bar-brothels

A girl waiting for clients outside one of the bar-brothels (left), and a miner sitting with friend while looking at my camera (right). Source: Eugenia Robles, 2017

Bar-brothels are open 24 hours a day, 7 days a week. They are usually visited more at night-time, but during the day there are also a large number of miners sitting outside in plastic chairs and sharing several beer boxes (see Figure 19). As previously noted, these bars constitute the main source of entertainment available to the miners, other than a football court used for small championships and pichangas (informal football matches). Payments at these bars are typically made in cash or gold nuggets, and they are all equipped with scales for weighing the grams of gold provided by the miners in exchange for beers and the company of the señoritas.

Each bar in the mining town offers a beer box containing twelve bottles of beer, with each bottle measuring 1.5 litres. The cost of the beer box is 116 Peruvian soles (S/.) (equivalent to €26) and 126 S/. (equivalent to €28) with the company of one girl. If the miners acquire a beer box with company, the girls on shift bring the box and drink along with them. The popularity of these bars among miners can be linked to the physically demanding nature of their work, calling for entertainment. Furthermore, bars certainly benefit from the belief that consuming alcohol is essential for successful gold extraction.

While it is nearly impossible to obtain an exact figure for miners' monthly income, according to our survey, miners in La Rinconada can earn an average monthly income of at least 3000 S/. (€682), with the possibility of more than doubling this amount when gold is abundant in a contrata. However, when gold is scarce, the average can drop to 300 S/. (€68) or even zero. According to our data, when asked how likely they were to spend money on something if they found a good amount of gold, 70% of miners said they would spend it on family needs, 60% on alcohol and prostitutes, and 41% on investments such as a house or car. In terms of the major problems in La Rinconada, prostitution was ranked as the top issue (27%), followed by crime (24%,) and alcoholism (23%).

The consumption of alcohol in the context of La Rinconada is a significant practice of endurance, driven by both myths regarding its purported connection to good fortune and gold, as well as social pressure to form a temporary sense of camaraderie. Given the dangerous conditions of the mining environment, the consumption of alcohol is often seen as a necessary means of survival. Furthermore, it can be considered a form of individual ritual.

> When the miner goes to the mine, he says, we have to spend [money] here. If you do not spend, there is no mineral (gold). That's how it is. I will tell you about my case. When I was first going [to the mine], I was given an area and I had invested there and there was no mineral. And then I passed by the bar street, and my students yelled at me, 'engineer! Engineer! So? How is it?', 'there's nothing!', 'engineer, the thing is, you don't do the ch'alla you don't drink, you don't party'. And so, the miner has that tradition. They say that you have to party, to take out mineral so there is more money. The next day, I was so angry that I drank for two days. Then, I went to the mine. And, true. Maybe it was a coincidence, but the mineral appeared.
>
> *(Interview with contratista Juan, November 2020)*

The primary site for alcohol consumption is the bar-brothels, which receive an average of five trucks carrying 300 boxes of beer per truck on a daily basis. These social gatherings can last for several hours, with groups consuming an average of three to four boxes of beer, alongside other available alcoholic beverages such as hard liquor. Beer is the most commonly consumed type of alcohol. Typically, miners engage in group drinking sessions (see Figure 20), with an average group size of five to eight members, and each group paying for the company of two to three girls.

Figure 21. Miners drinking in group

Source: Diario El Correo, 2015 https://diariocorreo.pe/peru/puno-mineros-convierten-calles-de-la-rinconada-en-cantinas-626493/?ref=dcr

Interaction with female companions is affable, but as the effects of alcohol begin to set in, one can observe flirtatious behaviour and dancing. At times, girls may even sit on the miners' laps while they drink beer. In the night-time, the atmosphere at the bar-brothel becomes more intense. Vibrant lights and loud music emanate from the establishment, and despite the low temperatures, bar owners force girls to dress in short skirts and make-up (see figure 21) .

Figure 22. Nightlife inside a bar-brothel

Source: La República, 2020 https://larepublica.pe/sociedad/2020/12/18/puno-intervienen-a-mas-de-40-personas-en-dos-locales-nocturnos-de-la-rinconada-lrsd

Power in the bar-brothels takes a different form to that found in the tunnels. As miners gather together, solidarity seems to spontaneously unify them, in the sharing of joy and distress. Despite the fact that money (or alternatively, gold) still represents a display of purchasing power among miners, there is a power within these bars that seems to dilute the hierarchies found in the tunnels. We refer to the power of men over women. Bradshaw et al. (2017) highlight the significance of patriarchal power in shaping gender relations within extractive industries, where men establish hierarchical relationships with one another but maintain a sense of interdependence and solidarity that enables them to dominate women (Bradshaw et al., 2017, p. 442). Thus, visiting these bars not only provides entertainment, but also serves as a means of temporarily escaping the power imbalances and inequalities that miners encounter in their working environment.

During conversations with miners, a noteworthy majority expressed a positive perception of bars, referring to them as places where 'they can have fun and take a break' from the hardships of work. Their interaction with the girls was usually explained as some sort of juvenile adventure, where *señoritas* were regarded as something similar to a friend that miners 'like to have fun with'. However, at the other end of the spectrum, these bars are detrimental spaces for women, particularly for those who were brought there as part of trafficking networks and find themselves offering sexual services against their will. While we have stated that these establishments can provide entertainment and promote resilience among miners, they simultaneously contribute to the reinforcement of gender inequalities within the community. This dual nature of bar-brothels, as both sources of entertainment and spaces of exploitation and violence, must be carefully considered when analysing their role as a praxis of endurance in La Rinconada.

In general, the miners and inhabitants of La Rinconada are aware of the sex trafficking networks that operate in these bars. The following conversation where a former worker from La Rinconada was talking to the first author on the illegality of the girls' presence at the bar-brothels, is an example of such accounts:

> Miner: And, that thing about the girls... it's illegal, right? (smiles)
>
> B: Yes, we could say that it is.
>
> Miner: Oh, but I wish it wasn't illegal because it's really nice. (laughs timidly)
>
> *(Conversation with former miner of La Rinconada, Puno, March 2023)*

As a result, miners choose to consume these services with the full knowledge of the circumstances in which many women find themselves in these establishments. In cases where this decision has been questioned, several of them have stated that the *señoritas* work there voluntarily.[21] The former narrative serves as a rationalization for their decision to consume the services offered within the bar-brothels. According to Bandura (1999), these can be observed as an act of moral disengagement, where individuals employ various cognitive mechanisms to justify, excuse, or rationalize morally reprehensive behaviour. By convincing themselves that the women are not coerced into providing sexual services, miners can disengage from the moral implications of their behaviour and maintain a positive self-image. This process of moral disengagement is further reinforced by the normalization of the sexual exploitation of women and the celebration of masculinity within the mining subculture (Cortés, 2020; Cuvelier, 2017). This conduct appears to be a recurring trend in the mining sector, particularly in the context of illegal ASGM (Kelly et al., 2014; Bradshaw et al., 2017).

In such context, Dolores Cortés (2020) carried out research on human trafficking

[21] The question 'What do you think about what is said in regards to sex trafficking existing in the bars?' has been addressed in various non-recorded conversations with miners and with the head of the police office in La Rinconada. In all instances, a consistent response was elicited, asserting that the presence of women in such establishments was entirely voluntary.

in the Madre de Dios, region of Puno. Madre de Dios is known for being the largest illegal mining area of Peru, with a massive proliferation of bar-brothels. According to Cortés, in mining areas like this:

> 'the illicit sex trade is at the core of what Cuvelier (2017) calls a "lifestyle of excess" characterized by a mining subculture where money, migration, and masculinity are celebrated through the exploitation of women … In this subculture, mine workers' exploitative labor is deeply intertwined with the sexual exploitation of women. These two forms of human trafficking feed on each other, blurring the boundary between mine workers, as victims of labor exploitation on the one hand, and mine workers as consumers of illicit commercial sex, thus promoting the sexual exploitation of women, on the other' (Cortés, 2020, p. 377).

Cortés' portrayal sheds light on a pernicious cycle that is also seen in La Rinconada, where local beliefs, alcohol, and the sex trade are inextricably linked and form a symbiotic relationship. They function as powerful engines that reinforce each other, fuelling a vicious cycle that ultimately oppresses women. Entertainment seems to involve a ritualistic praxis of alcohol consumption, where sexual intercourse with young women increases the possibility of finding gold. We can also observe a duality at play, where young women are sacralized because of their youth and purity, yet their bodies must be exploited for the purpose of securing good luck (i.e. their intimate clothing is used as offerings for the *Awichita*; having sex with virgin women brings more luck). Thus, this mining-centric system, which rules La Rinconada, has become part of a tradition that permeates the lives of miners and enables their endurance.

In this sense, we hypothesize that bars also function as a container for miners' frustrations, as they are spaces of the perpetuation of violence. In this regard, demonstrations of violence would also be part of a praxis of endurance. Our interpretation is based on the theories of Bradshaw et al. (2017) and Cuvelier (2014, 2017), who address the issue of male domination. It is important to highlight that patriarchal relationships generate a competitive dynamic among men, who seek to impose their male dominance over their peers. This is manifested in displays of power through violent confrontations, mainly directed toward the most vulnerable figure, in this context: women. Furthermore, it is relevant to mention that these acts of violence are fuelled by jealousy that arises from the affective relationships that some miners establish with the women who work in the bars. Two testimonies reinforce this situation, highlighting the complexity of the patriarchal dynamic in these conflictive spaces. The following excerpt is from an interview with a police officer who handled several cases of violence while working in La Rinconada for five years:

> Girls have to keep working and drink with whoever wants their company. For example, [as a miner] I tell her to come to my table, and so, I'm drunk I tell her 'stop drinking with that one and come and drink with me' and she tells me 'no I can't I'm working, I don't want to' and then I tell her 'Let's go right now! I am telling you I want to be with you and you're kicking me out?!' and so I go to my room, heartbroken, angry, jealous; I take out the dynamite, go back to the bar, approach the girl, I hug her and I tell her 'so, you don't want me?' and I blow myself up. I kill about three girls, the other man, and myself. There have been about three cases like this in the past two years.'
>
> *(Interview with police officer, La Rinconada, February 2017)*

In another interview, a miner referred to the same story from a different perspective:

> The bars also entertain the workers. There are always colleagues who go to drink, and they go to the discos. But they are not bad people. However, in most cases, criminals are always there. They even end up killing, and there are young people who fall in love with the girls who work there, and maybe this girl has a relationship with a criminal. So what

> does the criminal do? He sees the young man dancing with the girl. What does he do? The criminal kills him. That happens a lot here. Crazy things even happen, such as once when a young man fell in love with a girl and the girl didn't pay attention to him, the young man took a stick of dynamite, put a fuse on it, and lit it. He put it in his jacket on his stomach, went to the girl, hugged her, and they exploded together. Yes, things like that happen. Three or four times, I think things like that have happened.
>
> *(Interview with miner, La Rinconada, June 2022)*

Furthermore, although miners look for entertainment in these bars, they claim that they are not the ones committing crimes or causing conflict. Instead, they blame the delinquents who frequent the mining areas as the primary cause of violence. However, a notable contradiction emerges in the subsequent testimony from a miner, which reveals that delinquents in La Rinconada are former miners searching for revenge for the unfair treatment they received during their work.

> These are ex-miners, from when La Rinconada mine was in its heyday and there was a lot of gold. People who see gold tend to be a little ambitious, so sometimes the managers or owners of the mines refused to pay the workers. They saw that they were producing a lot and said, 'No, let's cut them off, they don't need to work anymore.' That's why there is resentment that leads to crime. It's a form of revenge, but that revenge is not directed against the owners, but against the fellow miners as well. They take away our lamps, [and] if you have new shoes they take them away. They take your hammer, your respirator. They take your cellphone. They beat you up, take away your money. Even the women are not spared.
>
> *(Interview with miner, La Rinconada, June 2022)*

According to the interviewee, there is a division between those perceived as good and those perceived as bad. By distancing themselves from the 'bad' individuals, some miners disengage morally and diffuse the responsibility (Bandura, 1999, pp. 198–99) to the collective actions of a group that largely perpetuates acts of violence. Following Vigh's argument (2009, 2010), it can be understood that these violent practices are a means of navigating an unjust world, where workers feel their efforts have not been adequately compensated, and thus, their actions are justified (Bandura, 1999 p. 197). Furthermore, the presence of various types of masculinities within mining spaces is evident, and men seek to position themselves within a hierarchy of power. The subordinate male group aims to displace men with greater authority and power, embodying what Connell and Messrschmidt (2005) terms 'hegemonic masculinity'.[22] However, upon realizing that they cannot displace them, they resort to intimidating those they perceive as more vulnerable: women. In this context, the bars transform into a battleground where all frustrations are manifested, culminating in violent acts that form part of the endurance and social navigation in La Rinconada.

[22] Some contributions on male hegemony in mining areas include Großmann & Gullo, 2022, and Robles Mengoa 2017.

7. Forms of endurance: analysis and discussion

To answer our first research question, we have formulated our definition of the concept of endurance after obtaining and understanding two fundamental aspects. First, we have evidenced the importance of considering the structural conditions that lead miners to migrate and work in mining. These conditions include an indigenous (Quechua and Aymara) and rural profile, whose predominant economic activity is agriculture and is characterized by high levels of poverty. Despite having primary and secondary education, these young miners face limited job opportunities and see their long-term social aspirations diminished. In this context, mining becomes an accessible and attractive alternative to improve their economic situation. Second, the development of endurance is influenced by the uncertainty that is a daily reality in rural areas and among Andean peasants who engage in agriculture. Due to climate changes that affect agriculture, migration has become a common strategy to cope with the situation. Over time, Andean communities have faced climatic uncertainty, but farmers have managed to mitigate risks with various planting and harvesting techniques. Currently, the climate crisis has intensified the unpredictability of agriculture in rural areas, leading new generations seeking more profitable and better-paid options, such as mining. Although informal mining involves facing uncertainty, miners in La Rinconada are accustomed to dealing with uncertain situations due to their experience in agriculture and resilience, which has allowed them to survive and prosper in changing environments.

In response to our second research question, through the analysis of social navigation, we have identified different praxis and behavioural patterns adopted by miners, which highlight the different forms of endurance that miners possess within the extreme context of La Rinconada.

7.1. Social connections

Social navigation in La Rinconada initiates with the social connections of aspiring miners seeking employment in one of the *contratas*. In this sense, social capital becomes a ticket of entry for these miners, as the prevalence of criminal activity and general mistrust among workers makes it difficult to secure a position without the reference of a known acquaintance. Moreover, given the absence of formal regulations and written contracts in this mining area, social relationships play a critical role in facilitating access to resources and establishing a sense of security in an inherently risky and unpredictable environment.

7.2. Rituals

In this research it has been observed that rituals have become an essential practice of endurance for miners in La Rinconada. In that sense, rituals play a critical role in reinforcing the social fabric of the mining community and affirming a more robust system of social guarantees and cohesion, which are grounded in the Andean logic of reciprocity. Through these practices, miners fortify their commitment to their life goals and imagined futures, as they perceive themselves to be walking hand in hand with *Pachamama* in the present. By performing these rituals, miners form a communion with the gold veins, rocks, and all the elements that make up the underground world. This daily communication is vital for the miners' endurance as it enables them to express their feelings of joy and sorrow and seek guidance amid uncertainty.

The communication that miners establish with the divine entities through rituals is more reliable than the one they have with human figures, such as *contratistas*, chiefs, mine colleagues, and even the Peruvian state. The spiritual realm holds an unyielding sense of fairness for miners. Through their connection with the divine, miners transcend the potential biases and limitations of the human world and gain access to a source of guidance and protection that is considered trustworthy. In this way, ritual practices provide miners with social support and emotional resilience as they navigate an environment of informality, precarious labour condi-

tions, and constant danger. Rituals are carried on the wings of faith, with the aim of inviting luck. The latter will ultimately determine whether or not the miner finds gold.

D'Angelo's (2015) study of artisanal diamond mining in Sierra Leone provides insights into the multifaceted nature of luck. The study highlights that there are different perceptions of luck, including 'natural luck' and 'dangerous luck'. While natural luck is considered a gift from God in the Islamic religion, dangerous luck is mediated through voodoo rituals that require sacrificial offerings. In both cases, luck cannot function without blessings. D'Angelo (2015) notes that varying degrees of success and happiness are dependent on different combinations and interpretations of luck and blessings.

Similarly, in the case of La Rinconada, miners rely on rituals to the divine to achieve luck in their mining endeavours. The power of luck lies in its ability to instil a sense of optimism and determination that drives the miners' efforts to persistently search for gold.

> I was talking with two miners outside of the pitmouth today. One of them was explaining to me how sometimes it is difficult to endure the weather and hard work. That with his age (perhaps around 40+), it was not the same as when he was young. That it was harder to perform and get as much as he did before. I asked him, 'How many years are you working here?'. He replied, 'Years … many! 15 years, maybe more.'
>
> 'And if things are not the same as before, why have you decided to stay?' His answer was immediate, 'Because of the luck factor. To work in the mines, you have to have luck. Otherwise, you are going to go blank.' ' And are you always lucky?', to which he firmly responded, 'Yes. I don't worry, I have luck.'"
>
> *(Excerpt from fieldwork notes. Eugenia Robles. La Rinconada, November 2019)*

Furthermore, another interviewee shared their experience regarding luck in the mines:

> Interviewer: And so, is it true what they say about luck?
>
> Interviewee: It happens. I was going to leave. I've been here for three months and I was not getting anything. And so I said, in two weeks I leave. And then on that last second week, I found it [gold]. And I'm still here.
>
> *(Conversation with miner, La Rinconada, November 2019)*

The cultivation of patience and hope for luck is not solely driven by rituals, but also by the proliferation of narratives that detail successful stories. According to Geenen (2014, 2018), stories of miners earning thousands of dollars and referring to such earnings in terms of luck, are part of those narratives that not only fuel hope but make of gold mining such an attractive activity (Geenen, 2018 p.35). These stories highlight the experiences of miners who were able to strike gold after performing numerous rituals for months on end, or who, despite starting from humble beginnings, were able to establish themselves as successful *contratistas*. While some remain sceptical of such accounts, there are examples of miners who have risen to significant wealth and status.[23] While not all miners are able to achieve such heights of success, some are able to save enough money to start their own businesses and establish themselves in the industry.

> According to the legends, and I say legends because not everything is true, because there are always people who say 'I have a friend who came here and worked for a month and found gold and left and became a millionaire,' and there are others who say 'I also know someone.' But I don't think those stories are very concrete because they are just rumours. But there are people who have worked for many years, for example, 10 or 20 years, and

[23] A success story is that of Percy Torres, who became a successful contratista in the 1980s and accumulated a fortune by founding his own mining company, Titan Mining Company S.A.

> have succeeded, and currently still work. Some of them even become *contratistas*. There are several who are *contratistas*, some have their own fleet of cars or grocery stores, and others have their own gas stations.
>
> *(Interview with miner, Juan Pacheco, La Rinconada, 2022)*

As previously mentioned, rituals constitute a manifestation of the cultural and spiritual identity of Andean miners as they represent a way of establishing a symbolic relationship with the natural and supernatural environment in which the miners' work activity takes place. However, within this broad ritual spectrum, human sacrifices acquire a dramatic dimension that evidences the extremes that can be reached in the search for fortune and divine protection. Although this practice does not necessarily form part of the Andean cosmovision, its use in the context of La Rinconada reflects the intensity of the endurance practices that are put in place in an environment of great precariousness and challenge. Therefore, human sacrifices, although controversial from an ethical perspective, cannot be dissociated from the endurance practices that characterize the miners of La Rinconada.

7.3. Experience

To climb the hierarchical ladder in the tunnels of La Rinconada, knowledge and, above all, experience are crucial. Climbing the hierarchical ladder involves rising to spheres of power and authority that come with economic benefits and decision-making power over how gold exploitation will be carried out. As demonstrated, power in La Rinconada is not tied to an immutable fixed hierarchy. On the contrary, its mutation is correlated with time and/or the spaces in which it manifests (inside and outside the tunnels). According to Round et al., (2008), this is a recurrent phenomenon in informal work, where power operates through a network-like structure and in which workers experience power in the form of exploitation and subjugation (Whitson, 2007). However, being a space of complex heterogeneity, with the absence of labour regulations and state (or private) regulations, this power can be challenged through the endurance of workers in the pursuit of acquiring enough experience to move from a low-ranking worker position and approach the top of the labour hierarchy.

This type of endurance denotes not only perseverance and patience, but also demonstrates the prospect of a career in mining. According to Bryceson and Jonsson (2010), who studied miners' careers in ASGM in Tanzania, of those who persist 'onwards', many rise 'upwards', meaning that 'Miners with long mining careers out-perform those who have recently entered mining, demonstrating the value of a mining apprenticeship and accumulated work experience … In this way, miners' mobility, risk-taking, and tenacity to carry on working for many years despite physically demanding labor and hardship pays off' (p. 387). The perception that there is not only the possibility of ascending but also of remaining in the mining industry motivates miners to continue and grow in their careers. In some cases, working in La Rinconada can serve as a springboard to migrate to other mining centres. In other cases, it has been reported in this research that some miners started working in La Rinconada at an early age and then decided to study mining engineering at university. This enabled them to return with an engineering degree and occupy high-ranking positions, making use of their networks of contacts and knowledge of the mining area. In this way, work experience becomes a driving force of perseverance in the present and a hope for the future, especially for young miners whose roots go back to rural areas where agriculture is no longer a viable option for economic subsistence in Peru.

7.4. Bar-brothels

Bar-brothels have emerged as significant entertainment venues for miners in La Rinconada, providing crucial spaces that facilitate coping mechanisms for individuals to deal with the strenuous nature of mining activities, as well as to negotiate power imbalances and dangers both inside and outside the mines. These establishments have been identified as an endurance praxis that mitigates the challenges faced by miners. With more than 250 bar-brothels situated in the town, they accommodate the needs of thousands of miners seeking respite and leisure following a demanding workday.

A key aspect of the praxis of endurance is the cultivation of solidarity among miners in the bar-brothel setting. As they gather and share experiences, both positive and negative, miners form bonds that enable them to face the challenges of their work collectively (Ortner, 1995). This sense of camaraderie offers psychological support and fosters resilience in the face of adversity. The ability to momentarily escape from the confines of the mine and its associated power imbalances further contributes to the endurance of these miners.

In addition, the interactions between miners and women in these establishments provide a means for miners to temporarily distance themselves from the hardships of their work. By engaging in what is perceived as a form of youthful adventure, miners can indulge in escapism that allows them to mentally recharge and face the rigours of mining with renewed vigour (High, 2010). The positive perception of these bars, as places for rest and recreation, reinforces the notion of bar-brothels as sources of endurance for miners.

However, it is important to recognize the darker aspects of these establishments, as they often perpetuate the exploitation and subjugation of women (Bradshaw et al., 2017). The fact that miners are aware of the sex trafficking networks operating in these bars, yet continue to engage in these services, reveals a troubling aspect of miners' coping actions. The rationalization of unethical behaviour and the alleviation of guilt through the narrative of women working voluntarily can be interpreted as a means of preserving miners' self-image and dealing with the moral implications of their actions (Bandura, 1999).

In a comprehensive study on the masculinity of miners in the Katanga province of the Democratic Republic of Congo, Jeroen Cuvelier (2011) explores the notion of *communitas* among Katangese *creuseurs* (diggers). This term refers to a mining subculture in which miners share a collective mood or mentality, characterized by specific behaviours and norms (p. 59). Drawing on Cuvelier's concept, we can analyse bar-brothels in La Rinconada as spaces that foster a similar *communitas* among miners, where diverse expressions of masculinity are continuously exhibited and reinforced. In the context of these establishments, engaging in excessive alcohol consumption and participating in sexual activities with young girls are actions that are perceived as integral components of miners' shared beliefs and necessary rituals to obtain gold.

The normalization of violence can be attributed to miners' exposure to a patriarchal mindset that exacerbates the dehumanization of the women working in these establishments. Additionally, miners consciously engage in services at bar-brothels, fully cognizant of the circumstances involving sex trafficking of women. When confronted, they claim that the women work there voluntarily or that only 'bad miners' commit violent actions. This rationalization represents an act of moral disengagement (Bandura, 1999) that fosters the perpetuation of a cycle of violence.

In this sense, we argue that bar-brothels serve as an outlet for miners to release their frustrations and regain a sense of power and control that is diminished in their daily lives by the labour conditions and power asymmetries they face in the tunnels. By perpetrating violence, they assert dominance over those perceived as weaker or more vulnerable: women.

8. Conclusions

In retracing the paths we have trodden in this exploration, we arrive at a juncture of reflection and retrospection. This paper has sought to illuminate the resilience and endurance of miners in La Rinconada, not merely as a study of survival, but as an examination of agency in the face of monumental adversity. We have ventured deep into the tunnels, into the heart of the miners' world, to emerge with an understanding that is enriched and nuanced, and, hopefully, a contribution to the existing literature that is both enlightening and empathetic.

We have learned that endurance in the mining context is not a mere act of survival, but a complex phenomenon shaped by the miners' origins, personal motivations, and social relationships. We have sought to understand the miners not as victims of their circumstances, but as agents making choices within their specific contexts, their aspirations transcending the limits of economic survival. In their endurance, we have found a testament to human resilience and adaptability, and a capacity to weather uncertainty and adversity with hope, patience, and an unyielding spirit.

In the labyrinthine tunnels of La Rinconada, we have witnessed how miners navigate their social and cultural environment, their daily practices and interactions moulding the contours of their endurance. We have seen the importance of trust-based networks, cultural rituals, and the hope kindled by tales of luck. The journey of a miner, both inside and outside the tunnels, has revealed the dynamics of power, hierarchy, and exploitation, painting a portrait of endurance that is as multifaceted as it is compelling.

In the twilight spaces of bar-brothels, we have encountered a darker side of endurance. These establishments, while providing miners with an outlet to vent frustrations and regain a sense of control, have also raised severe social and ethical issues, reminding us of the troubling complexities inherent in human nature.

As we conclude this journey, we stand at the crossroads of understanding and empathy. In the face of the formidable challenges and hardships described in this paper, the miners of La Rinconada continue to endure. In their stories, we find a compelling testament to human resilience and adaptability for all who strive against adversity. We hope this study will not only contribute to the literature on agency in mining but will also inspire further research into the lived experiences of miners. It is our conviction that by delving into their endurance, we uncover profound insights into the indomitable human spirit—its ability to persist and adapt in the face of adversity. An endurance that is often marked by controversial decisions that challenge moral boundaries often resulting in violence against the most vulnerable. An endurance that, in its complexity, is driven by an incessant yearning for a better tomorrow.

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