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Of Mines and Men: Toward a Foundational Theory of the Rise, Evolution and Decay of Property

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Cover Page Footnote
Mr. Arribas graduated from Pontificia Universidad Catolica del Peru School of Law in 2013, and is a LL.M. candidate at Yale Law School. Before attending Yale, Mr. Arribas was a law professor at Pontificia Universidad Catolica del Peru, where he taught Property, Contracts and Legal Skills. Mr. Arribas wishes to thank Carol Rose, Christine Jolls, Claire Priest, and Steven Pincus for their generous contributions to earlier versions of this paper and for their valued support; Daniel Markovits with the Yale Law School Graduate Program; all the participants of the Work in Progress workshop organized by the Graduate Program for their valuable comments; and Micaela Bullard, Isabella Uria, and Bradley Hayes for their constant support reviewing earlier versions of this paper.

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Of Mines and Men: Toward a Foundational Theory of the Rise, Evolution and Decay of Property

Guillermo Arribas Irazola†

ABSTRACT

Why and how is property created? Through a historical analysis, this paper proposes that property is created not out of ideology, but by chance. Depending on the resources encountered by newcomers, a rising civilization will establish property through a centralized controlling government (a top-down system) or through people’s recognized possession (a bottom-up or Lockean system). In the former, the government will create and allocate property at its own discretion, while in the latter, the government will recognize and provide protection for the property of individuals.

When the Spaniards conquered Peru in the 1528, they found immense amounts of gold and silver. Years later, when the British came to North America, they found ice and empty land. The search for bullion by the empires pushed the Spanish Crown to implement a top-down property regime over its colonies, in order to protect and exclude any third party from its resources. A disappointed British Crown, however, permitted colonizers to maintain more autonomy and to establish a livelihood for themselves in the new land, creating a bottom-up property regime. Out of these fortunes, two distinct societies were born, and with each, values that created long-standing biases. After centuries, these property regimes evolve and yield idiosyncratic social conflicts, causing property systems to decay.

† Mr. Arribas graduated from Pontificia Universidad Catolica del Peru School of Law in 2013, and is a L.L.M. candidate at Yale Law School. Before attending Yale, Mr. Arribas was a law professor at Pontificia Universidad Catolica del Peru, where he taught Property, Contracts and Legal Skills. Mr. Arribas wishes to thank Carol Rose, Christine Jolls, Claire Priest, and Steven Pincus for their generous contributions to earlier versions of this paper and for their valued support; Daniel Markovits with the Yale Law School Graduate Program; all the participants of the Work in Progress workshop organized by the Graduate Program for their valuable comments; and Micaela Bullard, Isabella Uria, and Bradley Hayes for their constant support reviewing earlier versions of this paper.
Studying three Peruvian mining projects (Tambo Grande [1999], Conga [2011] and Tia Maria [2015]) canceled due to social conflicts, this paper approaches how an implemented property regime may evolve and decay. Using behavioral law and economics and property theory approaches, this paper proposes to redesign the system and reconcile the parties in conflict by giving rural communities the right to decide about their immediate environment. This paper attempts to provide an analogue for dealing with conflicts in other jurisdictions (such as opposition of the Standing Rock Sioux tribe to the construction of the Dakota Access Pipeline in North Dakota).

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INTRODUCTION

Nélida lives far away in a place surrounded by mountains. She and her community have worked the land for many generations. Close to their town, there are four lakes; they use the water for drinking and agriculture. One day a group of strangers come to Nélida’s town. Some do not even speak Nélida’s language. These foreigners have come to meet the mayor. After a few hours, the whole town knows that the newcomers represent a mining company looking to exploit a mine near the town. The rumors spread—mountains of gold lay under the nearby soil.

Some are excited by the gold, while the mine scares others. They have heard suspicious stories about mines. Some believe the gold will bring prosperity and opportunities; others think it will bring despair and tragedy. Some even begin diving in the lakes and wandering around the countryside looking for gold.

Months go by, and not much happens. The strangers have come a couple of times, but overall everything is the same. Some people talked about some consultation that happened because of the mine; however, not many are aware of it. Some say that they see the strangers more often in the areas near the lakes, but that they do not bother anybody.

Years later, the strangers came to the town again; they have found the gold and now they want to take it. The strangers explain that they have all the corresponding authorizations from the government. They explain that they own the land needed for the project and that the government accepted their plan for exploiting it. They tell Nélida and her people that a percentage of what is produced from the mine will go to their town’s county. They assure them that nothing will happen to them or to their land; the only change will be new neighbors from the mine. The strangers say they might use water from the lakes, but assure the townsfolk that there will always be enough water for all.
After the representatives of the mine leave town, their words are repeated at every door: the mine will share the bounty. In the following days more foreigners come—more that don’t speak Nélida’s language. They say that they are an environmental association and have come to help the townspeople against the mining company. When the villagers tell them about the reward they will receive from the mining company, the newcomers answer that the company is lying; that it will take their lakes and their land, that nothing will be the same.

After the representatives of the environmental association walk out of town, confusion flooded the streets. Who is lying? Nélida and all the members of the town gather to talk about what has happened. They like the idea of taking a percentage of the gold, but they want to maintain their livelihoods. They want to keep raising their crops and breeding their animals.

At the mining company’s next visit, the villagers tell them what the environmental association said. The representatives of the company answer that the environmental association was exaggerating, that nothing would happen. When the villagers ask for explanations, the representatives cut the conversation off, saying that they do not have the answers yet.

After talking it through, the town decides against the construction of the mine, but the mine is getting closer to the lakes. Machinery is brought in, and with it more people who don’t speak Nélida’s language. The mining company stops answering calls and instead starts working.

Nélida and the townspeople, wanting to protect their lakes, go on strike. They occupy the lakes to deter further encroachment from the mining company. The police come, the mining company comes, the environmental association comes, and the media comes. The fight begins.

Nélida’s story is captured in the documentary, “Daughter of the Lake” (“Hija de la Laguna”), which narrates the conflict between the Yanacocha mining company and the people of Cajamarca, a province in the Andean highlands of Peru, over the extraction of what would have been the biggest gold mine in Peru. The Conga mining project never came to be. Following bloody encounters, the rural communities blocked the endeavor in 2012.

Conga is not an unusual story, not in Peru or in the rest of the world. The clash of rural communities with market forces yields different outcomes and manifests in different ways. Nélida’s town grappled with the effect of a mining company’s activity on the land’s life-sustaining

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1 This recounting of facts does not try to summarize the story told in “The Daughter of the Lake”, nor the testimony given by Nélida itself. This narration attempts impartiality by providing a perspective on the conflict itself, based in the documentary, the news of the time, and my personal perception living in Lima, Peru, at that time.
lakes. More recently, the Standing Rock Sioux tribe\(^2\) has resisted the construction of the Dakota Access Pipeline in North Dakota, United States, to protect the lands, considered sacred by the tribe that will be affected by the pipeline. Some clashes occur not over lands or goods, but over ideas. That is the case of some Australian aboriginals, whose culture emphasizes communal sharing of belongings. They claim that successful artworks produced by one of their members belong to the community.\(^3\)

The underlying questions in these cases are “who owns what?” and “what protection do the owners have?” As can be easily guessed, we are not only talking about traditional property rights over land, but entitlements that appear in the most diverse and unexpected places.

This discussion is not new. It is possible to trace the debate to the beginning of the Peruvian society, as we know it today: the Spanish conquest. From the moment that Francisco Pizarro landed on Peruvian soil in 1528\(^4\) and proclaimed all lands, mines, and Indians as property of the Spanish crown, history unfurled towards today’s mining conflicts. The Spaniards made the procurement of bullion the central economic activity in the new land, and mining has remained central in Peruvian society ever since. Peru is the second highest producer of silver in the world,\(^5\) possessing the greatest reserves of this metal,\(^6\) the third greatest in copper,\(^7\) and the sixth greatest in gold.\(^8\)

History did not only establish mining as the preferred economic activity in the Peruvian case, but also created a long-lasting top-down property regime. When the Spaniards conquered Peru in the 1528, they found immense amounts of gold and silver. Years later, when the British came to North America, they found ice and lots of empty land. The search of bullion from the empires pushed the Spanish Crown to implement a top-down property regime over its colonies, to protect and exclude any third party. In exchange, a disappointed British Crown left the colonizers to find their way, creating a bottom-up property regime. This accident built societies on each side, creating long standing biases. After centuries, social conflicts between the different stakeholders may make these property systems decay, as the case of Conga and other mining conflicts may suggest.

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4 HOWARD ERlichman, CONQUEST, TRIBUTE, AND TRADE, 156 (2010).

5 Rhona O’Connell et al., World Silver Survey 2016 26 (2016).


7 Mark Brininstool, Copper, 54-55, U.S. GEOLOGICAL SURVEY, MINERAL COMMODITIES SUMMARIES (2016).

8 World Gold Production by Country, USA GOLD (2016).
Studying three Peruvian mining projects (Tambo Grande [1999], Conga [2011] and Tia Maria [2015]) canceled due to social conflicts, this paper approaches how an implemented property regime may evolve and decay. Using behavioral law and economics, and property theory, this paper proposes to redesign the legal system, giving rural communities the right to decide about their immediate environment. The former having as an ultimate goal to reconcile the parties.

Part I presents the three mining conflicts that will be used as cases of study: Tambo Grande (1999), Conga (2011) and Tia Maria (2015). As was the case in the Conga Project, Tambo Grande and Tia Maria, are confrontations are between the villagers on one side and the corresponding mining company, the government, and part of the urban society on the other. In this section, we will describe in detail the parties on either side (who are labeled “rural communities” and “urban citizens”), and identify the goods subject to the conflict (land, and what we will define as the “environmental asset”). We will also describe the perceptions of both groups in relation to the mining projects. On one side, the urban citizens will favor mining endeavors and ignore the rural communities. On the other, rural communities will distrust the urban citizens and the effects of mining.

Part II presents the corresponding historical analysis, proving that what the Spaniards encountered in Peru created a top-down property regime, in contrast to what happened with the British colonies in North America. We will draw a transversal line through the centuries in an attempt to arrive at Tambo Grande, Conga and Tia Maria. This section also demonstrates how the historical background has nursed the perceptions of both parties regarding mining, pitching them towards the conflict.

Part III analyzes the patterns that emerge from the interaction of the rural communities and the urban citizens related to mining through the prism of behavioral law and economics, in an attempt to understand what was behind these similar outcomes. Concretely, we will see how the patterns can be explained through judgment (heuristic representativeness and availability) and decision making (status quo and endowment effect) bounded rationality biases.

Part IV examines the conflict using an entitlement structure, answering the questions of who owns what and what is the protection rule, questions that permeate these conflicts. Viewing the environmental asset as a public good (e.g. the lakes in the Conga case), most of the conflicts can be examined as arising from the disposition of that good (e.g. the decision of whether or not to debase the lakes in the Conga case). Even though the rural communities were protected by a liability rule in case of harm to the environment, they preferred striking to risking incurring
damages, blocking the mining projects in all three cases. The rural communities did not have any legal grounds to oppose or modify these projects. Regardless, the legal rights of the mining companies and the Peruvian government clashed, and lost against the extralegal rights of the rural communities.

Finally, in Part V this paper proposes a solution to the conflict: to give rural communities the right to decide about their environmental asset. Using the language of Calabresi and Melamed, this article proposes to protect rural communities’ environmental interests by replacing the current liability rule with a property rule. Under this structure, the urban citizens must convince the rural communities of the benefits the mining project will give them. Because the rural communities would have a property rule instead of a liability rule, they would not need to strike to prevent the mining project from exploiting the environmental asset. Given that urban citizens maintain decision-making power in this matter, it is important that they consider the historical patterns that have been manifest throughout Peru’s nationhood, as well as the behavioral biases that sustain these patterns.

What is currently solved through fighting and bloodshed may then be solved through negotiation and words. This proposal attempts to reconcile the conflict through agreement, internalizing the externalities that have surrounded the mining conflict for centuries.

I. MINING CONFLICT CASES: TAMBO GRANDE, CONGA AND TÍA MARÍA

There are currently forty-six potential future mining projects to be executed in Peru. The total amount of investment in these projects is $45.6 billion. Out of the forty-six projects, twelve involve social conflicts. Tambo Grande, Conga and Tía María, however, are the landmark cases in the Peruvian mining social conflicts. In these three cases, the rural communities managed to block the projects through protests. The following is an account of each of these projects in chronological order:

A. Project Tambo Grande

Manhattan Minerals, a Canadian company, obtained a mining concession to extract gold, silver and zinc in Tambo Grande, a town in

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northern Peru. The mining project provided an investment of $405 million in a town where the people earn on average $2 per day.\textsuperscript{11}

In order to carry out the project, Manhattan Minerals needed to relocate twenty-five thousand villagers because the minerals lay underneath the town. The displacement of the people of Tambo Grande also implied a change in their economic activity, because within the range of the mining project was also the land where the inhabitants grew mangos and limes.

From 1999 to 2005, many strikes took place in Tambo Grande. The people demonstrated frequently, in one instance burning down the Manhattan mining camp. In 2002, a nonbinding referendum was held to test whether the citizens of Tambo Grande wanted the mining. The townspeople rejected the mining project with more than 93 percent of the votes.

In 2005, Manhattan Minerals declared the termination of the project after investing approximately $60 million in it. Carlos del Solar, then the president of the National Society of Mining, Oil and Energy, qualified this event as “regrettable,” hoping that the situation would not be repeated.\textsuperscript{12} Tambo Grande never began operation.

B. Project Conga

Yanacocha, a company with American and Peruvian capital, wanted to mine gold in the province of Cajamarca. The project involved an investment of $5 billion in a region in which 50 percent of the population lived below the poverty line.\textsuperscript{13}

The project required draining four lakes in order extract the minerals that were partially located underneath them. After investing $1.5 billion, on November 16, 2011, the people of Cajamarca took to the streets against Conga, chanting, “you can’t drink gold.” The Peruvian government declared a state of emergency in the area on two occasions, first on December 5, 2011, and again on July 4, 2012.

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Even though the mining companies offered to build reservoirs to replace the lakes, which, according to an international expert, would provide the communities with better water, the parties were unable to reach an agreement and the *Conga* project was never executed.

**C. Project *Tía María***

Southern Copper Corporation, an American company with Mexican capital, obtained a mining concession from the Peruvian Government to extract copper in the province of Islay (a small town in Arequipa in southern Peru). The project involved an investment of $1.4 billion, the creation of over three thousand new jobs, and a 7.7 percent increase in Arequipa’s gross annual income.\(^\text{14}\)

The project needed to relocate part of the city of Islay. After investing more than $348 million,\(^\text{15}\) on the March 23, 2015, the community of Islay went on strike to protest *Tía María*. The strike resulted in more than one hundred casualties among both strikes and the Peruvian police. On May 22, 2015, the Peruvian Government declared a state of emergency in Islay. *Tía María* was never executed.

*Tambo Grande*, *Conga* and *Tía María* all involve the same debate. The villagers believed that they had the right to decide if the mining projects were to be executed or not. Their protests were attempts to exclude the mining companies from their land and environment.

Land is typically a private good, and environment a public one. Only the owners of the land can enjoy it, while all are entitled to enjoy the environment. However, in this case “environment” has a special definition, because damaging it directly affects a specific group of people—the rural communities. In *Tambo Grande* and *Tía María*, the pollution of the ground would harm villagers of the valleys who planted limes, mangos, and rice. In the case of *Conga*, draining the lakes would affect the villagers who used the lakes for irrigation and drinking water. For this reason, this paper adopts a malleable definition of environment, terming it the “environmental asset.” Affecting the environmental asset implies any change in the way of life of a specific community.

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Now, who are the parties fighting over the land and the environmental asset? There are many involved in these social conflicts. In our simplistic narration of Nélida’s story we find the villagers, the mining company, the media, public opinion, the environmental associations, and the government, all in important roles. The principal parties for the purposes of our analysis, however, are the villagers from the rural communities on one side, and the government, the mining companies and some parts of the urban citizenry who support mining extraction on the other.

The group labeled as “rural communities” includes Peruvians who are not accustomed to the institutions that often characterize developed western world economies. Most of this group will not have access to credit, and depend on a subsistence or informal economy. Many members of this group work in agriculture and live in small towns, but these are not essential characteristics. There may be cases of rural communities that do very little commerce or that live in poverty on the margins of populous cities.

The group labeled as “urban citizens” includes Peruvians who participate actively in the international economic system, reflecting typical habits of a developed western economy. They are part of the market, either as producers, consumers or politicians. This group is specially concentrated in the principal cities on the coast of Peru, but living in a city is not an essential characteristic. The traditional members of this group are related to the former Spanish or European elites, as will be explained in the next section, but today many people of indigenous ancestry have joined this group as well. Within this group, then, we include generally the mining companies, the government and the developed urban society.

The negotiation and implementation of Tambo Grande, Conga and Tía María was considerably handicapped by preconceived perspectives on both sides of the table, which we will analyze in the following sections. Even though one can identify many more tendencies from these cases, this paper will focus in the following perspectives:

- A tendency of urban citizens to consider irrational the negative attitudes of the rural communities towards mining projects that are planned within, or close to, their domains.
- A tendency of the rural communities to distrust the offers made by the urban citizens related to the mining projects.
- A tendency of rural communities to consider that a mining project may result in an environmental disaster, which would change or destroy their way of living.
- A preference from the Peruvian urban citizens to promote mining as the most valuable source of economic income.
• A resistance from rural communities to allow or transfer entitlements to the mining companies so they can execute their projects, preferring to preserve their current way of living.

It is important to note that this does not mean that all the members of what we have called the rural communities and the urban citizens are going to be affected by these perspectives. There are members of the rural communities that support the mining projects, and members of the urban citizens that support the rural communities. As a clear example we have the environmental associations that are principally comprised of urban citizens. However, it seems that these perspectives are preponderant in a significant number of members of these groups, causing what happened in Tambo Grande, Conga and Tía Maria.

In this paradigm it is important to mention that even though members of rural communities have come to the cities, it is harder to find the same phenomenon in the opposite direction. The majority of people who live in rural communities are native descendants. This reality quite often creates a perception of “otherness” from the traditional urban citizens with regards to the rural communities, intensifying the above-mentioned perspectives and the sense of inequality between these two groups. As we will see in the following section, this dynamic has been present in Peru since the Spanish conquest.

II. PARTIES’ PERSPECTIVES THROUGHOUT HISTORY

When the Spanish conquered Peru in the 1500s, they “acquired” all the land, mines and Indians from the moment they stepped down from their ships in the recently discovered New World. Even though the Spanish fought the Indians to gain control afterwards, they believed all along that they were fighting to protect their rights, rather than trying to obtain them.

In this section we will review the effects in Peruvian history of the acquisition of land, mines and Indians by the Spaniards. As we will see, this created a peculiar relation between the Spaniards and the Indians that was later to become the dynamic between the elites and the Indians in the independent republic of Peru, or, in other terms, between the rural communities and the urban citizens. This relationship, as later explained, is the root of the patterns mentioned in Section I above, which affected Tambo Grande, Conga and Tía Maria. Also, we will see how this background shaped the creation of a top-down property regime in the Peruvian colonies, which still has a place in the Peruvian system today.

Through this explanation we may draw parallels with other civilizations, especially between the British Empire and its North American
colonies, to comprehend through contrast the importance of the historical component in the mining conflict.

A. Land Acquisition

In 1528, Francisco Pizarro landed on the shore of Peru, close to what today would be the beach of Colán. The conqueror jumped onto the sand and declared the discovered land as part of the Spanish Empire’s domain. Why was he entitled to do so? Because the Spanish crown had a special authorization from Pope Alejandro VI. Fernando and Isabel, the Catholic King and Queen of Spain, requested authorization from the pope to occupy and acquire the new lands discovered in America. The pope issued the corresponding Bula on May 4, 1493, authorizing the Spaniards to go spread the Catholic faith to the Americas and, while doing so, acquire all the land that they would discover. The pope said specifically in the Bula that the Catholic Church “donated” the land in favor of the Spanish empire.

The Spanish recognition and interpretation of the Bula is to be found in the “Recopilación de Leyes de los Reynos de las Indias” (hereafter, “Recopilación de Indias”), which included all the laws enacted by the Spanish monarchs in their colonies since the beginning of the conquest. Published for the first time in 1681 by King Carlos II, the Recopilación acknowledges the new discoveries as property of the Spanish crown “Por donación de la Santa Sede Apostólica.” According to the

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16 Erlichman, supra note 4, at 156.
17 Bula del Papa Alejandro VI en favor de los reyes de España, in LAS INSTITUCIONES JURÍDICAS EN LA CONQUISTA DE AMÉRICA 215 (Silvio Zavala, ed., 1971) (“con declaración, que por esta nuestra donación, concesión, y asignación no se entienda, ni se pueda entender que se quite, ni haya de quitar el derecho adquirido a ningún príncipe Christiano, que actualmente huviere poseído las dichas islas y tierras firmes hasta el susodicho día de Natividad de nuestro señor Jesu-Christo ”. In: “Bula del Papa Alejandro VI en favor de los reyes de España”); It is important to note that this Bula was issued one year before the Treaty of Tordesillas. The Treaty of Tordesillas was signed by the Kings of Spain, Portugal and the Pope Alejandro VI on June 1494. The Treaty of Tordesillas was the basis for what was later consider the “Discovery Doctrine”, which recognized the sovereignty that the European nations would have over the new discovered land. This doctrine is latter on adopted by the United States Supreme Court in the case Johnson v. M’Instosh (1823), after more than 300 years. See Eric Kades, The Dark Side of Efficiency, 148 U. OF PA. L. REV. 1065, 1065-1189 (2000). Therefore, the pope endorsement was essential to the Spanish conquest in America.
18 Even though the Recopilacion de Indias was published in 1681, the Laws that this recopilation contained were enacted in many cases since the beginning of the viceroyalty. The Recopilacion de Indias didn’t create new Laws, but collect all the applicable Laws to the Spanish Empire colonies instead.
19 1 RECOPIACION DE LEYES DE LOS REYNOS DE LAS INDIAS 523 (Impresora, 4th ed. 1791) (“Por donacion de la Santa Sede Apostolica y otros justos y legítimos titulos, somos senor de las Indias Occidentales, Islas, y Tierra firme del Mar Oceano, descubiertas, y por descibir, y estan incorporadas en nuestra Real Corona de Castilla. Y porque es nuestra voluntad, y lo hemos prometido y jurado, que siempre permanezcan unidas para su mayor perpetuidad y firmeza, prohibimos la enagenacion de ellas”).
Bula, the Recopilación de Indias also established the spread of the Catholic word to the New World as the principal goal of the conquest.\textsuperscript{20}

Juan de Solorzano, one of the compilers of the Recopilación de Indias, wrote a book named \textit{Politica Indiana} in 1647, commenting on what was to be published in the Recopilación de Indias.\textsuperscript{21} There, Solorzano explains that the correct interpretation of the recompilation involved the acquisition of property rights over the land to be discovered.\textsuperscript{22} The question underlying these statements, however, is whether the pope had the power and jurisdiction to transfer property rights over land occupied by the Indians in America.\textsuperscript{23} As explained, the stated intention behind the pope’s grant was the spread of Catholicism. At this point in history, to teach the Indians the Catholic word was equivalent to saving their souls. The mission of the Church was to expand the Gospel as far as possible, to save as many souls as it could.

Notwithstanding this romantic perspective, from the most rudimentary legal standard it is obvious that the pope did not have the power to transfer the land of the New World to Spain, especially considering that the natives already held the territory. This donation was not enforceable against the Inca Empire because the pope did not have jurisdiction over their land, their property, or the people themselves. The \textit{Bula} was an endorsement for the Spanish crown to conquer America. The \textit{Bula} allowed the conquerors to use force to “protect” their rights, rather than using it to gain new rights.

As one can imagine, when Pizarro came to Peru and declared that the kings in some distant fatherland were the owners of all the Inca Empire, war became a reality. The Spanish conquerors, in Peru with Francisco Pizarro and in Mexico with Hernán Cortes, didn’t bargain for the land, they took it by sword just as their government had authorized them to do. Moreover, they had the best justification, for they acted not in the name of men, but in the name of God.

After the conquerors “pacified” an area, they would split it up into concessions for the Spaniards who would remain in the locality. The

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\begin{itemize}
\item \textsuperscript{20} 2 \textit{RECOPI\LACION DE LEYES DE LOS REYNOS DE LAS INDIAS} 1 (Impresora, 4\textsuperscript{th} ed. 1791) (“Porque el fin principal, que nos mueve a hacer nuevos descubrimientos es la predicacion, y dilatacion de la Santa Fe Catolica, y que los Indios sean ensenados, y vivan en paz y policia”).
\item \textsuperscript{21} As the reader may notice, Política Indiana was published 34 years before the Recopilacion de Indias. Moreover, the Recopilacion de Indias was even published after the death of both of its authors (Antonio de León Pinelo, 1660 and Juan de Solorzano, 1655). This can be explained because, first, the compilation was a collection of all the applicable Laws in the Spanish colonies, thus, such laws existed before the Recopilacion de Indias was published. Second, in order to publish the Recopilacion de Indias, it was necessary the political approval of the King and the printing of the Recopilacion de Indias, this may had created a delay that exceeded both of the authors lives.
\item \textsuperscript{22} JUAN SOLORZANO, \textit{POLÍTICA INDIANA} 139 (Fundación Jose Antonio de Castro 1971) (1647); See also Zavala, \textit{supra} note 17, at 30.
\item \textsuperscript{23} But see Zavala, \textit{supra} note 17, at 15-29; ANTONIO MURO, \textit{LECCIONES DE HISTORIA DEL DERECHO HISPANO – INDIANO} 31-45 (1989).
\end{itemize}
Recopilación de Indias mandated this as an incentive for newcomers to keep expanding the Spanish empire.\textsuperscript{24}

It is true that the Spanish spread the Catholic word in the Americas. John Blanco recounts one of the chronicles of Bernardo Díaz del Castillo, one of Cortes’ soldiers, who said that “almost every encounter between Cortes’ band and native society concludes with the conquistador’s injunction for the leaders’ ‘idols’ to be smashed, and for an image of the virgin Mary to be erected in their place.”\textsuperscript{25} However, it is undeniable that such spiritual conquest had a political aim all along—the expansion of the Spanish empire and, with it, its economic power.

This process was very different from the British experience. As explained by Stuart Banner, the British colony in North America\textsuperscript{26} and in New Zealand\textsuperscript{27} respected the ownership of the Indians who occupied the land. As Pagden said, the British preferred settlement instead of conquest.\textsuperscript{28}

The British would buy land from the Indians, “conquering” the land by contract instead of by sword. This gave the British a much more pacific occupation of the land, using force only when necessary.\textsuperscript{29} In this sense, John Locke, criticizing the idea of conquest over settlement, said: “Indeed it often makes way for a new frame of a Common Wealth, by destroying the former; but without the consent of the people, can never erect a new one.”\textsuperscript{30}

What would have happened if the British had encountered an empire like the Aztecs or the Incas instead of less populated land? Would their methods have been the same? Probably not. At the beginning of imperial expansion, which was around 100 years before John Locke

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\textsuperscript{24} Recopilación de Leyes de los Reynos de las Indias 39 (Impresora, 4\textsuperscript{th} ed. 1791) (“Porque nuestros vasallos se alienten al descubrimiento y poblacion de las Indias, y puedan vivir con la comodidad, y conveniencia , que deseamos: Es nuestra voluntad , que se puedan repartir y repartan casas, solares , tierras, caballerias, y peonias a todos los que fueren a poblar tierras nuevas en los Pueblos y Lugares (…), les concedemos facultad, para que de alli adelante los puedan vender , y hacer de ellos a su voluntad libremente, como cosa suya propia; y asimismo conforme su calidad, el Gobernador, o quien tuviere nuestra facultad , les enconiene los Indios en el repartimiento que hiciere para que gocen de sus aprovechamientos y demoras, en conformidad de las tasas, y de lo que esta’ ordenado”).


\textsuperscript{26} Stuart Banner, How the Indians Lost Their Land: Law and Power on the Frontier, in Perspectives on Property Law 86 (Aspen Coursebook Series 3\textsuperscript{rd} ed., 2005).

\textsuperscript{27} Stuart Banner, Two Properties, One Land: Law and Space in Nineteenth-Century New Zealand, in Perspectives on Property Law 321-333 (Aspen Coursebook series 3\textsuperscript{rd} ed., 2005).

\textsuperscript{28} Anthony Pagden, Lords of All the World, 86 (1995).

\textsuperscript{29} As will be explained in section 2.3, the British settlement did not cause less harm than the Spanish conquest of the Indians. Driven by economic incentives, both cases ended up in mistreatment and mass killing of Indian communities.

\textsuperscript{30} Pagden, supra note 28, at 86 (quoting John Locke, Two Treatises of Government 403 (Peter Laslett ed., Cambridge Univ. Press 1988) (1690)).
wrote his *Two Treatises of Government*, all the empires and colonizers wanted to follow the path blazed by Spain. Only when the other empires noted that there was not another Mexico or Peru to be found did the philosophy of the colonization change.

Nonetheless, we can see the difference between the acquisition of property rights in the British versus the Spanish colonies. The British settled and bought the land from the Indians, whilst the Spanish fought in name of Christ and acquired all the land by force. The British colonizers bought the land for themselves, paying an agreed value (even though many times such consideration was derisory), while the Spanish conquered the land for the crown, dividing it later between the conquerors as concessions. This is of great importance; the conquerors in the Spanish colonies didn’t have property rights as did the British colonizers, but instead a grace from the crown. Just as they could receive a grant of land by the authorities, the authorities could also take it away. This is a constant in all the rights that were given during the Spanish colonization period: property was not absolute.

**B. Mine Acquisition**

Mining has a special place in this story. The Recopilación de Indias itself declared that gold and silver were the “main economic nerve” of the Spanish Empire. From the beginning of the conquest, the Spanish realized that the land in Peru and Mexico (New Spain during the colonial period) was rich in minerals. As Francisco Xavier de Gamboa said, New Spain had “mountains of gold and silver” to offer. The Peruvian case was even greater; at the time people would say, “the world revolved around the two economic poles of Potosí and Huancavelica.” Potosí with its silver, and Huancavelica with its mercury, were consider the center of bullion for the world. At this point in history, all empires were

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33 We can note, however, a common area between the creation of rights in favor of the Spanish and British empire, in both cases the empires implemented legal systems that were strange for the natives. In the case of the Spanish, they took the land away from the natives, as a generalize expropriation of land decided by the central government. In the case of the British, they forced the natives into a western Lockean view of property rights, based on who had control over the goods. Though the Spanish spilled more blood, both measures where impositions.
34 2 *RECOPIACION DE LEYES DE LOS REYNOS DE LAS INDIAS* 493 (Impresora, 4th ed. 1791) (“Ordenamos y mandamos a los Vireyes, Presidentes , y Gobernadores, que tengan mucha cuenta, y cuiden con especial atencion del beneficio, y labor de las minas descubiertas , y procuren aplicar toda su diligencia en que se busquen , descubran, y labren otras nuevas, porque la riqueza, y abundancia de plata, y oro es el nervio principal , de que resulta la de aquellos , y estos Reynos”).
eager to find bullion, and Spain had found what seemed to be an inexhaustible source of it.37 Equal to the land, the Recopilación de Indias mandated that mines were owned by the Crown, but could be exploited by its subjects.38 This is also recognized by the Peruvian Ordenanzas the Minas39 and the New Spain Ordenanzas de Minas.40 The Spanish Crown would receive in exchange from its subjects el Quinto of all the production of the mines, being a tax of twenty percent over the obtained minerals according to the Recopilación de Indias.41 Because all the minerals that were taken from the ores had to be marked with the Quinto before it was traded,42 it was easier to get paid for such tax. El Quinto was paid without taking into account the actual costs of extracting the mineral, so it equated to twenty percent of the gross income of the miners.

The comparison with the British colonies in North America is quite simple in this case, because they did not find equivalent mineral sources. This would later compel the British to change their perspective toward the economic activities of their colonies.

37 Elliot, supra note 31, at 88.
38 2 Recopilacion de Leyes de los Reynos de las Indias 68 (Impresora, 4th ed. 1791) (“Es nuestra merced y voluntad, que todas las personas, de qualquier estado , condicion, preeminencia , a’ dignidad , Espanoles , e Indios , nuestros vasallos, puedan sacar oro, plata, azogue, y otros metales por sus personas, criados , o esclavos en todas las minas, que hallaren, o donde quisieren, y por bien tuvieren, y los coger, y labrar libremente sin ningun genero de impedimento, habiendo dado cuenta al Gobernador , y Oficiales Reales para el efecto contenido en la ley siguiente, por manera, que las minas de oro, plata, y los demas metales sean comunes a todos , y en todas partes, y terminos , con que no resulite perjuicio a los Indios , ni a otro tercero ni esta permision se extienda a los Ministros, Gobernadores , Corregidores , Alcaldes mayores , y sus Tentientes Letrados, Alcaldes , y Escrivanos de minas , ni a los que tuvieren especial prohibicion : y cerca de senalar, tomar las minas , y estacarse en ellas, se guarden las leyes , y ordenanzas hechas en cada Provincia, siendo por Nos confirmadas”).
39 De Navarra Melchor, De las Ordenanzas del Perú 224 (1752) (“Primeramente, por quanto los minerales son propios de la Magestad, y derechos realengos por leyes, y costumbres, asi los da, y concede a sus vasallos, y súbditos donde quiera que los descubrieren”).
40 See Reales Ordenanzas para la Dirección, Régimen y Gobierno del Importante Cuerpo de la Minería de Nueva España, y de su Real Tribunal General Art. 1-3 (1783).
41 2 Recopilacion de Leyes de los Reynos de las Indias 480 (Impresora, 4th ed. 1791) (“Mandamos que todos los vecinos, y moradores de nuestras Indias, que cogieren, o sacaren en cualquier Provincia, o parte de ellas , oro, plata , plomo , estoño, azogue , hierro, u otro qualquier metal, nos hayan de pagar , y paguen la quinta parte de lo que cogieren, o sacaren neto, sin otro ningun descuento”).
42 2 Recopilacion de Leyes de los Reynos de las Indias 93 (Impresora, 4th ed. 1791) (“Prohibimos y defendemos a todos universalmente, de qualquier estado , o condicion, que puedan vender, tomar , prestar , empenar , ni en otra forma contratar en oro en polvo, ni tejuelos , ni otro ninguno que no este fundido, ensayado, y quintado, pena de perderlo, aplicado por tercias partes, las dos a nuestra Camara y Fisco , y la otra al Denunciador. Y mandamos a los Vireyes , y Audiencias, que ordenen como mejor puedan, y mas convenga, que la misma prohibicion se guarde con los Indios”).
C. Labor Acquisition

In order to complete the economic cycle, the Spanish empire needed labor to exploit the mines, and they found it: the Peruvian and Mexican viceroyalties had as many Indians as minerals in the ground.43

Once again, religion became the principal excuse to use the sword, pacify the natives, and teach them the word of God. To this extent, the Recopilación de Indias indicated that the corresponding Spanish authorities in each locality would give a number of natives to the conquerors that were to stay on their land,44 and keep a registry of it.45 This system was called encomiendas, which means “custody”. The Spaniards who received Indians were supposed to teach them the word of God and take care of them. In exchange, the Indians were to work for the Spanish.

Even though the written position of the Spanish Empire in the Recopilación de Indias was to protect the natives of the New World,46 reality overcame such intentions. The pressure to obtain bullion, united with the temptation of using the thousands of Indians at hand, naturally concluded in systematic exploitation. As Elliot says, “…[encomienda] which was supposed to carry with it certain spiritual and moral obligations…was liable to be no more than a license to oppress and exploit.”47

As de Solorzano recounted in his Politica Indiana, the crown even abolished the encomienda in 1542, but was urged to reenact it in 1547 due to economic need.48 The Crown, in its pursuit of not enslaving

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43 See Vincent Gay, Leyes del imperio español 25 (1924) (Even though the Spaniards brought diseases to their colonies which killed many natives, as shown by Vincent Gay, the amount of natives was kept as an important amount throughout time).
44 2 Recopilacion de leyes de los reynos de las Indias 249 (Impresora, 4th ed. 1791) (“Luego que se haya hecho la pacificacion, y sean los naturales reducidos a nuestra obediencia, como esta ordenado por las leyes, que de esto tratan, el Adelantado, Gobernador, o Pacificador, en quien esta facultad resida, reparta los Indios entre los pobladores, para que cada uno se encargue de los que fueren de su repartimiento, y los defienda, y ampare, proveyendo Ministro, que les ensene la Doctrina Christiana, y administre los Sacramentos, guardando nuestro Patronazgo, y ensene a vivir en policia, haciendo lo demas, que esten obligados los Encomenderos en sus repartimientos, segun se dispone en las leyes de este libro”. In: “Recopilacion de Leyes de los Reynos de las Indias”).
45 1 Recopilacion de leyes de los reynos de las Indias 560 (Impresora, 4th ed. 1791) (“Los Vireyes y Presidentes tengan libro general de todos los repartimientos de Indios, que hubiere en sus Provincias, declarando quien los posee, si estan en primera, o segunda vida, el numero de Indios, y cantidad de sus tasas, el qual se guarde en el Archivo con los demas papeles del gobierno, y en todas ocasiones nos envien relacion firmada de su propia mano de los que han vacado, y las personas en que los hubieren encomendado, y por que causas”).
46 2 Recopilacion de leyes de los reynos de las Indias 189 (Impresora, 4th ed. 1791) (“Habiendo de tratar en este libro la materia de Indios, su libertad, aumento, y alivio, como se contiene en los títulos de que se ha formado: Es nuestra voluntad encargar a los Vireyes, Presidentes, y Audiencias el cuidado de mirar por ellos, y dar las ordenes convenientes, para que sean amparados, favorecidos, y sobrellevados…”).
47 Elliot, supra note 31, at 89.
48 Solorzano, supra note 22, at 623-631.
the Indians, tried to limit their work through the Law, but reality made the same legal body authorize, and endorse, forced labor in the mines.

While reading these passages one can feel a legal schizophrenia, but it makes absolute sense when we remember the Crown’s ultimate economic goal: bullion. After all, as Antonio Muro said, the Indians were “always the most abundant, most acclimated to the varied geography, and furthermore, the cheapest.” The Spanish empire needed few African slaves because of the abundance of Indians. People had to pay for the slaves, but acquisition of Indians only required that you obtained “custody” of them. Furthermore, the Indians were accustomed to the height of the mountains where the mines were principally placed.

Indians could be used to perform any labor, but mining was the toughest. Readapting an ancient Inca system of labor called the “mita,” the Indians were forced to work. The Ordenanzas of Peru given by the viceroy Francisco de Toledo in 1573 recounts the fatalities he found in the mines of the viceroyalty of Peru. Among other abuses, Indians wouldn’t get paid or they weren’t allowed to drink water while they were in the mines, dying of thirst. Francisco de Gamboa, commented that the ordenanzas of the viceroyalty of New Spain encountered similar situations. According to Howard Erlichman, in reference to mining work in the Potosi Mines, “[m]ost of these tasks were performed by Native Americans and most of these workers eventually succumbed to overwork, brutal conditions, and/or diseases.”

As can be seen, regardless what the Recopilación de Indias said, the Spanish conquerors owned the Indians and their labor. As Peter

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49 Id. at 188-196.
50 Id. at 357-409.
51 Muro, supra note 23, at 292.
53 See Muro, supra note 51, at 299 (explaining that Mita is an Inca’s word, which can be translated to “from time to time”. Originally it consisted in temporal work that Indians would perform in the mines as to please the Inca. The Spaniards took this institution and used it to exploit the mines and, obviously, the Indians also).
54 I DE NAVARRA MELCHOR, DE LAS ORDENANZAS DEL PERU 274 (Lima, 1752) (“Y porque ceden los fraudes que hasta aquí ha habido en no pagar los jornales a los indios, que se reparten en la plaza, como en detenerlos algunos días, y otros en darles menos de lo que está estatuído, y otros llevando más indios de los que han meneste para reservarlos, haciéndose sobre esto algunas contradicciones ilícitas.”).
55 Id. at 282 (“Otro si, por quanto una de las cosas más necesarias al sustento humano, es la bebida, y en las ordenanzas del señor virrey D. Francisco de Toledo está mandado, que los dueños de las dichas minas, y sus mineros sean obligados a tener a las bocas de las minas, y socavones botijas de agua suficiente, y las que fueren necesarias para todos los indios que con ellos trabajan, en lo qual ha habido notable descuydo, y no solamente no tienen agua, pero los dichos mineros no consienten a los dichos indios que vayan por ella.”).
56 Id.
57 Erlichman, supra note 4, at 259; See ALLISON BIGUELOW, WOMEN, MEN, AND THE LEGAL LANGUAGES OF MINING IN THE COLONIAL ANDES 364 (Ethnohistory 2016) (providing further comments of the mining labor in the mines of Potosi).
Bakewell explained, referring to the Ordenanzas de Peru issued by the viceroy Toledo, “these rules must have been dead letter from the day they were issued.”

According to Zavala, in order to exploit the New World, the Spaniards took the land and the Indians, establishing “dominion over the inhabitants of America.”

Did the British do the same to the Natives in North America? Not as a general practice. The British didn’t find mines to exploit, nor did they find enough Natives to make using them worthwhile. One traditional explanation may be that acting as the Spaniards was against their principles, following a Lockean philosophy, but, as explained above, these arguments didn’t exist at the beginning of the colonies when the British thought they could still find a new Peru or Mexico. As Kades explains, “if it had been cheaper to be more brutal, then Europeans would have been more brutal. Such brutality, however, was not cheap at all.”

Nonetheless, the British were brutal to the Indians in America, but in a different manner than the Spanish were. As explained in section 2.1, the British conquered principally by contract, buying the Indians’ land, whilst the Spanish conquered by sword. The Indians were not worth it for the British as they were for the Spanish. Indian communities in North America were not as concentrated as in the case of Peru or Mexico, nor were there mines to make the Indians work in. Thus, the British built a fence around themselves, leaving the Indians out, while the Spaniards fenced themselves with the Indians, leaving the Indians in. The British got rid of the Indians (buying them out or killing them when they did not want to sell their land, or when they did not recognize their possession as property) whilst the Spanish preserved them.

The Spanish and British colonies both ended up with mass killing and mistreatment of native Indians, but the means to the result were shaped differently. On one hand, many Indians in North America were left stagnant after losing their land for undervalued considerations. On the other, many Indians in South America were killed by the work in the mines. It is hard to say which case caused more harm to the native communities.

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58 Peter Bakewell, Miners of the Red Mountain 152 (University of New Mexico Press 1943).
59 Silvio Zavala, Las Instituciones Juridicas en Las Conquista de America 44 (Editorial Porrua Ciudad de Mexico 1971)
60 Is known that there were some cases of slaved Indians, but this were in any case exceptions of the general rule. See generally Banner, supra note 26.
D. Creating a Top-Down Property Structure

As seen in sections 2.1, 2.2 and 2.3, in their colonies the Spaniards acquired the land, the mines and the Indians themselves in the name of God. The British, in contrast, principally acquired land through bargaining. Why do we see this difference? Due to fortune, accidental fortune.

In the 1500s, all empires wanted gold and silver, and the Peruvian and Mexico mines were enormous sources of it. Because Spain had the “fortune” of acquiring these mines through random chance, they implemented many measures to protect them. On the other hand, because the British and French did not find equivalent sources of precious metals in their American colonies, they did not impose strong government measures over their colonies at the beginning. As Elliot put it, “the early discovery of gold in the Spanish Caribbean introduced an urgency into the establishment of some form of state control which was not felt in British Atlantic world that seemed to offer little more than fish, furs, timber and a few bales of tobacco.”

That statement is not only logical, but also the economic basis of the creation of property rights. When you have a scarce resource and you value it highly, then reasonable people are willing to invest in exclusion methods to protect the good. The peculiarity here is that the potential “owner” was the empires. The application of this rationale to the commented scenario translates into the strong government intervention of Spain in its colonies from the start and the lack of it from the British Empire in theirs. More probable than not, if the British had found Peru or Mexico, they would have become Spain.

This “accident” marked two radically different methods of creation of property rights. As Carol Rose explained, we can have bottom-up or top-down property rights regimes. The former supposes the recognition in the legal system of the control a person has over certain resource (a Lockean view of property rights), while the latter has the legal system through the state as a creator of property rights, distributing, creating and revoking such rights.

It would seem that the establishment of these different property systems turns the rudder of economies in different directions, thereby creating a pattern. We can trace a sustained preference for extractive economies in Peru, never reaching industrialization, whilst the United States became the most powerful industrialized country in the world.

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62 Elliot, supra note 31, at 113.
64 Carol Rose, What Governments Can Do for Property (and Vice Versa) 210-212 (Jai Press Inc. 1999).
Comparing the development of Spain and Peru to that of Britain and the United States, it is easy to realize how important this outcome was. Peru and Spain may have been victims of what has been called the “resource curse,” a negative relationship between natural resource wealth and economic growth.

During the time of the Peruvian viceroyalties, the Spaniards exploited the land, mines, and Indians that were available. Because the Indians already occupied the land, there was no need for the Spaniards to send labor from Europe to Peru. The vast majority of Spaniards who came to America worked as supervisors or land or mine owners. This created a small but selected and powerful elite. The Indians were simply not seen as equals, even taking into account what the Recopilación de Indias said about such treatments.

The elites in the Peruvian Viceroyalty presented an additional peculiarity: economic and governmental power was held together. Because of how the conquest was executed, the conquerors would acquire extensive resources in the colonies. They, representing the government of Spain, decided who owned what, and, as can be imagined, they were the principal owners. Meanwhile, the British Empire at the beginning did not pay much attention to their colonies, letting the colonizers settle in the new land. Because they didn’t discover any mines, there was little incentive for the degree of governmental control that the Spaniards had over Mexico and Peru. Also, because they didn’t encounter a populous civilization, they didn’t see a valuable source of labor in the Indians.

When the British shifted their goals from finding mines to creating wealth through manufacture and agriculture, they started to send...
many more colonists to settle the land. In contrast to what we find in the Spanish colonies, in North America, white Europeans were not only the ruling class, but also the most common race in the land. The British recreated a new Britain in North America, instead of creating an oppressive regime as the Spaniards did in their colonies. Or, to view it from another perspective, the Indians oppressed in North America were, by far, a minority.69

E. The Pattern Behind the Parties’ Perspectives

The Spaniards established an extractive economy in their colonies because it was cheap. They had the mineral resources, and the human capital was practically free. The Spaniards could exploit the land, the mines, and labor. They didn’t create new productive economies or implement new technology because it wasn’t worth it. Implementing new sources of wealth, or installing new technologies required investment and startup costs. With mining, the Spaniards almost had no initial cost. This tradition has been perpetuated until today, drawing a clear pattern that feeds the mentioned perspectives of the urban citizens and the rural communities in Section I.

In 1792, less than 30 years before the independence of Peru, citizens of Arequipa asked the viceroy of Peru for permission to create a mining society. Peruvian elites had internalized the Spanish practice, principally because they were descendants of the Spaniards (all the signatories of such petitions had Spanish surnames). Within the petition, they analyzed the possibility of constituting a company in the manufacturing or agricultural sectors, but they preferred mining because it would “enrich the country”, relegating the other activities to the future.70

As described by Sokoloff and Egerman, “elite families generally acted as local representatives of the Spanish government in the countryside during the colonial period and maintained their status long after independence.”71 Independence didn’t return the country to the Inca Empire, nor did it rid the Peruvian economy from extractive practices. In-

69 The usage of words always says much about a particular reality. Even though in British and North American academia the word “colonizers” is used indistinctly for the Spanish and the British occupation in the New World, in Spanish and Latino American academia you would find a marked difference. The British in America would be called “colonizers”, while the Spaniards in America would be call “conquerors”. The colonizers were to settle, occupy the land and make it produce. The conquerors were to fight and acquire by force what the Indians were not willing to surrender.

70 See DE LA FUENTE Y LOAYZA AND OTHER CITIZENS FROM AREQUIPA: PROYECTO Y ORDENANZAS DE LA SOCIEDAD MINERALOGICA DE AREQUIPA 45 (Lima, 1792) (“No hay duda, que se presentan otros varios objetos útiles, y compatibles de una Sociedad económica; pero ocurren obstáculos invencibles por ahora, que no permiten estas importantes atenciones. Procúrese primero la erección de una Sociedad, o Compañía, que pueda enriquecer el país, y entonces podrán sus hijos, y vecinos, pensar con oportunidad en otros beneficios públicos”).

71 Sokoloff, supra note 66, at 222.
stead, descendants of the conquerors led the process of independence: the elite was kept protected.

According to Pedro Benavides’ 1827 Manual del Abogado Americano (Manual of the American Lawyer), after independence, the mines were owned by the government\(^{72}\) instead of the Crown. Just as during the Peruvian viceroyalty, people could exploit the mines in return for a tax paid to the government (during the viceroyalty, this tax was paid to the Spanish Empire). For this reason, the North Peruvian Civil Code of 1836 didn’t regulate mines as goods, because they had an independent treatment establishing the rights of the government over them.\(^{73}\)

As the government maintained ownership and control of what supposedly was the greatest Peruvian resource, the mines, the economic elite remained entangled with the political ruling class. From 1821 to 2001, Peru never had an indigenous president of Andean descent, with most of them being Spanish descended and from the coast instead. When Alejandro Toledo was proclaimed president of Peru in 2001, he held a special ceremony in Machu Picchu, Cusco, honoring the past of the Inca culture.\(^{74}\) He declared regarding this radical turn out after almost 200 years, “hoy se reinicia el reencuentro de todas la sangres,” meaning, “today all bloodlines begin to run together again.” The elite remained a small group for a long time. As Vicente Gay recounts,\(^{75}\) around 1924 the Peruvian population was divided as follows: 13 percent White, 1.9 percent Black, 57.6 percent Indian, 24.8 percent Creole, and 1.9 percent Asian. 77 years passed between Vicente Gay’s demographic study and Alejandro Toledo’s presidential election, but the continuing claim is to push industrialization forward, as noted by Pedro Pablo Kuczynski,\(^{76}\) the president elected for the period 2016 to 2021.

After the Spanish conquest we could see in Peru at least three patterns that fulfill the five mentioned perspectives: (i) a special preference for mining (in general extractive economies, including oil, gas, or rubber), (ii) a quite small but strong elite, exclusive of the native peoples, and (iii) a disregard for the original natives in society. Of course, through

\(^{72}\) PEDRO BEHAVIDES, MANUAL DEL ABOGADO AMERICANO (1827) (providing that “Aunque las minas de oro, plata, demás metales y sal, pertenecen al estado, no obstante el que las descubre se hace dueño de ellas con solo la carga de pagar al Estado cierta pensión”. In: Benavides, Pedro. “Manual del Abogado Americano.”)

\(^{73}\) See Chapters I and II of the North Peruvian Civil Code of 1836, also known as the Civil Code of Santa Cruz.


\(^{75}\) Gay, supra note 43, at 25.

the years the second and third pattern evolved. Nowadays original natives have mixed in socially, culturally and economically. However, we can still find a great difference between the rural communities and the urban citizens, a parallel to the original Indian-Spanish distinction. No longer does the mita exist, forcing the rural communities to work for the mining companies, but we can see indifference from the urban citizens, and even eagerness to push forward mining projects without accounting for the effects that such extraction may have on the rural communities.

As of 2015, 70 percent of the Peruvians did not have access to the financial system, unable to obtain loans, and in many cases no access to basic financial services like bank accounts. Such statistics are striking, because it is easy to see how the social structures that existed during the Spanish colonies echo in the current social system of Peru. This kind of extractive economy, based on a top-down property regime, when sustained for hundreds of years, creates practices that are difficult to overcome. The perspectives of the rural communities and the urban citizens towards the mining projects became patterns incubated for centuries, ingrained in common perception. After this almost 500 years, reality squarely shows that mining is still the “jewel of the crown” in the Peruvian economy and everything that comes with that. In 2015, mining constituted the largest portion of the annual gross domestic income. However, Peru remains a developing economy or third world country.

III. Behavioral Law and Economics and the Mining Conflict

Tambo Grande, Conga and Tía María were supposed to bring wealth to Peru and to the rural communities that lived in the surroundings of the projects. When a mining project is executed, the mining company has to pay the Peruvian government for the right to exploit a royalty for production and income tax. These three concepts are to be shared with the local counties where the mining project is to be executed: 75 percent of the right to exploit, 100 percent of the royalty for production and 20 percent of the applicable income tax, with shared income tax the most important one by far. The right to exploit is based on fixed tariffs per square meter of the mining concession area and the royalty for production is around 1 percent of the gross sales of the mineral).

80 Law No. 179-2004-EF, Oct. 6 (PERU).
82 Law No. 28611, Jun. 24, 2007, art 142, 144, & 145 (PERU).
At the same time, and even though this is not enacted by law, mining companies often execute social projects to help the communities overcome the impact of the changes that the mining projects have on their environment. Also, those villagers who own property above the mineral fount ought to be paid for their land at the price that they freely negotiate with the mining company. Finally, according to Peruvian environmental law, the mining company has to present an environmental management plan to be approved by the government, in order to ensure the protection of the environment. If the mining company fails to execute its environmental management plan, or if it damages a third party (like the rural communities), a liability rule will apply and the damage should be compensated.  

This set of rules and practices is quite typical in different jurisdictions as a compound of rules to make mining feasible. Nonetheless, Tambo Grande, Conga and Tía María did not go through. In the three cases, the mining endeavors were supposed to bring wealth; however, in all three cases, the mining goals clashed with the social wall of the rural communities. Why? Traditional economists may be puzzled by this outcome, given that the mining projects were supposed to bring an efficient outcome to the mining companies, the Peruvian government, and the rural communities. In Pareto’s terms, these projects were to be efficient because all of the agents were supposed to win. In this sense, the reaction of the rural communities was not foreseeable under the traditional economic theory.

When we analyze this context through the prism of behavioral law and economics, the result is quite different. Traditional Law and Economics has as its main premise, that human behavior seeks rational maximization. This rational maximizing behavior is primarily identified with the production of wealth. In contrast, Behavioral Law and Economics approaches human behavior under three bases: bounded rationality (inconsistencies in the judgment or decision making process of human beings), bounded willpower (inconsistencies in reaching pro-

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posed goals), and bounded self-interest (restraint in our individualistic or profit-seeking realms).

Through these three premises, behavioral law and economics attempts to predict human behavior more accurately than traditional law and economics by trying to include the “human” side of humans in the analysis. So then, what explains the failure of Tambo Grande, Conga, and Tía María to see the light of day? We will try to understand the five mentioned patterns in Section I using the following behavioral law and economics biases related with bounded rationality:

- **Heuristic Representativeness:** A tendency of urban citizens to consider irrational the negative attitude of the rural communities towards mining projects that are to be executed within, or close to, their domains.
- **Heuristic Representativeness:** A tendency of the rural communities to distrust the offers made by the urban citizens related to the mining projects.
- **Heuristic Availability:** A tendency of rural communities to consider that a mining project may result in an environmental disaster that would change or destroy their way of living.
- **Status Quo Bias:** A preference from the Peruvian urban citizens to promote mining as the most valuable source of economic income.
- **Status Quo Bias and Endowment Effect:** A resistance from rural communities to allow or transfer entitlements to the mining companies so they can execute their project, preferring to preserve their current way of living.

A. **Heuristic representativeness: the tendencies of urban citizens to consider rural communities “ignorant” and of rural communities to distrust promises made by urban citizens**

When a social conflict arises, as it did in the cases of Tambo Grande, Conga, and Tía María, a constant claim from urban citizens is that the rural villagers “refuse to progress,” “irrationally reject the mining business,” or that they are just “ignorant.” If Pedro was described as a person who has rejected the intrusion of a private company investment near his home because it would change his way of living, many times an average person in Peru would think this was a description of a villager.

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88 Jolls, supra note 87, at 1479.
89 Id. at 1479 (A landmark experiment of bounded self-interest is the “Ultimatum Game,” also commented by the authors).
90 Id. at 1484-1485.
from the Andean highlands of Peru fighting against a mining company. However, this would not be an accurate understanding.

Even though urban citizens have this perception of rural villagers, many wealthy or middle class families from the coast have been in Pedro’s situation. In 2007, Olympic Peru, Inc., obtained a concession for the extraction of gas and oil in the department of Piura on the northern coast of Peru. Part of the concession area passed through Colan, a well-known beach of Piura where many middle class and wealthy people of the region would spend their summers. The concession created an immediate rejection from the summer vacationers, which led to different initiatives to block the activities of the investor.

Something quite similar happened in 2010 on Ancon, a classic beach for vacationers in Lima. Santa Sofia Puertos, a company owned by a Peruvian economic group called the Grupo Romero, wanted to build a port in the vicinities of Ancon. The vacationers that had traditionally come to the beach rejected the project and fueled protests against it. During this time, there were many cars visible around the streets of Lima with bumper stickers saying “No al Puerto de Ancón.”

In Colan and Ancon, people also showed the “Pedro effect;” they did not want the intrusion of a private company nearby their homes because it was going to change their way of living. The protesters here were not rural villagers, but upper-middle-class urban citizens.

Why then would people identify Pedro’s description as a villager from the Andes of Peru, rejecting a mining company? This could be a heuristic representativeness bias. In terms of Shafir and Leboeuf heuristic representativeness is, “the tendency to evaluate the likelihood that a target belongs to a certain class based upon the degree to which the target resembles the prototypic class member.”

Humans unconsciously use reasoning shortcuts to confront life, creating a dual system within the human mind. System 1, our “Homer Simpson” part of the brain, responds automatically, assessing an answer based on our past experiences and perceptions, including stereotypes. System 2, on the other hand, our “Rene Descartes” part of the brain, takes a controlled and conscious step back from the information provided, to reason with analytical intelligence and then answer.

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92 La sostenibilidad del balneario de Ancón: el puerto y sus stakeholders, CONEXIÓN ESAN (Feb. 16, 2011) http://www.esan.edu.pe/conexion/actualidad/2011/02/16/la-sostenibilidad-del-balneario-de-ancon-el-puerto-y-sus-stakeholders/.  
94 Shafir, supra note 93, at 499-500.
If throughout life, most of the red cars seen are Mercedes-Benzes, when asked to guess which is the brand that makes more red cars, our “Homer Simpson” may answer Mercedes-Benz. In contrast, under the same situation our “Rene Descartes” may first analyze how many cars are produced by each car company every year, and if the companies produced the same proportion of red cars. As can be easily guessed, our “Rene Descartes” may disagree with our “Homer Simpson,” answering that a company like Toyota produces more red cars than Mercedes-Benz.

Why don’t humans rely exclusively on their “Rene Descartes” brain while living? Basically, because humans have to live, and having the “Rene Descartes” answer all the obstacles we encounter would be too costly. Most daily decisions are made by our “Homer Simpson;” humans only use their “Rene Descartes” when they find it is worth it.

Our “Homer Simpson” gives us an illusion of validity. In a well-known field experiment, Tversky and Kahneman presented a description of a stereotypical librarian to a number of individuals, and asked which profession presented people with these characteristics. Because of the relatively larger number of existing farmers in relation with the existing librarians, the answer was supposed to be farmers, but most of the people picked librarians. The authors concluded, “Thus, people express great confidence in the prediction that a person is a librarian when given the description of his personality which matches the stereotype of librarians, even if the description is scanty, unreliable, or outdated.”

“Homer Simpson” would react responding to what people consider more frequent, creating stereotypes to assign objects to classes. This may be happening with the Pedro effect. Urban citizens think it is normal that rural communities would be against a mining project in the vicinities of their villages, even though they themselves may have had the same reaction in Colan or Ancon.

Where does the Pedro stereotype come from? And why do the urban citizens see this reaction as a negative? The answer to these questions are that it is arguably in the historical background of what urban citizens that react as the “Homer Simpson” have collected as normal or “valid” information.

As shown in Section II, the Spanish elites historically took advantage of the Indians for the exploitation of mines. As explained in Section 2.5, the dynamic between rural communities and urban citizens still has a lingering effect in the relationship between the conquerors and the

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95 Tversky, supra note 93, at 1126.
96 See Jennifer Crocker, Kristin Voelkl, Maria Testa & Brenda Major, Social Stigma: The affective Consequences of Attributional Ambiguity, 60 No. 2 J. OF PERSONALITY AND SOC. PSYCHOL. 218, 218-228 (1991) (this stereotype may recall what we encounter in the stigmas).
native Indians. The “otherness” that the urban citizens may feel toward the native Indians can create a disregard effect from the former over the latter.

For centuries, political and economic powers in Peru have decided when, where and how to exploit mining resources, having normalized the making of these decisions without asking, even if the decisions affect Indians or rural communities. Therefore, the urban citizens as irrational traditionally view any complaint by the rural communities because traditionally what the rural communities say does not matter.

The other side of the coin of this heuristic representativeness bias is in the rural communities. *Tambo Grande*, *Conga*, and *Tia Maria* show a tendency of the rural communities to distrust the offers made by the urban citizens related to the mining projects. However, behind the promises of the mining company there is now a complex supervision requirement by the government. It is the case that in *Conga*, as explained in Section I, even an international technical opinion was issued, which was reviewed and approved by the Peruvian government, stating that the reservoirs would provide better water to the villagers than the water already existing in the lakes. However, no agreement was possible and the project was also blocked.

**B. Heuristic availability: the tendency of rural communities to associate mining with harm**

Damages are a key element to consider when discussing mining projects with rural communities. It seems to be a tendency of the villagers to be particularly suspicious with the possibility of suffering an accident while the mining project is in place. These accidents are specially related to damaging the rural communities’ environmental asset.

*Tambo Grande*, *Conga*, and *Tia Maria* reveal the different types of damages feared by villagers. In *Tambo Grande*, the mining company planned to relocate the community, which implied an exchange of land and resituating the town in another part of the valley. The principal fear in this case was the effect that the mining activity was going to have over the agricultural land, both the land that did not have to be exchanged because it was not part of the project’s area, and the land that was going to be given to the mining company in exchange for the agricultural land that was above the minerals fount.

In *Conga* part of the project implied emptying four lakes that were regularly used by the communities. In exchange, the mining company was going to build water reservoirs so the villagers would continue to have water for their consumption and agriculture. In this case, accord-
ing to the independent international opinion, the water that was going to be in the reservoirs was supposed to be better than the water contained in the lakes. After different tests, the independent consultant determined that the four lakes presented high amounts of minerals in their waters, making them inadequate for human consumption or agriculture. Despite this, the communities did not want the reservoirs, believing that they were not going to have enough water to maintain their regular way of living.

In Tía Maria, most of the people of Islay dedicated themselves to growing rice. The fears were similar to the ones in Tambo Grande. Even though the mine’s plan had to prevent any adverse effect in the agricultural activities of the people of Islay, the villagers were afraid that something could go wrong.

In these cases, “Homer Simpson” thinking appears again, through an availability heuristic bias. As explained by Tversky and Kahneman, “There are situations in which people assess the frequency of a class or the probability of an event by the ease which instances or occurrences can be brought to mind. For example, one may assess the risk of heart attack among middle-aged people by recalling such occurrence among one’s acquaintance.” The real statistical occurrence of the event is increased by a judgment error, coming from a past experience or stereotypical knowledge about these kinds of events. Also, humans will tend to increase their perception of the occurrence of the hazard if its materialization has a high saliency.

What context then creates an availability heuristic bias in the villagers? As a matter of fact, no accident has happened exactly in the way feared by the people in Tambo Grande, Conga or Tía Maria in Peru. However, there had been two very well known cases of damage caused by the activities of a mining project in recent Peruvian history. One was in Choropampa, a province of Cajamarca, and the other in Cerro de Pasco, a province of Pasco, both in the Andean highlands.

a. Choropampa, Cajamarca

Yanacocha, the same company that intended to implement Conga, owns a gold mine located 45 kilometers to the north of Cajamarca, between three thousand five hundred and four thousand meters above the sea level. This mining company started its operations in August of 1993. It is the biggest gold company in South America, and the second largest

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98 Tversky, supra note 93, at 1127.
99 Jolls, supra note 87, at 1519.
in the world. As part of its activities, the mining company needs mercury to process the gold that is extracted from the mine.\textsuperscript{100} On June 2, 2000, a Friday afternoon, between 4:00 p.m. and 6:30 p.m., a truck that was transporting mercury from Cajamarca to the mine spilled 151 kilograms of mercury along twenty-seven kilometers of roadway, crossing the community of Choropampa. At the same time, a circus was staying for the weekend in Choropampa, so there were many children around the city.

When the night came, a group of workers from Yanacocha came to Choropampa, offering the community S/.100 (approx. $30) for each recovered kilogram of mercury. The adults and children of the village ran to grab the fluorescent silver liquid off the ground, some with their bare hands. That weekend the circus was full of children, but 750 people, 40 percent being underage, later experienced intoxication from the exposure to mercury. After major litigation took place, many of the victims were compensated, with many discussions about the fairness of the amounts that were given to the plaintiffs. The consequences of exposure to the mercury were irreversible.\textsuperscript{101}

\textit{b. Cerro de Pasco, Pasco}

During the Spanish Conquest, the colonizers found that Cerro de Pasco had many sources of lead and zinc. They started exploiting the ores high in the mountains, 4,380 meters above the sea level. Through the years, after the Spaniards were expelled from the mines in 1820, the extraction continued by different miners until Cerro de Pasco Corp., an American company consolidated the mines in 1902. In 1973, Cerro de Pasco Corp. was expropriated by the military coup of Juan Velasco Alvarado, changing its name to Centromin. In 1999, after the privatization of Centromin, the mine became Volcan Compañía Minera S.A.A, which has been in charge of the mines until the date hereof. Through the centuries, the mine had coexisted with the town of Cerro de Pasco, with no environmental regulation in place. Because the mine has been extracting minerals through an open pit since 1956, the land, water, and houses of Cerro de Pasco are filled with toxic amounts of lead. Nine out of ten children present high rates of heavy metals in their blood, including lead, cadmium and arsenic. As time goes by, the mine expands operation and, even with the current environmental standards, the historical heritage of pollution haunts the city and its occupants.\textsuperscript{102}

\textsuperscript{102} Cerro de Pasco está tan contaminada que urge reubicar a sus pobladores, EL COMERCIO (Apr. 18, 2010), http://elcomercio.pe/ciencias/planeta/cerro-pasco-esta-tan-contaminada-que-no-se-
The Choropampa and Cerro de Pasco cases are quite different. Choropampa is a young mine (less than 30 years in operation), while Cerro de Pasco has been a mine since the Spanish colonies, with more than 400 years of history. In Choropampa, the accident was caused within the lifetime of Yanacocha’s operation, while in Cerro de Pasco contamination had been taking place long before the current owners of Volcan took control of the company. The common ground, though, is that the activity of the mine, directly or indirectly, brought despair to the communities that surrounded its operations. In both cases the villagers were damaged by the mine in different ways than what was expected from the people of Tambo Grande, Conga, and Tía María, but were damaged at the end of the day.

By analyzing the Choropampa and Cerro de Pasco cases with the historical background commented in Section II, it becomes clear that for the communities that are directly affected by the mining activity, mining has been a synonym for change and destruction, instead of gold and silver. The treatment that Indian laborers received while working in the mines during the Spanish colonies damaged not only the individuals, but also their towns. The Spaniards would distribute Indians that lived in towns close to the mines to exploit the resources, changing dramatically the way of living in such communities.

Mining history in Peru intensifies the availability bias of the rural communities: communities tend to consider that a mining project may change their environmental asset, changing their way of living.

Notwithstanding the above mentioned, this does not mean that most of the current mining endeavors present cases as the ones feared in Tambo Grande, Conga and Tía María, or the ones occurring in Choropampa and Cerro de Pasco. Especially if considering the number of environmental accidents in Peruvian history, taking into account that the Peruvian economy has been, and currently is, based on mining since the beginning of the Spanish conquest. The probability of environmental damage may be overestimated. This explains why the rural communities that will be affected by mining activities tend to be afraid of being damaged in their way of living, overweighing an accident’s saliency.

C. Status quo bias: the tendencies of urban citizens to prefer extraction and of rural communities to preserve their traditional activities

In Tambo Grande, Conga and Tía María, the urban society was in favor of the mining projects. In fact, after the conflicts in Conga start-
ed, the editors of El Comercio, the most important newspaper in Peru, published an article supporting the mining project. According to El Comercio, mining was necessary for the development of Peru. Even though the editors of the newspaper were considered in favor of diversifying the economy, closing the doors to the investments in mining would lead Peru to fall into a vicious circle. In order to create new business and wealth, education and infrastructure had to be improved. In order to improve education and infrastructure, money was needed. In order to obtain money, the government would need to raise taxes. Finally, if the government raises taxes, investors would not have incentives to create new business and wealth. Therefore, mining was necessary at the beginning in order to break this vicious circle.

This story may sound familiar. It is interesting how El Comercio claimed the exact same argument in 2012 that the citizens of Arequipa gave to the viceroy of Peru for opening a mining society in 1792. They also said let’s first erect the mining society, or company, to enrich the country, so later the future generations are going to be able to invest in different businesses. This was more than 220 years ago, and future generations are still claiming the same. In fact, as exposed in Section II, since the beginning of the Spanish colonies in the early 1520s, mining has been the preferred economic activity and this vicious circle has not been broken.

Why then, after all these years, do urban citizens have blind faith in the mining businesses? The answer may lie in in a status quo bias in favor of mining that has been incubated for centuries.

Samuelson and Zeckhauser developed the definition of the status quo bias while researching the decision of employees of Harvard University in selecting their health insurance plan, and the election of retirement plans by university faculties across the country. They discovered that “many people make the same choices year after year in important periodic decisions. It is the rare individual who fine-tunes such choices to changing economic circumstances, even though the transition costs may be small and the importance great.” In other words, they found that when the Harvard employees or the faculty under study had a given health or retirement plan they would remain with the status quo, even when there were a better option available them. Hence, humans tend to fail to select the option that would maximize their current status when

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104 DE LA FUENTE Y LOAYZA AND OTHER CITIZENS FROM AREQUIPA: PROYECTO Y ORDENANZAS DE LA SOCIEDAD MINERALOGICA DE AREQUIPA 45 (Lima, 1792).

they have a choice to maintain the status quo. This experience is called bounded rationality. Applying this logic to a practice that has been carried along for centuries, the status quo will become pervasive, appearing out of convenience, habit, inertia, or custom.\footnote{Id. at 41.}

The Peruvian elites have always identified mining as their immediate salvation, remaining loyal to such activity across the centuries. When deciding to assign resources in a new endeavor, most of the answers have been to keep the traditional answer even when this wasn’t necessarily the best response. As Samuelson and Zeckhauser explain, “indeed, one alternative inevitably carries the label status quo – that is, doing nothing or maintaining one’s current or previous decision is almost always a possibility.”\footnote{Id. at 10.}

At the same time, the tendency of the rural communities to reject mining projects that are to be executed in their vicinities has been in place for as long as the tendency of the Peruvian elites to want to execute mining projects. Since the Spanish colonies, many abuses were performed over the people that would work in the mines and their communities. Cities such as Cerro de Pasco\footnote{See also Instituto Nacional de Estadística e Informática, Pasco: Compendio Estadístico 2010 (2010); Pobreza aumenta en Pasco, Radio Cumbre, http://www.radiocumbre.com.pe/2014/06/02/pobreza-aumenta-en-pasco/ (last visit 12/22/2016).} and Potosí\footnote{See also Guillermo Bullain Iñiguez, Potosí continúa siendo el departamento más pobre de Bolivia, EJU! (Nov. 25, 2010), http://eju.tv/2010/11/potosi-continua-siendo-el-departamento-mas-pobre-de-bolivia/} are good examples of the effect mining had historically in these communities. After being the centers of bullion of the world for years, now they are polluted towns with high rates of poverty. In reaction to this historical context, many rural communities may experience a pervasive status quo effect when asked about the entrance of a mining project in their provinces, preferring to maintain their economic system as it is without the mining activity.

Why is the status quo so hard to overcome? In the following we deconstruct the analysis for the case of the urban citizens and the rural communities.

1. Status Quo Bias in the Urban Citizens

Transition costs

Status quo will be especially “sticky” when the transition costs overcome the efficiency gain associated with the superior alternative.\footnote{Id. at 8.} The Peruvian economy has been traditionally based on mining instead of industrial activities. Even though it is possible to diversify the economy,
creating different businesses has transition costs that should be considered, and those could block new ventures.

Loss Aversion

Given that most of the time the status quo is taken as the reference point, it is easy to foresee how loss aversion may block decisions to change the status quo. In the words of Samuelson and Zeckhauser, "taking the status quo as the reference point, the individual weights potential losses from switching as larger than potential gains. Because of loss aversion, the individual is biased in favor of the status quo." Another view as explained by Shafir and Leboeuf is, "loss aversion also creates a general reluctance to trade or depart from the status quo, because the disadvantages of departing from it loom larger than the advantages of the alternatives."

Applying loss aversion theory to our case, we see how the urban citizens may be afraid to change mining for other activities because mining has been producing wealth for the government (first for the Spanish Crown, and after independence for the Peruvian government) and the economy for centuries. Even though different ventures may create more productivity than mining, the status quo makes it harder to turn the wheel.

Psychological constraints

The status quo may prevail due to psychological constraints. We will refer to three particular cases: (i) the existence of sunk costs, (ii) the possibility of regret avoidance and (iii) the drive for consistency.

i. Sunk Costs

Peru has evolved a mining economy since the 1500s. In the meantime, investment had been injected into this activity, creating legal structures and physical infrastructure to take advantage of the minerals. This investment would be a sunk cost, as a cost that was needed to execute the activity but has been already performed.

According to traditional economists, sunk costs are not considered when making new decisions, because the expected utility does not depend on it. However, Behavioral Law and Economics has proven that they do affect decisions, with a greater tendency to continue with a venture once investment has been executed for the project. When a sunk cost is made for a status quo activity, as is the case of mining in Peru, the pervasiveness of changing the activity is even greater. The reason for

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112 Id.
113 Id. at 35-36.
114 Shafir, supra note 93, at 496.
116 In this regard, please refer to Hal Arkes and Catherine Blumer. The Psychology of Sunk Cost 35 ORG. BEHAV. AND HUM. DECISION PROCESSES 124, 124-140 (1985)
117 Samuelson, supra note 105, at 37-38.
this is related to prospect theory. After investing in a particular activity, the impact of subsequent spending of resources decreases, while the expectation of any positive outcome is overvalued. People would be prone to keep investing, hoping for a future good result or, in this case, as El Comercio says, keep investing in mining with the hopes of getting out of the vicious circle at some point.

ii. Regret Avoidance

Individuals tend to feel greater regret from negative outcomes resulting from their decisions than those resulting from their inactivity. Past experiences create a psychological constrain to, if possible, avoid decisions that may create a negative outcome. Why then should Peruvians keep supporting mining instead of shifting their attention to other economic activities? Any new venture contains a risk in of itself; it could just not be a good business. If we consider that mining has been the principal vein of economic growth in Peru from time immemorial, one can see that the urban citizens may experience regret avoidance in not supporting such activity.

iii. Drive for consistency

People try to be consistent with their decisions. Therefore, individuals tend to suppress information indicating that a past decision was an error, lowering their level of self-critique. This unconscious process may compel individuals to remain within the status quo to protect former decisions. If the urban citizens of Peru have always favored mining businesses and all of a sudden they shift their support to another activity, the underlying question would be if they were in error for all these years, tending to remain in the status quo to avoid such question.

2. Status Quo Bias in the Rural Communities

Transition Costs

The Tambo Grande and Tia María projects were supposed to change the economic activities of the rural communities that were to sell their agricultural land. If the rural villager is a young person, his transition costs to begin a different economic activity may be low, but if the villager is more than sixty years old, and has devoted his life to agriculture, the transition costs may be very high. This “stickiness” becomes stronger when the decision implies an irreversible change, because of the higher stakes in play. If after selling his agricultural land, the villager is

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118 Id. at 38.
120 Samuelson, supra note 105, at 39.
not going to be able to grow rice in any nearby land, he would not have any other option than to venture into a new economic activity.

Loss aversion

The villagers of Tambo Grande, Conga and Tía María put more weight on the eventual loss of their land, their lakes or their agricultural way of living than what the urban citizens were offering. Preferring the status quo, the execution of the projects was blocked in the three cases.

Psychological Constraints

As in section 3.3.1, we will refer to: (i) the existence of sunk costs, (ii) the possibility of regret avoidance, and (iii) the drive for consistency.

i. Sunk Costs

If Peru has evolved a mining economy since the 1500s, rural communities evolved agriculture from time immemorial as well. When the Spaniards came, the Inca economy was principally based on agriculture. The native cultures of Peru even evolved special terraces to experiment in agriculture with different ecosystems, with Moray in Cusco as the best example. The most natural activity for rural communities is agriculture and, therefore, many of these communities had to invest all their life and capital on agriculture. This traditional investment in agricultural efforts can be seen as a considerable sunk cost in the status quo of agricultural activities. The mere possibility of changing this activity for anything proposed by the mining company or the government may present the typical resistance that the status quo bias shows.

ii. Regret Avoidance

After all the history between mining and rural communities in Peru, it is easy to see that villagers would be cautious in allowing a mining endeavor on their land. Regret avoidance will prevent the rural communities from opting out of the status quo.

iii. Drive for consistency

Most of the time, rural families have been working in agriculture for generations. Elderly villagers do not consider that their offspring will change activities, but believe they will stay on the same path: agriculture. Mining in their provinces may affect their agriculture, so they may tend to prefer the status quo.

D. Endowment effect: Rural Communities “Can’t drink gold”

The stories of Tambo Grande, Conga, and Tía María are testimonies of the same pattern: a resistance from rural communities to allow or transfer entitlements to the mining companies so they can execute

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their project. In all three cases protests took place, and no agreement was possible.

It is important to notice that not all of the villagers are directly affected by the mining projects. There are some cases where individuals ought to sell their land to the mining company because their land is within the area of influence of the project. In those cases, the effect of the mining activity hits directly to the property of the landowner, and they will bargain to transfer ownership. However, in many cases the effect over the rural communities is broader and less defined because it only affects the environmental asset. In the cases of Tambo Grande and Tía María for example, people were afraid that the mining activity would change the nature of their agricultural land, requiring them to change their economic activity. Equivalently in Conga, people were afraid that the reservoirs would not satisfy the demand for water they had, which would have made them unable to continue with their agricultural business or use the water for human consumption.

In the three cases, the people of Tambo Grande, Conga and Tía María did not own the property rights over the entitlement they were afraid to lose: in Tambo Grande and Tía María, the fertility of the soil in the valley, in Conga the water in the lakes. The environmental asset is, legally, a public good. Even though they did not have any exclusive entitlement that allowed them to exclude a third party to use such environmental goods, they enforced their “grey” entitlements over the environmental asset by force, finally blocking the intrusion of the mining project.

The reaction of the communities does not rely on the sharing the environmental asset with the mining company (work in the same valley, or disposition of the lakes) but principally on the effect this sharing will have over the villagers. If the mining project abuses these resources, damaging the communities as was referred to in Section 3.2, the life of these communities will change forever. Because of the intimate relationship these people have with their environment, if it changes, they will have to change too.

Many of these rural communities’ mix subsistence economies with a rudimentary form of commerce, selling what they produce. If the land is not productive for agricultural purposes anymore, then the rural communities are going to have to buy food instead of eating what they produce. Because they are not going to be able to sell the goods they produce in the markets, they are not going to be able to gain money, nor buy food with such money. This explains the motto used by the communities in Conga: “you can’t drink gold.” Referring to the lakes in a quite clever phrase, the villagers were explaining this reality. In an economy as
the one they have, a disequilibrium in the environmental conditions could be fatal.

The difference between the status quo bias and endowment effect is quite narrow.\textsuperscript{122} While the status quo bias refers to a tendency in individuals to prefer their current situation instead of venturing into new possibilities that could bring them equal or more satisfaction, the endowment effect refers to the valuation that such individuals may have of their status quo within a scenario of a potential transaction.\textsuperscript{123} In other words, the owner, or whoever is considered to be the owner of a good may be affected by the endowment effect (in our case the rural communities).

In 1980, Richard Thaler was first commented on the “endowment effect.”\textsuperscript{124} Considering Kahneman and Tversky’s empirical findings,\textsuperscript{125} Thaler realized that the valuation of an object by an individual may substantially increase after the person receives such object,\textsuperscript{126} blocking a possible transaction. Imagine that Homer buys a piece of land for $10,000 to plant his crops. Two years later a mining company discovers that there is gold underneath Homer’s land, jumping the price of the land up to $15,000. Homer would never pay $15,000 to buy an equivalent piece of land. Would Homer sell his land for $15,000?

According to the endowment effect, Homer probably would not sell his land. After Homer receives the entitlement over the land, its valuation rises. The endowment effect creates a gap between Homer’s offer selling and offer buying price. As explained by Korobkin, “the same person will often demand a higher price to sell an entitlement that is part of his endowment than he will pay for the same entitlement if it is not part of his endowment.”\textsuperscript{127}

The reasons for the existence of the endowment effect are quite similar to the ones given for the status quo bias, mainly loss aversion and regret avoidance.\textsuperscript{128} As an irreversible choice will strengthen the status quo bias, a lack of a substitute goods intensifies the endowment effect.\textsuperscript{129}

In Tambo Grande and Tía María, the endowment effect may appear in cases where the mining company wants to acquire the villagers’ land. The owner may value his land more than what he would be willing to pay for it in a similar situation, blocking the transaction. However, it is also important to consider that the endowment effect does not only ap-

\textsuperscript{122} Korobkin, supra note 119, at 301-302.
\textsuperscript{123} Id. at 302.
\textsuperscript{124} Thaler, supra note 87, at 43-47.
\textsuperscript{125} Daniel Kahneman & Amos Tversky, Prospect Theory: An Analysis of Decision Under Risk, 47 No. 2 ECONOMETRICA 263, 263-292 (1979).
\textsuperscript{126} See Kahneman, supra note 87, at 1325, 1342.
\textsuperscript{127} Korobkin, supra note 119, at 302.
\textsuperscript{128} See Thaler supra note 87, at 44; Korobkin, supra note 119, at 312-317.
\textsuperscript{129} Korobkin, supra note 119, at 305.
pear over physical goods, but also over rights or extralegal entitlements that would not be considered as legal property rights.\textsuperscript{130}

The people from \textit{Tambo Grande} and \textit{Tía María} did not have any property rights, nor had they any legal right to decide what could be performed over land that was part of the valley but was not owned by the villagers. Equivalently, the people from \textit{Conga} did not own the lakes that were going to be affected by the mining company. None of them owned the environmental asset, this being a public good, and, therefore, they were not entitled to exclude third parties from its usage. However, the possession that the villagers had de facto from time and memorial over the environmental asset created the psychological endowment.

Due to the endowment effect, villagers could value their land higher than what they would pay for it if they did not own it. Also, rural communities may present an extralegal endowment over their environment factor, trying to exclude third parties that attempt to enjoy such good without their acceptance. In the latter case, their endowment would also tend to be higher than what they would pay if they were newcomers in the valley and wanted like to use these resources.

\textbf{IV. The Current Property Structure of the Mining Conflict: Conflicted Entitlements}

The mining conflict seems to have an explanation under the prism of Behavioral Law and Economics. For centuries, the history of mining in Peru has incubated biases amongst the urban citizens and the rural communities. There has been a constant struggle between these groups during the expansion of the mining business in Peru. This struggle has ended in conflict in the cases of \textit{Tambo Grande}, \textit{Conga} and \textit{Tía María}. The urban citizens wanted these mining projects to be executed; the rural communities did not. Did the urban citizens have a right to fight for the mining project, however? Equivalently, were the rural communities entitled to fight against the mining project? In other words, who currently owns what? And what is the protection rule?

As we will see in the following section, the mining conflict not only results in the clash of urban citizens and rural communities, but also yields questions about legal or formal rights in contrast with non-legal or informal rights. The former is upheld and protected by the law, the latter by the people.

\textit{A. Legal or formal rights over land and the environmental asset}

\textit{Tambo Grande}, \textit{Conga} and \textit{Tía María} involved discussions about the rights over two different types of goods: land and the environ-

\textsuperscript{130} Kahneman, \textit{supra} note 87, at 1345; \textit{Id.} at 303.
mental asset. According to the Peruvian legal system, the rural communities owned the land and had the right to enjoy the environmental asset. Since the environmental asset is a public good, the urban citizens (including the mining companies and the government) also had the right to enjoy it.

Since the communities owned the land, they had the right to exclude any third party that wanted to use their goods. If the mining company wanted to use the rural communities’ land, they then had to buy it from them. This good is protected by a property rule: nobody is able to affect or dispose of the land if the communities do not give their consent.

On the other hand, because the environmental asset is a public good, the rural communities are not able to exclude any third party from its use, including the mining companies or the government. Everyone is able to access the lakes from Conga, and nobody can be excluded from them. Then, if the mining company destroys the lakes, a liability rule will apply, and the former users of the lakes would be compensated.

The environmental asset is contained within the soil of the valley in Tambo Grande and Tía María. The owners of land in both valleys have the right to enjoy their land however they want, owing to their property right over the premises. These owners are entitled to an individual private right, but all premises are interconnected below ground to a common good: the quality of the soil.

Underneath the earth, we cannot separate the land in hermetic boxes. The characteristics of the soil are shared within the valley, and the changes occurring over one piece of land may also affect other surrounding land plots in the valley. If one piece of land gets flooded with water, this water will drain into the neighbors’ estate. If instead of water we have chemical waste from the processing of a mining company, the effect is more complicated. Eventually, the characteristics that made the soil rich for planting crops may vanish, rendering the land infertile.

In addition to the liability rule, the rural communities are entitled to a consultation right to protect their environmental asset. In Peru, as in many other nations around the globe, communities whose environmental asset is to be affected by a project such as Tambo Grande, Conga or Tía María, have the right of being consulted about the project. This norm does not give the villagers a veto right but rather endows them solely

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131 Calabresi, supra note 9, at 1092-1093; See also Guido Calabresi, A Broader View of the Cathedral: The Significance of the Liability Rule, Correcting a Misapprehension, 77 LAW AND CONTEMP. PROBS., April 2014 at 1-13.
132 Calabresi, supra note 9, at 1092-1093; Law No. 28611, Jun. 24, 2007, art 142, 144, & 145 (PERU).
133 Please refer to International Organization of Labor, C169 Indigenous and Tribal Peoples Convention (1989), Ley Nº 29785 (Ley del derecho a la consulta previa a los pueblos indígenas u originarios, reconocido en el Convenio 169 de la Organización Internacional del Trabajo), and, Ley Nº 28611 (Ley General del Ambiente).
with the right to be heard. The consultation right does not change the mentioned liability rule because it is the only protection rule the rural communities will have if the environmental asset is damaged; however it does give them a right to be asked and heard.

In other words, the environmental asset provides open access to whomever wants to use the good. Using the lake example, if any urban citizen or rural community wants to use the lake they can, and they do not need permission to do so. In the particular case of mining companies, they are required to ask for an environmental authorization that will be approved by the government, but once it is granted, they can also use the water. The limit is that they do not have any exclusion rights over any other party that is using the water of the lake.

If nobody has an exclusion right over the usage of the lake, and everyone wants to use it, what will happen? All the actors will use it, because it is free. However, none will have incentives to take care of it because their investment will be enjoyed by all the users and not only by the investors. Hence, the lake may dry up or become polluted. In this case, we encounter the well-known tragedy of the commons.\textsuperscript{134}

The tragedy here can appear in two different ways depending of the needs of the actor owning the lake. If the players need the water, their use of the lake will consist of taking water “out.” If the players need the lake to discard waste, their use of the lake will consist of putting waste “in.”\textsuperscript{135} In both cases the lake is damaged.

This “tragedy” would not be a tragedy if the lake was an unlimited or unpollutable resource, but it is neither. The tragedy of the commons appears when the good that is subject to open access is a scarce resource.\textsuperscript{136}

Rural communities use and pollute the lake on a regular basis. However, the intensity of their use is low enough not to affect the resource dramatically. That is also why the rural communities will not present any claim if newcomers in their village start using the lake’s water. When the mining company comes into picture, the intensity of the overall usage of the lake may increase in a way that makes the resource become scarce because it cannot support the new frequency of enjoyment by its users.

This explains part of the heuristic availability explained in section 2.2. The heuristic availability of the rural communities (with the predisposition to consider that mining projects may damage the environmental asset) has in its core the fear of a tragedy of the commons.

\begin{itemize}
\item \textsuperscript{135} Hardin, \textit{supra} note 134, at 1245.
\item \textsuperscript{136} Posner, \textit{supra} note 85, at 29.
\end{itemize}
This fear may also explain the reaction of the communities: to rise up and fight.

**B. Non-legal or informal rights over the environmental asset**

*Tambo Grande, Conga and Tia Maria* created great social disruption, pushing the government and the mining companies to initiate negotiations with the rural communities. What are the implications of such uprisings? They have come to represent an attempt by the rural communities to exclude urban citizens, which are represented in this case by the mining companies and the government, from the environmental asset. The rural communities attempt to assert themselves as the owners of the environmental asset, protecting it by a de facto property rule.  

At the root of the uprisings is the exclusion of local communities in the consultation process. Because these communities do not have a veto right, they are rarely granted participation opportunities when mining projects are initiated in their region. Then, when the project is all set to start, the land of the mining area is bought and the equipment put in place, and demonstrations burst onto the streets blocking the project. Through their protests, rural communities managed to paralyze *Tambo Grande, Conga and Tia Maria* without having a formal right to do it, nor a property right to exclude any third party.

We see how the extralegal right over the abovementioned environmental asset is enforced de facto, and, in this case, by force. This has happened before in many parts of the world, and it has been duly examined in the Peruvian case by Hernando de Soto. The legal or formal rights clash with the non-legal or informal rights. The sustained possession and control of the rural communities over the environmental asset grants them a sense of ownership. What is ownership after all? The legal concept of property was created a long time after humans appeared. At the beginning of time there was no law, but only people, possession, and the pursuit of survival.

Image a caveman chasing a deer. After hitting it with an arrow he spends five hours chasing the wounded animal. Another caveman passes by and grabs it. What would you think the hunter’s reaction would

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be? There will likely be a fight over the deer. The same sense of “property” will be present when you call a taxi that a skipper steals from you.

This is related to the endowment effect explained in section 3.4 above. As mentioned, the endowment effect may appear with or without a legal provision that creates a right over the good. Possession is the main creator of the endowment, as at the beginning it was the best creator of property. Thus, the endowment effect only appears in rural communities because only they possess the environmental asset. Possession itself makes them consider endowed with the environmental asset, causing an endowment effect (a gap between selling and buying valuation).

Through time, possession was transformed into property, and property was transformed into law. The recognition of such ownership based on possession brings the Lockean concept of property system to life (the bottom-up property regime).

The problem in Tambo Grande, Conga, and Tía María is that the formal law did not consider the non-legal rule that was already acting on the ground. When urban citizens attempted to make decisions concerning the environmental asset without courting the approval of the rural communities, the sense of ownership appeared and, as with the caveman and the pedestrian whose taxi was stolen, they protested.

For this reason, De Soto states, “Formal Law is increasingly losing its legitimacy as people continue to create property beyond its reach,” adding that “when mandatory law does not square with these extralegal conventions, the parties to those conventions will resent and reject the intrusion.” Thus, the social disruption in Tambo Grande, Conga and Tía María was anything but unforeseeable.

This extralegal allocation of entitlements over the environmental asset is not only costly but also complex. We set aside the traditional property rights over land to discover a spider web of rights that interconnects different individual private rights over land into a common good. Therefore, the claim is not isolated to one owner but is common to all the members of the rural community that share the environmental asset by virtue of their mutual geographical location.

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142 Id. at 181.
143 Id. at 53-55 (explaining that governments should assign legal property right over informal rights, bring death capital to life, and allow marginal sectors to overcome poorness); See generally Timonthy Mitchell The Work of Economics: How a Discipline Makes its World, 46 EUR. J. SOC. 297 (2005); Carrie Kerekes and Claudia Williamson, Propertyless in Peru, Even with Government Land Title, 69 AM. J. ECON. ANDSOC. 1011 (2010).
The consultation right and the explained liability rule formally assign the rural communities with the environmental asset, recognizing the complex entanglement between private and public goods. Although this legal entitlement is a “grey” property right. Rural communities pretend to clear such right by force, transforming the consultation right into a veto right and the liability rule into a property rule. An extralegal one, modifying the content of such entitlement, reshapes the legal allocation of the environmental asset.

The goal of the following Section is to reorganize the system, aiming to reconcile legal and extralegal systems, urban citizens and rural communities, as well as law and force.

V. A PROPOSED SOLUTION: A PROPERTY RULE FOR RURAL COMMUNITIES

A. Specifying the Problem

If the rural communities are legally owners of their lands and de facto owners of the environmental asset, why don’t they reach an agreement with the urban citizens (mining companies and the government) to transfer such rights? According to the Coase theorem, when transactional costs are manageable, goods would end in the hands of who values them more. If urban citizens consider that the mining projects are to be profitable, why are they not able to reach an agreement with the rural communities?

Tambo Grande included an investment of $405 million in a town where the average inhabitant earns two dollars per day. Conga included an investment of $5 billion in a region with a 50% poverty rate. Tía María included an investment of $1.4 billion and the creation of over 3,000 new jobs. Given the poverty within these rural communities, why were they unable to reach an agreement? Dialogue opportunities were arranged but yielded little progress.

Arguably, the appearance of a status quo bias or an endowment effect could block the bargaining, putting in doubt the validity of the Coase theorem. Korobkin in particular has proposed creating multiple or competing reference points, “obscuring” the existing entitlements (not establishing a clear owner). In our particular case it is important to also add the judgment biases mentioned in Section II, and the patterns explained in that section.

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145 Coase, supra note 87, at 6.
146 Samuelson, supra note 105, at 46.
147 Korobkin, supra note 119, at 320.
148 Id. at 320.
If we return to the mentioned patterns of perception of the urban and rural communities, we can appreciate how these irremediably clashed with one another. Urban citizens tend to identify rural communities as radical protesters against mining; whilst rural communities typically distrust urban citizens’ promises and overestimate the potential damage mining could do to the environmental asset. Urban citizens tend to prefer the promotion of mining endeavors, while the rural communities tend to prefer their current economic activities, such as agriculture. Also, the rural communities will experience an endowment effect in the decision-making process. As possessors of the environmental asset, they experience a gap between their selling and buying price, making the transfer of the environmental asset sticky.

It seems that the initial stands for negotiation are too far apart, and that is exactly because the entitlements over the environmental asset are “obscure,” as proposed by Korobkin, “fuzzy,” as explained by Carol Rose, or “grey,” as defined by hereof. The keystone of the problem is the environmental asset. Individual owners will tend to sell their land if they are offered a convincing price. Each owner makes unique decisions regarding the sale of their land, and the mining company would have to negotiate case by case. However, the environmental asset further complicates the dynamic because it is a shared good over which individual owners do not have selling power to negotiate unilaterally. Even in the cases of Tambo Grande and Tía María, the problem was not to sell individual land. The problem was the effect the mining activity would have on the environmental asset during the execution of the mining project.

Because the environmental asset is a public good, urban citizens believe that rural communities do not have any decision to make in the execution of the mining project. They have the consultation right so they can give their opinion, but they do not have decision-making power regarding whether the mining project goes through or not. Legally, they do not have any right to exclude because they do not have property rights over the public good.

On the other hand, the rural communities do not only believe that they have the right to be consulted about the execution of the project but that they have the right to authorize or deny its execution. They believe that they should have a veto right. Why? Because they are and have been in possession of the environmental component for years (centuries in some cases).

149 See generally Rose, supra note 3, at 1005; Carol Rose, Big Roads, Big Rights: Varieties of Public Infrastructure and their Impact on Environmental Resources, 50 Ariz. L. Rev. 409, 440-441 (2008).
The urban citizens based their beliefs on black letter law, offering the rural communities only a consultation right and a liability rule in case of harm. The rural communities, in exchange, based their beliefs on custom and possession over the resources, considering themselves endowed with the environmental asset and entitled with a property rule.

This discussion recalls the formation of property rights in the Spanish colonies in contrast with the British colonies. The presence of the government in the former Spanish colonies was higher than in the former British colonies. Because of the gold and silver that the Spaniards found in Peru and Mexico, they created a top-down property regime, centralizing the ownership and distribution of entitlements. In contrast, the British colonies implemented the bottom-up property system -- a Lockean view of property. The government recognized the private acquisition of property.

Almost 500 years later, the same dynamic has manifested. The position of the urban citizens (specially the government) is sustained in a top-down property regime. The government decides where and how the mining project will be executed. For that same reason, the Peruvian government has maintains the ownership of all the mineral resources in Peruvian soil according to the Peruvian Constitution.\footnote{Constitución Política del Perú DE [CONSTITUTION] 1993, art. 66 (Peru).}

In contrast, the position of the rural communities is sustained in a Lockean structure of property, or a bottom-up regime. The rural communities have guarded and nurtured their environment factor for centuries. Whether good or bad, they have managed their resources — controlling them, and investing in them — from time immemorial.

This clash of views presents a great problem. According to both parties, they are entitled to the environmental asset. One of the basic assumptions in the Coase theorem is that the entitlement that will be bargained for needs to be initially assigned to one of the parties.\footnote{Coase, supra note 86, at 8; Fitzpatrick, supra note 138, at 1020 (for an example of the effect of not having a clear assignation of rights in a scarce resource).} In the cases under analysis, we can see that there is no real assignment of the entitlement, given that the environmental asset is a public good. Because of the clash of the legal and extralegal systems explained in section IV, the urban citizens and the rural communities consider themselves entitled to decide the destiny of the environmental asset. A transactional approach to making decisions as to the disposition of the public good therefore is not possible, because it is not clear from whom the right to the good should be purchased.

The discussion gets especially sensitive when we consider that rural communities protest and fight in order to be recognized jointly as the owners of the environmental asset. One of the main goals of any legal
system is to create a system, so force is not the source of law. Any time a rural community raises in arms, they challenge the legal system. Any time they win such a fight, the legal order loses legitimacy.

As we have seen, the rural communities won this fight in Tambo Grande, Conga, and Tia Maria. This takes us to a second level of analysis: through conflict, the rural communities obtained a de facto “clear” entitlement over the environmental asset, protected by an extralegal property rule, as explained in section 4.2 above. However, an agreement was not possible in any of the mentioned mining projects. Here the biases explained in Section III take special importance, making the transfer of rights over the environmental asset sticky.

Thus, Section 5.2 will deal with the initial stand of the problem, explaining why the rural communities are entitled to the environmental asset and proposing a property rule instead of a liability rule to protect such rights. Section 5.3 will discuss the second level of analysis, explaining why even when a property rule exists, legal or extralegal, the mining projects will not always be achieved. As a result of installing a property rule, the urban citizens will internalize all the costs of their activities, making mining more expensive than it has been historically in Peru. The urban citizens will pay the real cost of mining. Since mining becomes more expensive, only the skilled mining endeavors would go through, possibly shrinking the mining business. In section 5.4 we will analyze this last scenario together with what was mentioned in Section II: the case of Peru, Spain and the resource curse.

B. Redesigning the System: Property Rule as a Proposed Solution

If we were able to reorder our system to solve the situations mentioned above, who should own the environmental asset? Should the mining company own the right to affect the environmental asset, or should the villagers own the right to authorize or veto the mining projects, which may affect the environmental asset? This dilemma is similar to the typical example of the industry that comes into town to operate used to explain the Coase theorem.

A company comes to a town and is going to pollute the air, staining the white cloths that the citizens hang outside their houses to dry. The problem has two possible solutions: either all the citizens buy dryer machines, adding a total value of $1,000, or the company buys an air filter, adding a total amount of $600. The efficient solution is to install the air filter; however, this would depend on who has the right. If the citizens have the right of not being polluted, then the company is going to have to

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152 Calabresi, supra note 9, at 1972.
153 Coase, supra note 86, at 41-42.
bear the cost. If the company has the right to pollute, then the citizens are going to have to bear the cost. In each case, whoever does not own the right is going to approach the other party to bargain for the right, or bear the cost directly (buy the dryers in the case of the citizens, and buy the air filter in the case of the company).

What Coase says is that in the absence of transaction costs, it would not matter who has the right. However, in this case, as in Tambo Grande, Conga and Tia Maria, you do have considerable transactional costs, and you have an endowment effect on the side of the citizens because they had been enjoying the unpolluted environment from time immemorial.

If the entitlement is assigned to the company, then all the villagers would have to agree between them on the solution. Because they do not have the right in this scenario, and the efficient solution is to buy the air filter for $600, the citizens would have to collect such amount and buy it for the company. If the transaction costs of collecting such amount exceed the $1,000 that it would cost to install the dryers (which is the most likely case), then the citizens will just directly buy the dryers.

If the entitlement is assigned to the citizens, the company will individually decide either to buy the dryers for $1,000 or to install the air filter for $600 because the company will not have to negotiate with anyone to identify the most efficient solution. And because they are the polluters, they should know more about pollution, and the air filter will be installed. The company will be the cheapest cost avoider, and the best decision maker for finding the most efficient way of limiting pollution.

Thus, according to the Coase theorem, the citizens should have the right of not being polluted. Considering high transaction costs, this initial assignment of entitlement will dispose the system to adopt an efficient solution. The same happens with the mining conflict discussed herein. The rural communities shall be entitled to the environmental asset because this will lead the mining company to adopt the most efficient solution. The mining companies would be in the best position to decide which is the most efficient way of treating the environmental asset.

As explained in Section IV and 5.1, rural communities today are legally entitled to the environmental asset. This will concur with the ideal set of the environmental asset. However, the protection rule of this enti-

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154 Id. at 6.
155 Calabresi, supra note 9, at 1118.
156 It is interesting to note the parallel between Pareto and Kaldor-Hicks Efficiency, on one side, and the Coase theorem and Calabresi-Melamed analysis, on the other. Pareto and Kaldor-Hicks efficiency, as explained in section III, analyze the system in functioning markets, while the Coase Theorem and Calabresi-Melamed analysis focus also on the initial assignment of rights to later create a market. The latter took into account the elements needed to build an efficient system, whilst the former deals with efficiency of a system already built. In this section the aim is a proposal to rebuilt the system, thus, there is a greater relation with the Coase theorem and Calabresi-Melamed analysis.
tlement is a consultation right and a liability rule instead of a veto right and a property rule. Under this structure, the mining company does not need to bargain for the environmental asset with the rural community, but they can affect the environmental asset and then compensate. In other words, even if the rural communities believe that their environmental asset will be damaged (as explained in Section 3.2), the black letter law establishes as a general rule that they have to wait until the damage occurs before claiming compensation through a liability rule.

Why use a liability rule instead of a property rule? What would be the ideal protection rule in this case? The classic answer is that if the villagers are too numerous, the transaction costs become unbearable for the mining company. For this reason, the liability rule applies in cases such as car accidents or general environmental disasters, because the car driver or the polluter does not know who might be damaged in the future. If we apply a property rule in these cases, driving or implementing an industrial activity would be impossible. The potential injurer should contract everyone who could potentially be injured before performing the activity. Imagine having to sign a contract with all the potential pedestrians or people breathing polluted air in order to obtain your driver’s license. This is impossible.

However, this case is distinct from the case of the car driver or from a typical environmental disaster. When a mining company comes to perform a specific project, we are able to easily identify who may be affected by the project. All the people that live in the counties where the mining project will be placed are potentially injured. They are identifiable so that today they ought to be questioned for their opinion according to their consultation right.

If the injured in the mining conflict are identifiable before the damage is performed, the transaction costs are lower than the typical examples used to endorse a liability rule. Therefore, a property rule shall be considered. Most of the time a liability rule does not meet the individual value of the parties. Because the injurer has already affected the injured, the system gives an objective value through the courts -- even if in a normal situation both parties would never reach an agreement. The risk of the liability rule is that the system may lose efficiency because the injurer who valued the good less than the injured acquires it through the liability rule without permission. Thus, when possible, as in our case, the property rule may prevail.

Nonetheless, the establishment of a “grey” right of the rural communities through a property rule would not be enough to protect the

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157 Calabresi, supra note 9, at 1119.
system as a whole. We may fall in what is known as a tragedy of the anticommons. Because each individual would have the right to dispose of the environmental asset, one of them could block the transaction. The tragedy of the anticommons may cause the resources to be underused.

A remedy against a tragedy of anticommons is needed, and this is democracy. Representatives of the counties, the central government and mining company should negotiate a structured proposal of agreement. Then, the villagers of the counties where the project will be executed should vote to decide if the mining project should or should not be executed. Some of the people in the rural communities will vote in favor and others will vote against, as in any vote with more than one option. But the majority will decide the future of the town.

The participation of the central government will be crucial, and its efficiency in the process is needed to guarantee success. Most of the time, the rural communities are not familiar with the complexities of implementing a mining project and lack sophisticated and technical knowledge needed to make efficient decisions. As explained above, for this reason the rural communities are entitled with the environmental asset because the mining company is the best decision maker and will be in a better position to choose the best course of action.

As in the Nélida case explained in the introduction, the rural communities may be in the middle of a cross fire between opposing interests. The mining company wants the mineral, the environmental associations want preservation, the government wants the tax the mining company will pay, and the media wants news. The rural communities want to make a decision that maximizes the benefits to them. If they are not correctly and independently advised, they will end in a situation similar to the Native Americans in the British colonies and sell their land for nothing.

The government should create a special independent commission for these cases, including recognized professionals, which will help in the structure and negotiation of the proposal that would be then voted on.

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160 See generally Lee Anne Fennell, Commons, Anticommons, Semicommons, PUBLIC L. AND LEGAL THEORY WORKING PAPERS SERIES 1-21 (2009); Rose, supra note 3, at 1000.
161 Once I had the opportunity to review the case of a rural community who leased their land to an oil company. They leased the land for 30 years, giving the mining company absolute rights to exploit the area. The consideration was an initial lump sum combined with a monthly rent. The combination of these concepts was so low that would not be enough to feed the community as the land did for more than 3 months (they would have to buy food on the market with the money). We tried to challenge the agreement arguing hardship, but internal conflicts in the community did not allow us to make it to court. However, it would be very improbable that the courts would cancel the contract.
by the rural community. Why the government? Because the government is bound to protect and serve its people.

Assigning a veto right and a property rule to protect the environmental asset of the rural communities will not only create an efficient result in terms of the system and the rural communities, but also a result that benefits the mining companies. In *Tambo Grande, Conga* and *Tia Maria*, the mining companies invested significant funds ($60 million, $1.5 billion, and $348 million respectively). After the mining projects were cancelled or suspended due to the strikes of the rural communities, that capital became a waste. Because the investment of the mining companies in these cases is a sunk cost, they may show a tendency to over-pursue the execution of the project, as the psychological effect of a sunk cost has been explained in section 3.3 above.

If the consultation process would be a veto right instead, protecting the environmental asset with a property rule, then the mining companies would know that they are investing in a safe project after the approval is given. The current consultation process does not offer these assurances.

Today, the consultation process does not work well because it does not matter at the end of the day. The communities do not have a real shield to protect themselves in case they do not want to sell their goods. Because of this, their participation in the consultation processes is usually low, and down the road we encounter the social strikes against the project. If the consultation process could be an authorization process instead, the villagers would not have anything to claim because they would have made a decision suitable to their interests in advance.

Through clear entitlements over the environmental asset, we will have an intense and productive democratic bargaining process instead of having a harsh and violent war. Also, because the rural communities will have the right to veto the mining project, the mining company will have to convince the villagers with social projects that will protect the rural community’s activities while the mining company is operating.

**C. Mitigating Party Bias? Revising the Concept of Value**

Even with a property rule, however, mining projects may be blocked. In *Tambo Grande, Conga* and *Tia Maria*, the rural communities managed to push for a recognized extralegal entitlement over the environmental asset. Negotiating tables were set, but none of the projects made it through. The problem wasn’t any opportunistic blocking due to a tragedy of the anticommons because the right was in fact recognized due to the action of the majority of villagers against the mine. As mentioned before, it is the case that in *Tambo Grande* a non-binding referendum
was put in place, and the community rejected the project with 93 percent of the votes.

All the existing biases in both parties arose on the negotiation table and with them also arose the transaction costs. The biases related to judgment errors (heuristic representativeness and heuristic availability) are easier to solve than the biases related to decision making. In the former, the rural communities and the urban citizens are reacting with their “Homer Simpson” part of the brain, instead of their “Rene Descartes.” In the case of the heuristic representativeness of the urban citizens (tendency to consider the negative attitude of the rural communities towards mining projects as irrational), knowledge of cases such as Ancon and Colan may help them to sympathize with the rural communities. In the case of the heuristic representativeness of rural communities (with the tendency to distrust the offers made by the urban citizens related to mining projects), knowledge of successful mining projects may reconcile the rural communities with urban citizens. In the case of the heuristic availability of the rural communities (with the tendency to consider that a mining project may damage their environmental asset), statistics about the accidents the villagers fear in former mining projects may overcome the bias.

The judgment errors rely on lack of information and preconceived ideas, whilst the decision-making biases may be informed and aware decisions. Urban citizens and rural communities may consciously adhere to the status quo because they like it. Urban citizens may like mining, and rural communities may like agriculture. When we bring the status quo bias to the bargaining between the parties, rural communities experience the endowment effect as possessors of the environmental asset. The valuation of the rural communities of the environmental asset is not properly irrational, but it is based in a rationality that identifies efficiency not only as monetary gain.

In fact, the endowment effect made the environmental component “sticky” in a potential agreement by raising the price, but as said by Kahneman, Knetsch and Thaler, “This is not to say that Pareto-optimal trades will not take place. Rather, there are fewer mutually advantageous exchanges possible, and so the volume of trade is lower than it otherwise would be.”

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162 See Korobkin, supra note 119, at 327-328 (for further comments on transactional costs in transferring rights to pollute).
163 The rural communities that we are referring herein haven’t been directly impacted by mining before. The rural communities that had, as the ones in Cerro de Pasco, do not have any new decision to make with regards to the beginning of a project, because the mining is already in execution, for good or for bad. We are referring to the rural communities that have to decide for a new project to be started close to their towns. For this reason the status quo of the urban citizens and the rural communities is different, as explained in section 3.3.
164 Kahneman, supra note 87, at 1344.
Under this setting we will have fewer transactions because through clearing the grey entitlements, urban citizens will interiorize the positive externality they have had for centuries. They will have to recognize the right of the rural communities to decide about their environmental asset. In other words, the communities would finally have the right to determine their future.

What if the negotiation process ends with a veto of the mining project, as happened in Tambo Grande, Conga and Tia Maria, or as it could happen under the new structure mentioned in Section 5.2? We would be in a better situation. First, because all the fuzziness would be locked into democratic boundaries, no violence would take place. Instead, the urban citizens (especially the mining companies and the government) would have all the incentives to convince the communities that the project will benefit them. Second, with the current “obscuring” entitlements structure, we reach the same result, but at the cost of spilling blood and wasting resources. Third, if no deal takes place, this would mean that the villagers valued the environmental asset more than the urban citizens.

The Coase theorem considers that people who value a determined good the most should own it in order to generate efficiency in the system. That is correct, but what is value, and who values the environmental asset the most?

Money is used as an abstraction of value, but it is not value itself. The complexity of identifying the value of any good, especially the environmental asset, is that we would have a subjective and independent analysis for each individual. For a normal urban citizen, the lakes of Conga won’t have much value. They do not know how to mine or to plant different crops, so the value they get from the lakes is just the enjoyment of seeing them. For an urban citizen that represents a mining company, the lakes’ value would include what they could make with the gold that lays underneath them. For a villager, the lakes’ value would include their livelihood because they use the water in the lakes for human consumption and agriculture.

Most of the time value has been seen as either the availability to pay (how much money would I pay for the environmental asset) or the potential productivity of a determined economic activity (how much money my usage of the environmental asset will produce). Using both concepts of value, a mining company will always value the environmental asset more than a rural villager. The mining business has more money

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165 Coase, supra note 86, at 40-42; Posner, supra note 85, at 29; Calabresi, supra note 9, at 1118.

166 Id.
available then the villagers, and it will produce more money than the villagers’ business. This concept of value is limited, however.

Coase uses potential productivity of an activity to define value, but he also explains, “it is, of course, desirable that the choice between different social arrangements for the solution of economic problems should be carried out in broader terms than this [value based on production] and that the total effect of these arrangements in all spheres of life should be taken into account.” The problem for Coase and many economists is how to define how much an individual will value a good and the answer, I believe, is in the agreement of the parties itself.\(^\text{167}\) Value is the subjective perspective that an individual will have towards a particular good, measuring how much utility the good will give to the individual. In other words, how much happiness a determined good grants a person. If the urban citizens do not convince rural communities to sell their lands or the environmental asset, then subjectively, the rural communities valued their goods more than the urban citizens. The endowment effect (as a gap between selling and buying price when the individual has the good in her endowment) does not void the Coase Theorem, but clarifies the concept of value. How can we know who values the good more? If the transaction goes through, then the person who acquires the right is the one who values it more. All the complexity of internal and subjective appreciations of value is summarized in the closing of the agreement, which is found in all the terms and consideration contained therein.

It would be absurd to consider that because the rural villagers would pay less money for acquiring the environmental asset than for what they would ask to sell it the villagers are irrational (this is the endowment effect at play). Of course, the villagers would pay less money because they have less money available or no money at all. If the mining company and the rural villagers lived in a world of limitless founts of money and entered an auction to acquire the environmental asset, then we could use the price that each one offers as an exact representation of value. Or, if the rural community is endowed with the environmental component and the mining company wants to acquire it, the price and conditions under which the villagers accept would be an exact representation of value and of who values the goods more.

If we conclude that value is not equal to availability of money, or to potential production, but equal to the utility an individual will experience out of a particular good, then a villager could value the environmental component more than the mining company. If the mining project is not accepted by the rural community, then that would be efficient for the system, because the good would be owned by whomever values it more.

\(^{167}\) Coase, supra note 86, at 43.
Tambo Grande, Conga and Tía María, are great examples of this. Who values the environmental asset more? The urban citizens that were disposed to pay considerable amounts of money for it, or the rural communities that did not have any money but put their lives on the frontline to protect what historically has been theirs?

Efficiency in a system is not mountains of gold and silver but of added utility to the inhabitants. If a rural community wants to stay as a basic subsistence economy, why should the system force them to change their way of living? They have the right to choose, and thus, urban citizens must try their best so that mining is chosen. The claims in many of these cases of clashes between rural communities and urban citizens are not because the projects will exist or not, but because the villagers are not receiving something convincing in exchange. As commented by Professor Carol Rose:

There is a bit of a minor key that sounds through these laments [of the rural communities], however: Brown lets the reader know that indigenous groups are not always quite as interested in keeping secrets as they are in making sure that they themselves get the revenue if the cat gets out of the bag. The Hopi are mad at the Navajo for making kachina dolls because the Navajo dolls, they say, are a ripoff of a Hopi art form—and besides that, they also crowd out the Hopi’s own market for the dolls. Meanwhile, indigenous groups in Latin America seem to be quite ready to give away the secrets of their cultivars and medicinal plants, if giving them up means that pharmaceutical companies will pay them for their local knowledge. Similarly, the Zia in New Mexico may not like the sun symbol showing up all over the place, but they have worked out a trademark deal that allows them to license its use to interested parties, and presumably they could charge if they wished.168

D. Less Mining? Remembering the Resource Curse in History

A deal and reconciliation between the parties seems possible, but urban citizens must pay a price that fulfills the rural communities’ subjective expectations. Mining may be diminished if urban citizens do not convince rural communities, but as explained in Section II, that may not be bad after all, as it would assist in breaking the resource curse.

168 Rose, supra note 3, at 997.
According to many authors, countries that are rich in natural resources may present a slower level of growth than countries that are not. The combination of cognitive, social and political elements creates a path of dependency to extractive economies in such countries. Latin American mining economies are a great example of this and were used by Auty in his book “Sustaining Development in Mineral Economies: The Resource Curse Thesis” to define the concept of the resource curse.

Examining economic data from the 20\textsuperscript{th} and 21\textsuperscript{st} century, Auty, and the different authors that dealt with the resource curse, ran regressions to identify the impact that finding abundant sources of natural resources has over the development of a determined country. However, we can see that Peru and Spain are vividly examples of this over centuries.

After the discovery of Peru and Mexico in the 1500’s, Spain’s political and economic power decayed. After being one of the most powerful Empires of Europe, by the mid seventeenth century they were almost in bankruptcy. What was the cause? The implementation of an extractive economy. The Spanish Empire started fulfilling all of its needs by acquiring goods from foreign powers, extracting gold and silver just to spend it in other empires. This created dependency.

Kaneman traces the line of dependency until Franco’s regime as follows, “The perennial problem of an unfavorable balance of payments caused by under productivity, for example, was in the mind of Rodrigo de Lujan in 1516, Cortes’ deputy in 1548, of Luis Ortiz in 1558, of Floridablanca 1788, of Franco's ministers in the 1960s. Apparent growth was a cosmetic over the country’s basic industrial weakness.”

To these accounts we can add the terrible Spanish economic crises of 2008, which persists until today for many. The over-investment in public infrastructures by the government created apparent growth that was only “cosmetic over the country’s basic industrial weakness.” Even after centuries, and now having a modern legal system, the effects of the accidental discovery of Peru and Mexico may still remain in the Spanish economy.

The same can be said about Peru. After hundreds of years of history, we have not managed to obtain sustainable industrialization. However, the defenses in favor of mining remain, mining is the first step to later diversify the economy. El Comercio said it in favor of Conga in

\textsuperscript{169} Auty, supra note 65, at 297-322; Sachs, supra note 65, at 827-838, Kirk Hamilton, From Curse to Blessing, WORLD BANK ANNUAL REV. 24-27 (2006).


\textsuperscript{171} Elliot, supra note 170, at 56.

\textsuperscript{172} Id. at 62.

\textsuperscript{173} Henry Kaneman, A Rejoinder, 91 PAST & PRESENT 185 (1981).
and a group of elite citizens in Arequipa said it too in 1792. Today politicians still clamor for industrialization.

It seems that the resource curse may be more old and pervasive than expected. What happens then if under the structure proposed in Section 5.2 the mining business gets reduced? Many economies agree that this may be an opportunity to break the resource curse and foster prosperity. Basing the economy on the creation of value and trade, the institutions would shift, discarding a top-down regime, and adopting a bottom-up one.

CONCLUSION

Tambo Grande, Conga, and Tía María, looked promising as projects. The urban citizens, including the government, supported the three cases at the time. None of these projects were ever executed; all of them ran up against the de facto refusal of rural communities. Urban citizens clashed against rural communities, legal or formal entitlements clashed with non-legal or informal entitlements.

Since the beginning of the colonial history of Peru, mining has been the preferred economic activity, creating an extractive economic system and a top-down property regime. Today we can see that the results of such emphasis are limited, to say the least. After almost 500 years of unauthorized decisions, this system is crashing. A lack of gold and silver may occur, but this may also lead to innovative ideas to create fountains of renewable and endless wealth. From the ashes of the traditional top-down property regime, a renewed bottom-up or Lockean property regime seems to be rising.

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175 DE LA FUENTE Y LOAYZA AND OTHER CITIZENS FROM AREQUIPA: PROYECTO Y ORDENANZAS DE LA SOCIEDAD MINERALOGICA DE AREQUIPA 45 (Lima, 1792) (“No hay duda, que se presentan otros varios objetos útiles, y compatibles de una Sociedad económica; pero ocurren obstáculos invencibles por ahora, que no permiten estas importantes atenciones. Procúrese primero la erección de una Sociedad, o Compañía, que pueda enriquecer el país, y entonces podrán sus hijos, y vecinos, pensar con oportunidad en otros beneficios públicos”).