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# The New Eldorado: Organized Crime, Informal Mining, and the Global Scarcity of Metals and Minerals

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## Introduction

Precious metals and minerals have fascinated humankind since the beginning of time. The Romans used to believe that diamonds were splinters of gods and thus wore them as a charm (Diamond Rocks, 2016). The Roman poet Ovid described amber as the crystallized tears of Clymene and her daughters, who had become poplar trees after the catastrophic fall of Phaethon, the son of Helios who begged his father to let him drive the chariot of the sun (Cartwright, 2017). Gold has always been

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one of humankind's most passionate obsessions. Through the ages of civilization, gold has become a symbol of royalty and power. In ancient Egypt, gold was commonly worn as jewelry and ornaments because Egyptians believed that the metal was the flesh of their god Ra. In pre-Columbian America, gold represented immortality and power. It was associated with the Sun and was made into fine dust to cover the body of the legendary kings of the Muisca people. During coronation, a sparkling man of gold—literally *El Dorado* or "Gilded Man"—plunged into the lake and became the king when he emerged, after being cleansed of gold (Cartwright, 2014). During the time of the Spanish Conquistadors, the incredible tale of *El Dorado* gained a different meaning and became associated with a hidden city full of gold. The dream of finding El Dorado lured many to travel to South America. Their hope of finding the lost city of gold was nothing but wishful thinking.

History illustrates many other examples of the frantic rush for gold. One of the most famous is certainly the gold rush in the United States, when spontaneous mass production of gold in unexplored regions of California attracted opportunistic gold diggers from all over the world. Gold diggers sought to make a quick fortune at the end of the nineteenth century after the precious metal was found by James W. Marshall on January 24, 1848, at Sutter's Mill in Coloma in California. Back then, California was not part of the United States and did not officially become so legally until September 9, 1850, following the signing of the Treaty of Guadalupe Hidalgo with Mexico on February 2, 1848. During this turbulent period, there were no governing authorities and no police in mining camps. Entire towns were surrounded by lawlessness and violence. Paul and Sarah Robinson describe this period as follows:

> … [w]ithout a functional government, there were no licensing procedures, fees, or taxes to regulate gold prospecting. No miner worked land that he owned. Any prospector could join any mining camp at any time (…). A miner who found gold needed to protect his find until he could convert it into cash or goods. (Robinson & Robinson, 2015, p. 77)

From the fabulous search for El Dorado in Latin America in the sixteenth century, to the gold rush in the United States in the nineteenth century, the symbolic value of gold has influenced the world across cultures and civilizations. It has been traded, collected, and looted for generations, and it continues to serve as universal currency and store of value.

The true worth of precious metals and minerals, however, lies not only in the histories behind them, their timeless beauty and high value, but also in the destructive forces they inspire. The rapid accumulation of wealth made possible by unsustainable mining (and in many cases illegal mining) has lured organized crime groups (OCGs) and unscrupulous corporations whose activities usher in corruption, social harm, and environmental devastation.

## Global Concern with Illicit Trafficking in Precious Metals and Minerals as Organized Crime Activity

One of the most disturbing trends since the 1990s has been the increasing involvement of organized crime in mining activities in different parts of the world. From Latin American drug cartels to African criminal gangs, the rising global scarcity of natural resources and steadily high prices for mined commodities, particularly precious metals and minerals, have made illegal mining and trafficking in mined commodities a lucrative criminal enterprise. The United Nations Environment Programme (UNEP) and the International Criminal Police Organization (INTERPOL) estimate that the illegal mining industry generates USD 12–48 billion in profits every year (Nellemann et al., 2016, p. 20). It should be noted that between 28–90% of the gold extracted in South America is illegal, accounting for billions of dollars annually.[1] In the past, concerns about illegal mining have often focused on the economic

[1]It is estimated that illegal gold mining is responsible for a significant percentage of the total amounts of gold produced in the following countries: 28% in Peru, 30% in Bolivia, 77% in Ecuador, 80% in Colombia, and 80–90% in Venezuela (Nellemann et al., 2016, p. 69).

damage done to a nation when their natural resources pillaged. But the crimes associated with illegal mining are numerous. They include organized crime, money laundering, government corruption, trafficking in persons (TIP), and environmental crime.

In its Resolution 2013/38, the United Nations Economic and Social Council (ECOSOC) addressed its concern over "the substantial increase in the volume, rate of transnational occurrence and range of criminal offenses related to illicit trafficking in precious metals." It asserted that illicit trafficking in precious metals has the potential to "expand criminal enterprises, facilitate corruption and undermine the rule of law through the corruption of law enforcement and judicial officials" (ECOSOC Resolution 2013/38).

In 2019, six years after this resolution, ECOSOC reiterated its uneasiness about illegal mining and trafficking in natural resources, including precious metals and colored gemstones, reiterating the importance of the development of comprehensive, multifaceted, and coherent strategies and measures to counter these crimes. ECOSOC Resolution 2019/23 reaffirmed that "illegal mining and illicit trafficking in precious metals by organized criminal groups may constitute serious crimes"—the consequences of which include not only contamination and degradation of the environment but also serious risks to vulnerable groups. As a "serious crime," illegal mining and illicit trafficking in precious metals and minerals could fall under the scope of the United Nations Convention against Transnational Organized Crime (UNTOC) and the Protocols thereto, among other relevant international instruments. Resolution 2019/23 also emphasized the vulnerability of artisanal miners to OCGs involved in the mining sector.

Due to the extensive social and environmental consequences, illegal mining along with trafficking in metals and minerals has been increasingly recognized as a threat to sustainable development and peaceful societies as reflected in the Sustainable Development Goals (SDGs) which were recognized by all United Nations (UN) member states in 2015. These high-level discussions serve as a testament to the global call for appropriate and effective measures to prevent and combat illegal mining and trafficking in precious metals and minerals by OCGs, and that these crimes have made their way onto the international agenda.

## Diversification of Organized Crime into Illegal Mining and Trafficking in Metals and Minerals

Organized crime is a changing and adaptable social phenomenon. The various ways in which OCGs are raking in profits have become strategic and multifaceted. "New threats to global security are emerging, meaning that people can fall victim to organized crime in an increasing number of ways, in an increasing number of places" (UNODC, n.d.). OCGs enjoy many of the benefits of globalization, such as easier and faster ways to communicate, transfer money, and travel (Galeotti, 2005; Varese, 2011). They form increasingly complex networks spanning the globe and can easily adapt to new market circumstances and law enforcement countermeasures. As natural resources grow scanter and their value rises, the mining industry presents itself as a lucrative opportunity for OCGs. In a resource-scarce world, the appetite for and price of environmental commodities has grown, providing strong incentives for OCGs to *diversify* into environmental crime (Van Uhm & Nijman, 2020). The illicit trade in metals and minerals has become an important source of revenue for modern-day criminal organizations (Nellemann et al., 2018).

When gold prices increased fourfold between 2002 and 2012 (Seccatore, Veiga, Origliasso, Marin, & De Tomi, 2014; Tubb, 2015, p. 724), OCGs began to play a bigger role in illegal gold mining, seeing it as a new lucrative business to run (Wagner & Hunter, this collection). They started to control access to mining sites, determining who could work, where, and when. In their territorial strongholds, they went even further, investing in machinery that they rented out to artisanal and small-scale miners and sending their own people to work in gold mines. According to a recent publication by the UNEP and INTERPOL (Nellemann et al., 2016), "[w]ith the rising involvement of transnational organized crime, criminals coordinate, evade or even shift their focus from drugs, human trafficking, counterfeit products and arms to (…) minerals and illegally extracted gold" (p. 8). OCGs are known to have even moved beyond precious metals and stones, showing interest and ability to control large-scale mining for industrial minerals, such as iron ore (Yap, 2014; Carbajal Glass, this collection), coal (Zabyelina & Markovska, 2019), and sand (Mahadevan, 2019; Rege, 2016; Rege & Lavorgna, 2017).

As OCGs seek new opportunities for business, they go beyond their bread-and-butter criminal portfolios (Carbajal Glass, this collection; Van Uhm, this collection). It may be a natural choice they make in order to adapt to changing socioeconomic and ecological circumstances (Cressey, 1969; Shelley & Kinnard, 2018). It may also be the outcome of crime control measures aimed at disrupting them (Zabyelina, 2018). When law enforcement activities focusing on countering organized crime become too constraining, OCGs usually shift to equally lucrative but less risky criminal markets (ibid.). For example, in his research on drug trafficking organizations (DTOs), Marcelo Bergman argues that the most formidable challenge related to policing drug trafficking is that drug kingpins "branch out" into other criminal activities such as abductions, kidnapping for ransom, extortion, car theft, and other profitable businesses (Bergman, 2018).

In Colombia, informal gold mining generates profits of approximately USD 2.5 billion a year and has allegedly surpassed drug trafficking as the main source of dirty money and violence in the country (Group, 2017). In Peru, the transition from coca cultivation to illegal gold mining has been reported (UNODC, 2015). In 2015, official overflight and satellite images of the District of San Gabán, in the Peruvian Region of Puno, for instance, provided convincing evidence that part of the illicit coca cultivation had been replaced by illegal gold mining (ibid.). Several years after this reported transformation, a militarized crackdown against illegal mining by the Peruvian authorities was reported to have forced former informal miners to return to coca cultivation (Neves, 2019). These examples illustrate the important role that environmental crime has played in the diversification of OCG activities, and they highlight the need for a systematic and comprehensive examination of organized crime's infiltration of the mining industry.

## Illegal Extractivism by Non-state Armed Groups

The process of extracting natural resources from the Earth to sell them on the global market is called *extractivism*. Extractivism is common in developing economies that rely on the extraction of natural resources, such as oil, gold, diamonds, coltan, among other highly priced and globally demanded products.[2] Without proper and timely state regulation and monitoring, a large portion of such resources may become clandestinely removed from ground, hidden, or otherwise illegally transported and exported. Unfortunately, extractivism has become a sophisticated and lucrative business for various criminal actors.

Just as many developing countries are rich in natural resources, they also comprise ample non-state armed groups, including criminal gangs, insurgents, strongmen and their militias (OECD, 2017a). In its Resolution 2482 (2019) focusing on threats to international peace and security, the United Nations Security Council (UNSC) expressed its concern that illegal mining may become an attractive source of income for insurgents, rebel forces, and even terrorist organizations, all of which could set their political mission aside to profit off of the illegal extraction and trade in metals and minerals.

The nexus between the illegal mining of diamonds and armed conflict has been a concern for the international community for several decades. The extraction and sale of so-called "blood diamonds" and, more recently, "blood gold" is known to have sponsored non-state armed groups in different parts of the world, most devastatingly in African nations (Geenen, 2015). The term "conflict mineral" (also known as "conflict resource") was used to describe the financing of violent rebel forces in Angola and Sierra Leone in the late 1990s. The concept was officially endorsed by the United Nations General Assembly (UNGA) in the context of conflict diamonds and has been referred to as such in several UNSC resolutions (e.g., Resolution 1173 [1998] and Resolution 1176 [1998]). In 2003, following recommendations outlined in

[2]Extractivism is a model of economic development, a way of managing the economy in resource exporting countries, especially in Latin America. It is based on the extraction of natural resources, primarily fossil fuels and minerals, which are destined for export. Extractivism is also present in farming, fishing, and forestry. Traditionally extractivism has impacted countries of the Global South, particularly indigenous communities, to the benefit of developed countries and transnational corporations. See: Acosta (2013), Raftopoulos (2017), and Broad and Fischer-Mackey (2017).

the Fowler Report (UNSC, 2000),[3] UNGA Resolution 55/56 (2000) established the Kimberley Process Certification Scheme (KPCS) with the goal to prevent "conflict diamonds" from entering the mainstream rough diamond market (Siegel, this collection).

Although the KPCS has had an impact on reducing the opportunity for the illegal trade in conflict diamonds, as acknowledged in UNSC Resolution 1458 (2003) and UNGA Resolution 61/28 (2006), the problem of conflict minerals is still prevalent (Siegel, this collection). The most prominent conflict minerals being mined today are gold ore and the 3Ts—cassiterite (for tin), wolframite (for tungsten), and coltan (for tantalum). UNSC Resolutions 1962 (2010) and 2021 (2011) concerning the Democratic Republic of the Congo (DRC), for instance, recommend that all states, particularly those in the region, publish statistics for the import and export of natural resources and work toward enhancing joint actions to investigate and counter criminal networks and armed groups involved in the illegal exploitation of natural resources.

The UNSC has also acknowledged the wide-ranging extortion racketeering of illicitly traded charcoal by Al-Shabaab, a non-state armed group based in East Africa (UNSC Resolution 2036 [2012]). Whereas some of the UNSC sanctions were successful in restricting the flow of revenues generated from illicit charcoal exports to Al-Shabaab, it was recently discovered that the militants have managed to circumvent the sanctions by using Iran as a transit point for illicit Somali charcoal exports (UNSC Resolution 2444 [2018]). The UNSC stressed that by using fake country of origin certificates perpetrators were able to mix the banned charcoal from Somalia with legal Iranian charcoal and thus trade it globally (ibid.).

The Taliban, Afghanistan's largest insurgent group, is also known to have engaged in illegal extractivism "by controlling illegal mining sites, specifically in the south and east of the country, by extorting sums from licensed Afghan mining operations and by acting as a transport facilitator for other illegally extracted natural resources" (UNSC, 2016, p. 9; Thachuk, this collection). In search of funding for its operations, the

[3] The Fowler Report presented the findings relating to the significance of the illicit diamonds trade as a source of funding for the National Union for the Total Independence of Angola (UNITA).

insurgency has taken control of mining sites and extorted money from ongoing legal and illegal mining activities. Within its organizational structure, there is even a fully functioning mining department known as the *Dabaro Comisyoon* (Stones Commission), which manages the taxation of extracted mined commodities and issues "official" mining licenses (DuPée, 2017). Reportedly, it was founded in the late 2000s when the Taliban leadership began to diversify their sources of revenue. According to some sources, the Taliban has been a central player in the illegal mining of semi-precious lapis lazuli (Global Witness, 2016; Thachuk, this collection) and less glamorous but equally profitable talc (Global Witness, 2018).

## Illegal vs. Informal Mining

The pluralist stance toward the law, such as the one embodied in the literature on *legal pluralism*, distinguishes between formal, state-centered laws and state-independent, nonlegal normative orders (Davies, 2010; Griffiths, 1986; Polese, Russo, & Strazzari, 2019). Legal pluralism also accounts for the possibility of the "heterarchical interaction of the various layers of law" and the existence of "potentially competing rules of the various sub-orders, each with its own ultimate point of reference and supremacy claim" (Melissaris & Croce, 2017, n.p.). Approaching the study of organized crime through the prism of legal pluralism is useful in understanding the social normativity of crime and the essential differences between *legal*, *illegal*, and *informal* operations in the mining industry.

When one juxtaposes illegal mining with its antipode—legal mining—it is common to ignore the vast variation that exists between the two. Artisanal and small-scale mining (ASM) illustrates the complex relationship between legal, illegal, and informal (van der Valk, Bisschop, & van Swaaningen, this collection). Despite the fact that there is no commonly accepted definition of ASM, in large part because its defining characteristics and legal status vary from country to country, ASM conventionally denotes a broad range of mining-related activities performed by individuals, groups, and cooperatives operating without formal oversight but not necessarily in contravention of existing legislation (Hilson, 2002; Lahiri-Dutt, 2018; UNICRI, 2016). What distinguishes ASM from large-scale mining is that ASM usually involves the extraction of metals and minerals with the simplest of tools, and it is usually performed by unprofessional miners laboring for subsistence (Chowdhury & Lahiri-Dutt, 2018). ASM mineral extraction and processing is labor-intensive and often incorporates technology that is nonmechanized. It is commonly found across the developing world, and in some developed countries, and is considered a legal practice.[4]

The majority of ASM practices, however, take place in the margins of legality, where miners might follow some rules while breaking others. This kind of ASM is synonymous with informal mining: it is illegal from the standpoint of formal law but legitimate in the eyes of informal miners. Informal ASM is sometimes seen as a transitional phase between illegal and legal mining (Bernet Kempers, this collection) because it often employs miners who have begun the process of formalization but have not finished it (GI-TOC, 2016). Should the conditions for formalization be favorable, such as simplified licensing procedures, small business incentive programs and low loan rates, availability of training and equipment, among other measures, ASM could be legalized, registered, taxed, and used to the benefit of local communities (IISD, 2018; Marshall & Veiga, 2017).

The relationship between state officials and informal miners is often plagued by mutual mistrust and open hostility. It is common that state officials treat informal miners as trespassers or even outright criminals, whereas informal miners see the State's monopoly over natural resources or its granting of exclusive mining rights to large private businesses as depriving them of access to their land and thus their livelihood.

State officials that fail to engage in constructive dialogue with informal miners often end up with the miners seeking justice from alternative forms of governance, such as organized crime. Despite the fact that ASM is not always linked to organized crime, there are several factors that

[4]For instance, Papua New Guinea (PNG) recognizes ASM as a legal contributor to the national economy. It is administered by the Mineral Resources Authority (MRA), and governed by the Mining Act of 1992 and the Mining (Safety) Act and Regulations of 2007, which apply to alluvial and hard-rock mining (Lynas, 2018).

make ASM a lucrative target for OCGs: artisanal mines are often located in hard to police terrains; the lack of effective law enforcement unleashes illegal extraction and trafficking of metals and minerals by OCGs; the involvement of criminal groups in ASM is characterized by violence and profits made at the expense of forced labor and human trafficking, to name just a few of the most serious factors.

## Corruption and Corporate Crime in the Mining Industry

The literature on *global legal pluralism* that accounts for the interplay between legal pluralism and globalization, elucidates the complex blend of legal orders at local, national, transnational, and supranational levels (Michaels, 2009). It goes beyond the more conventional focus of the so-called classical studies on legal pluralism concerned with the interplay of Western and non-Western laws, usually in the context of colonial and postcolonial societies, and it elevates the meaning of legal pluralism to a "universal concept" and expanding its application to a transnational sphere (Hertogh, 2008; Tamanaha, 2008).

Global legal pluralism does not only challenge the perceived monopoly of the State in making and administering the law, but it is useful in understanding the unprecedented rise and empowerment of transnational corporations, along with their increasingly unrestrained misconduct. The so-called *Lex Mercatoria* (the Law Merchant)—a self-created transnational law of global commerce—is a term commonly used to designate legal rules and principles which are developed by the international business community based on custom and the general principles of law that inform commercial arbitrations. It applies to governance mechanisms for transactions between private parties and between private parties and States, usually in commerce, trade, and finance. *Lex Mercatoria* certainly has benefits for the private sector, stimulating growth and investment, for example. Its non-transparent and even secretive nature, however, may leave questionable corporate conduct hidden from the authorities and insulated from public oversight (Husa, 2018).

The mining industry is full of risks related to corruption, particularly with regards to mining approval processes, when politicians or government officials take advantage of their position to profit from their interests in the sector (Caripis, 2017; Brady, this collection). In one recent case, for instance, Transparency International (TI) reported that a grand jury in Liberia indicted top government officials on charges of bribery for conspiring to amend key laws to facilitate a London-listed company in acquiring concessions to one of the world's richest iron ore deposits, the Wologizi Mountain Range (2017). According to the TI, over USD 950,000 was used to pay off top government officials and their relatives (ibid.).

The legal trade in precious metals and stones, particularly businesses involved in gold refining and the diamond trade, has also been linked to illicit financial flows, such as money laundering (Mathias & Feys, 2014; Zabyelina & Heins, this collection). Whereas cocaine travels clandestine routes from supplier to consumer, illegally extracted metals and minerals often travel with legal paperwork and are much more difficult to detect. Colombia, Mexico, and South Africa, to name a few, have found drug dealers using gold refineries as a way of laundering criminal proceeds. For example, in 2015 Colombian prosecutors discovered that a Colombian-owned gold dealer that supplied several major smelters and refiners in the United States and other developed countries was purchasing illegally mined gold from mines controlled by criminal organizations. They charged the company with money laundering (GI-TOC, 2016; OECD, 2018).

## The Environmental and Social Harms of Illegal Mining

The global destruction of pristine rainforests, mass extinction of species, and pollution of the ecosphere present a grave threat to humankind (Beirne & South, 2007; Sollund, 2019; Van Uhm, 2016; White, 2011). However, many environmentally harmful activities have not (yet) been criminalized by law due to an interplay of social and cultural constraints and a complex web of power relations (Hillyard & Tombs, 2004; Sellin, 1938; White, 2003). *Green criminology* focuses on this challenging reality of crimes against the environment, going beyond purely legalistic notions of crime and building on the extended harm principle to promote environmental and ecological justice (Brisman & South, 2018; Hall, 2014; White, 2011). Within environmental justice, environmental rights are seen as an extension of human or social rights, with the focus being on equality and the health and wellbeing of individuals, groups, and communities now and into the future; whereas ecological justice is a more holistic paradigm. Eco-justice focuses on the balance of the ecosphere by looking at the interconnection and interdependence of humans, ecosystems, non-human animals, and plants. It promotes the restoration of healthy ecological relationships and ecological responsibilities (White, 2013).

The problem of illegal mining is most damaging in politically unstable, economically depressed regions, where both organized crime and corporations contribute to environmentally unsustainable mining practices (Bedford, McGillivray, & Walters, 2019; Carvalho, 2017). The global economic and ecological asymmetries that influence the plundering of natural metals and minerals in the Global South, driven by the demand from the Global North, have tremendous consequences for the environment (Bedford et al., 2019; Van Uhm, 2017; Zabyelina, 2014), of which the most notable are large-scale land acquisitions (land grabbing) (Aguilar-Støen, 2016; Hausermann & Ferring, 2018), displacement of communities (Geenen, 2014), and extensive destruction of the natural environment (Espin, this collection; Van Uhm, this collection; White, this collection).

From the perspectives of green criminology and eco-justice, environmental destruction brought by OCGs and corporations is akin to the crime of *ecocide*—the extensive damage to, destruction or loss of ecosystem(s) of a given territory to such an extent that peaceful enjoyment by the inhabitants of that territory is severely diminished (Higgins, Short, & South, 2013). Ecocide is a proposed international crime in the sense of the crimes identified, defined, and criminalized by the Rome

Statute of the International Criminal Court (Rome Statute).[5] There has been a growing movement advocating for the adoption of ecocide laws at both domestic and international levels (Carvalho, 2017; Greene, 2019; Van Uhm, 2020; Hasler, this collection). As criminal theory can be seen as a "living institute" in which crime's definitions and contexts change over time (Hillyard & Tombs, 2004; Hulsman, 1986), it is not unthinkable that in the near future a proposal that argues for criminalizing ecocide will be embraced, which may prevent mass environmental and social harm by the mining industry.

Beyond its negative environmental impact, the explosive growth of illegal mining has stimulated other crimes, such as trafficking in persons (Steele, 2013; Verité, 2016) and child labor (Hilson, 2010). In many locations around the world, the diminishing supply and increasing demand for rare metals and minerals, combined with the quest for new sources of illicit revenue by criminal groups, has been strongly linked to trafficking in persons and other gross human rights abuses (Ellis, 2018; OECD, 2017b; Verité, 2016). It is also closely associated with child labor, severe threats to workers' health and safety, and sex trafficking (Calys-Tagoe, Clarke, Robins, & Basu, 2017; Verité, 2016). For instance, sexual exploitation and illegal mining are often intertwined, mainly because of the demand for sex in male-populated mining camps and settlements (Cortés-McPherson, this collection). In 2018, several Peruvian anti-trafficking groups reported on over 400 bars in Madre de Dios where child sexual exploitation takes place, with girls working as many as 13 hours a day (Corpi, 2018). Much like in Latin America, the mining industry in Asia largely relies on children working in terrible conditions in the coal and stone quarries. In remote northeast areas of India, for instance, children as young as eight labor in coal mines, earning not more than USD 4 a day to help support their families (Lillie, 2013).

Despite the environmental degradation and social harms associated with illegal mining, consumers commonly do not question the origins of the mined commodities they buy. The "culture of ignorance" has been a

[5]The Rome Statute has set out four core crimes—genocide, crimes against humanity, war crimes, and the crime of aggression—that are considered international crimes (Article 5). Ecocide has not been adopted as an international crime in the Rome Statute, but it was included in the draft version: the Draft Code of Crimes Against the Peace and Security of Mankind (1996).

constant thread winding its way through consumerist societies, nurtured by the false notion that consumers are not responsible for finding out whether the products they purchase were sourced or produced ethically (Brisman & South, 2013, 2014; Le Billon, 2006).

## This Book's Contribution to Scholarship

Truly international in scope, this book provides a comprehensive and timely analysis of illegal mining and trafficking in metals and minerals from the perspective of organized crime theory, green criminology, anti-corruption studies, and victimology. Based on a wide range of case studies from the Amazonian rainforests through Ukraine's flatlands to the deserts of Australia, this book offers a valuable insight into the infiltration of the mining industry by organized crime, insurgent groups, and criminal gangs, while also covering the devastating environmental consequences and social harms they bring. The book shows how metals and minerals are mined, laundered, and exported, and the extent to which OCGs are involved in these processes. It revisits the conflict-resource extraction nexus and explores the interface between informal mining and drug trafficking, and informal mining and trafficking in persons and illegal migration. Special attention is paid to how and why OCGs engage in the illegal extraction and trade in metals and minerals, rejecting the classical image of criminal organizations specializing in only one kind of illegal activity. The book also discusses the challenges posed by corporate misconduct and foreign bribery in mining approval processes, while shedding light on important aspects of environmental harm caused by illegal mining, including, but not limited to, water pollution, loss of biodiversity, soil erosion, and other forms of environmental destruction.

Altogether, this collection is one of the first scholarly books on illegal extraction, trafficking in mined commodities, and the crime of ecocide associated with the mining industry. It should appeal to researchers interested in organized crime and green crimes, including criminologists, sociologists, anthropologists, and legal scholars. Beyond this specialized readership, the general public will gain insight into the profound impact that illegal mining is having on local communities and the environment.

## Structure of the Book

Part I of the book is concerned with what we call *organized crime* and the relationship between mining and illegal enterprise from a historical perspective. In his chapter, Jay S. Albanese provides a brief overview of the concept of organized crime, describes the underlying nature of older and more recent forms of criminal activity, and offers a theoretical framework of thinking about how criminal markets are chosen by OCGs. Albanese's contribution is complimented by Robert Schmidt's chapter, in which he surveys the historical landscape of illegal enterprise across the anthracite mining region in Pennsylvania, including: illegal mining, bootlegging coal and alcohol, and commercialized vice (e.g., gambling and prostitution). Schmidt argues that illegal enterprise was crucial in reproducing the working class during times of economic recession, generating revenue for local governments in the form of corruption, while at the same time sustaining the entire region economically as it transitioned away from coal mining to manufacturing and other industries after World War II.

Part II of the book unveils the complex nature of adaptation strategies developed by organized crime in the mining industry in response both to law enforcement activities and to the changing demand of the global market in mined commodities. Livia Wagner and Marcena Hunter present a comparative review of the linkages between artisanal and small-scale gold mining (ASGM) and OCGs in two continents—Latin America and Africa. They focus on trafficking in persons for sexual exploitation and forced labor, migrant smuggling, and money laundering. These authors, and the author of the following chapter on illegal gold mining in Colombia, Daan van Uhm, agree in the argument that OCGs have shifted or diversified their activities to illegal extraction and trafficking of gold. Based on fieldwork in the Darién Gap in Colombia, van Uhm further explains how the Gulf Clan (Clan del Golfo) became involved in the illegal gold business, why gold extraction is embedded in other organized crime activities and how diversification can accelerate ecocide.

The ideas of criminal diversification also inform the chapter by Fausto Carbajal Glass. He describes the complex and rather unintended consequences of the strategy to counter organized crime introduced by Mexico's former president Felipe Calderón in 2006, whereby Mexico's drug trafficking cartels become more localized and diverse in drawing income from a range of illicit markets rather than a single criminal enterprise. Carbajal Glass's argument is supported with an empirical case study of the Knights Templar Cartel (Los Caballeros Templarios) and their infiltration of the iron ore industry in Michoacán state between 2011 and 2013.

Dina Siegel and Kimberley L. Thachuk move the discussion toward the illegal mining of diamonds and semi-precious stones outside of state control or the monopoly of international mining companies. Whereas Siegel focuses on the vulnerabilities of diamond mining to organized crime, the organization and modus operandi of the groups involved and the role of corruption in her analysis of "conflict diamonds," Thachuk examines how war profiteers have supplied international markets with illegally extracted metals and minerals, such as lapis lazuli, from conflict-torn mining regions in Afghanistan and the Central African Republic (CAR).

Part III unpacks the nexus between organized crime and informality. Similar to how large companies outsource work to small informal entrepreneurs in order to cut their operational costs, OCGs infiltrate informal economies, such as informal mining. Not only do OCGs collect illicit revenues from the "taxation" of informal mining, but they also manage to govern entire mining communities whose subsistence depends on mining outside the law. The chapters in this part of the book analyze governance mechanisms used by organized crime and the interactions of OCGs with informal miners, including situations when the miners and local communities fall victim to organized crime. Zabyelina and Kalczynski study the illegal extraction and smuggling of amber in Ukraine. They reflect on how criminal groups have seized control of amber-bearing deposits in the country, securing their criminal enterprises by bribing public officials and the police. Seeing amber mining as an important source of subsistence, informal miners in Ukraine, however, united in small groups and armed themselves to stand up and protect their claim over amber deposits, rebelling against the OCGs and corrupt state officials. The complex landscape of violent non-state actors involved in amber extraction and trade in Ukraine is claimed to undermine the very pillars of the country's statehood and its ability to exercise effective governance and complete control over the use of physical force.

The following two chapters—one by Eva Bernet Kempers; and the other by Naomi van der Valk, Lieselot Bisschop, and René van Swaaningen—move the geographical focus from Ukraine to Peru. Both chapters continue the discussion of the thin line between informal and illegal mining, and the importance of government policies aimed at formalizing ASM. Based on ethnographic fieldwork and qualitative interviews, Bernet Kempers argues that while the Peruvian government has attempted to tackle the increasing involvement of organized crime in the jungle region of Madre de Dios by placing "illegal mining" under the "Law against Organized Crime," and thus elevating the seriousness of illegal mining, it victimized informal miners who were willing to formalize their labor by treating them as serious offenders. The chapter by Naomi van der Valk, Lieselot Bisschop, and René van Swaaningen analyzes the Peruvian gold market from a supply chain perspective. As some illegal gold ore makes its way into the legal supply chain through shell companies and other inconspicuous methods, their analysis employs the crime script methodology to illuminate the different stages of the supply chain, demonstrating that the world of gold is full of precarious interconnections between legal, illegal, and informal activities.

Expanding the discussion on informality, Matthew Nesvet argues that the informal employment of undocumented migrant workers laboring in abandoned mining shafts in South Africa allows them to hide away from the state authorities and thus avoid the intolerant and exploitative condition many undocumented migrant workers have experienced in legitimate industries. In contrast to Nesvet's account of informal mining as a medium of "liberation" from harassment and detainment, the chapter by Dolores Cortés-McPherson approaches informality as one of the contributing factors of human trafficking. She contends that illegal gold mining in the Madre de Dios region of the Peruvian Amazon is not only grounded on the exploitation of miners' labor (including child labor), but it also profits from its control of the sex trade. Girls from all over Peru are lured into working in *prostibars* (entertainment facilities that sell alcohol and sex), located in the mining camps. This nexus makes Madre de Dios a hub for illegal mining and trafficking in persons.

Part IV of the book is dedicated to the study of corruption and the role of money laundering in the mining industry. Sheelagh Brady describes the political–criminal nexus underlying corruption in Nigeria's solid mineral mining industry. In addition to providing an extensive academic literature review to determine if the country should be considered a predatory state, she draws on a number of legal cases to demonstrate the fraudulent conduct by those in power and why it is difficult to prevent or respond appropriately to corruption in extractive industries—in the oil and gas sector, and the solid minerals mining sector. In their chapter, Vasilka Sancin and Domen Turšič focus on international investment tribunals, addressing corruption through the spectrum of arbitration proceedings. They argue that the notion of investor diligence in international investment law can be a helpful tool in monitoring anti-corruption compliance. Based on the critical analysis of sources from international investment law, available case law, and pertinent scholarly literature, their chapter concludes that investor–state arbitration has the potential to contribute in significant ways to the international enforcement of anti-corruption norms. This section of the book is concluded with a chapter on money laundering associated with gold and diamonds by Yuliya Zabyelina and Lilla Heins. The authors explore how the international gold trade is a common method for laundering illegally mined gold, narcotics, and other criminal proceeds in South America. Based on the analysis of court files, they demonstrate how large amounts of illegally mined gold and the few obstacles to prevent it from reaching legal supply chains provide criminal organizations, especially those dealing in narcotic drugs, with a lucrative prospect to exchange large sums of dirty cash into a compact, manageable commodity that can be easily transported, stored, or used in lieu of cash for transactions in the black market.

In the final section of the book, Part V, the environmental harm caused by illegal mining is put in the spotlight. Johanna Espin compares Peru's laws-on-the-books and laws-in-action in order to illustrate the challenges encountered by the government in its response to the crimes against the environment caused by informal mining. Based on the analysis of relevant Peruvian legislation, direct observations of mining sites, and interviews with key informants from local government agencies and mining organizations, Espin provides a thorough analysis of the key factors that influence the implementation of policies aimed at bringing an end to unauthorized mining activities and their disastrous consequences. Carrying on with the focus on environmental harm, Olivia Hasler evaluates the proposed Carmichael Mine project in Queensland, Australia, which promises to be one of the largest coal mines in the world. From the vantage point of eco-justice, she describes the developments surrounding the Carmichael Mine, analyzes the actions taken by the government and the Adani Group to neutralize and deny the harms of the Carmichael project, and argues that the case of the Carmichael Mine is an example of state-corporate collusion and *ecocide*. The latter, Hassler claims, should be recognized as an international crime in international law as part of the Rome Statute of the International Criminal Court.

The book finishes with an important discussion by Rob White focusing on how the Land and Environment Court of New South Wales (NSWLEC) in Australia, which is responsible for settling disputes related to the environment, development, construction, and planning, reached decisions in several groundbreaking legal cases involving mining companies. White opens the chapter by mapping out the pillars of eco-justice (comprised of environmental, ecological, and species justice considerations) and conceptualizing *ecocentrism* as a philosophical perspective based on the intrinsic worth and value of nature. The chapter then describes the approach of the NSWLEC to matters of ecology and ecological integrity, acknowledgment of the interests and voices of Indigenous people, and the significance of climate change in contemporary assessments of potential environmental impact. White demonstrates how laws and courts are sites of contestation, where mining companies can be taken to task and held accountable for their actions—past, present, and future.

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