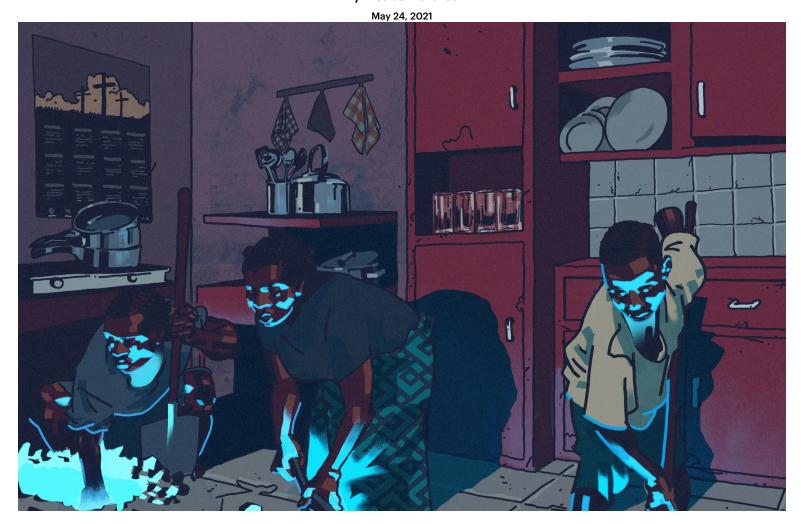
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## THE DARK SIDE OF CONGO'S COBALT RUSH

Cell phones and electric cars rely on the mineral, causing a boom in demand. Locals are hunting for this buried treasure—but are getting almost none of the profit.

## **By Nicolas Niarchos**





After cobalt was discovered beneath one neighborhood, Congolese began digging under their houses. Some tunnels extended into neighbors' properties. Illustration by Pola Maneli

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In June, 2014, a man began digging into the soft red earth in the back yard of his house, on the outskirts of Kolwezi, a city in the southern <u>Democratic Republic of the Congo</u>. As the man later told neighbors, he had intended to create a pit for a new toilet. About eight feet into the soil, his shovel hit a slab of gray rock that was streaked with black and punctuated with what looked like blobs of bright-turquoise mold. He had struck a seam of heterogenite, an ore that can be refined into cobalt, one of the elements used in lithium-ion batteries. Among other things, cobalt keeps the batteries, which power everything from cell phones to electric cars, from catching fire. As global demand for lithium-ion batteries has grown, so has the price of cobalt. The man suspected that his discovery would make him wealthy—if he could get it out of the ground before others did.

Southern Congo sits atop an estimated 3.4 million metric tons of cobalt, almost half the world's known supply. In recent decades, hundreds of thousands of Congolese have moved to the formerly remote area. Kolwezi now has more than half a million residents. Many Congolese have taken jobs at industrial mines in the region; others have become "artisanal diggers," or *creuseurs*. Some *creuseurs* secure permits to work freelance at officially licensed pits, but many more sneak onto the sites at night or dig their own holes and tunnels, risking cave-ins and other dangers in pursuit of buried treasure.

The man took some samples to one of the mineral traders who had established themselves around Kolwezi. At the time, the road into the city was lined with corrugated-iron shacks, known as *comptoirs*, where traders bought cobalt or copper, which is also plentiful in the region. (In the rainy season, the earth occasionally turns green, as a result of the copper oxides beneath it.) Many of the traders were Chinese, Lebanese, and Indian expats, though a few Congolese had used their mining profits to set up shops.

One trader told the man that the cobalt ore he'd dug up was unusually pure. The man returned to his district, Kasulo, determined to keep his find secret. Many of Kasulo's ten thousand

residents were day laborers; Murray Hitzman, a former U.S. Geological Survey scientist who spent more than a decade travelling to southern Congo to consult on mining projects there, told me that residents were "milling about all the time," hoping for word of fresh discoveries.

Hitzman, who teaches at University College Dublin, explained that the rich deposits of cobalt and copper in the area started life around eight hundred million years ago, on the bed of a shallow ancient sea. Over time, the sedimentary rocks were buried beneath rolling hills, and salty fluid containing metals seeped into the earth, mineralizing the rocks. Today, he said, the mineral deposits are "higgledy-piggledy folded, broken upside down, back-asswards, every imaginable geometry—and predicting the location of the next buried deposit is almost impossible."

The man stopped digging in his yard. Instead, he cut through the floor of his house, which he was renting, and dug to about thirty feet, carting out ore at night. Zanga Muteba, a baker who then lived in Kasulo, told me, "All of us, at that time, we knew nothing." But one evening he and some neighbors heard telltale clanging noises coming from the man's house. Rushing inside, they discovered that the man had carved out a series of underground galleries, following the vein of cobalt as it meandered under his neighbors' houses. When the man's landlord got wind of these modifications, they had an argument, and the man fled. "He had already made a lot of money," Muteba told me. Judging from the amount of ore the man had dug out, he had probably made more than ten thousand dollars—in Congo, a small fortune. According to the World Bank, in 2018 three-quarters of the country's population lived on less than two dollars a day.

Hundreds of people in Kasulo "began digging in their own plots," Muteba said. The mayor warned, "You're going to destroy the neighborhood!" But, Muteba said, "it was complicated for people to accept the mayor's request." Muteba had a thriving bakery and didn't have time to dig, but most locals were desperate. In Congo, more than eighty-five per cent of people work informally, in precarious jobs that pay little, and the cost of living is remarkably high: because the country's infrastructure has been ravaged by decades of dictatorship, civil war, and corruption, there is little agriculture, and food and other basic goods are often imported. For many Kasulo residents, the prospect of a personal cobalt mine was worth any risk.

About a month after the man who discovered the cobalt vanished, the local municipality formally restricted digging for minerals in Kasulo. According to Muteba, residents implored the mayor: "We used to mine in the bush, in the forest. You stopped us. You gave all the city to big industrial companies. Now we discovered minerals in our own plots of land, which belonged to our ancestors. And now you want to stop us? No, that is not going to work." Muteba recalled, "People started to throw rocks at the mayor, and the mayor ran away. And, when the mayor fled,

the digging really started."

dilon Kajumba Kilanga is a *creuseur* who has worked in the Kolwezi area for fifteen years. He grew up in southern Congo's largest city, Lubumbashi, which is near the Zambian border, and as a teen-ager he worked odd jobs, including selling tires by the roadside. One day when he was eighteen, a friend who had moved to Kolwezi called him and urged him to join a coöperative of *creuseurs* which roamed from mine to mine, sharing profits. "There were good sites that you could just turn up to and work," Kajumba said, when we met in Kolwezi.

In those days, it took eight hours to get from Lubumbashi to Kolwezi by bus, on a rutted twolane road. The thickets on either side of the highway crawled with outlaws, who occasionally hijacked vehicles using weapons they'd leased from impoverished soldiers. Once, bandits stopped a bus and ordered the passengers to strip; the hijackers took everything, even people's underwear.

Kajumba knew that the journey to Kolwezi was dangerous, but he said of the *creuseurs*, "If they tell you to come, you come." At first, the work, though strenuous, was exciting; he began each shift dreaming of riches. He had some stretches of good luck, but he never made the big score that would transform his life. Now in his mid-thirties, he is a laconic man who becomes animated only when he is discussing God or his favorite soccer team, TP Mazembe. Mining no longer holds romance for him; he sees the work as a symptom of his poverty rather than as a path out of it. When you are a *creuseur*, he said, you are "obliged to do what you can to make ends meet," and this necessity trumps any fears about personal safety. "To be scared, you must first have means," he said.

Kajumba joined the mining economy relatively late in life. In Kolwezi, children as young as three learn to pick out the purest ore from rock slabs. Soon enough, they are lugging ore for adult *creuseurs*. Teen-age boys often work perilous shifts navigating rickety shafts. Near large mines, the prostitution of women and young girls is pervasive. Other women wash raw mining material, which is often full of toxic metals and, in some cases, mildly radioactive. If a pregnant woman works with such heavy metals as cobalt, it can increase her chances of having a stillbirth or a child with birth defects. According to a recent study in *The Lancet*, women in southern Congo "had metal concentrations that are among the highest ever reported for pregnant women." The study also found a strong link between fathers who worked with mining chemicals and fetal abnormalities in their children, noting that "paternal occupational mining exposure was the factor most strongly associated with birth defects."

This year, cobalt prices have jumped some forty per cent, to more than twenty dollars a pound.

The lure of mineral riches in a country as poor as Congo provides irresistible temptation for politicians and officials to steal and cheat. Soldiers who have been posted to Kolwezi during periods of unrest have been known to lay down their Kalashnikovs at night and enter the mines. At a meeting of investors in 2019, Simon Tuma Waku, then the president of the Chamber of Mines in Congo, used the language of a gold rush: "Cobalt—it makes you dream."

A fter Kasulo's mayor fled, many residents began tearing away at the ground beneath them. Some wealthier locals hired *creuseurs* to dig under their houses, with an agreement to split the profits. Two teams of *creuseurs* could each work twelve-hour shifts, chipping at the rock with hammers and chisels. A pastor and his congregation began digging under their church, stopping only for Sunday services.

By the end of 2014, two thousand *creuseurs* were working in the neighborhood, with little regulation. Kajumba and his coöperative soon joined in the hunt for minerals. One man on Kajumba's team, Yannick Mputu, remembers this period as "the good times." He told me, "There was a lot of money, and everybody was able to make some. The minerals were close to the surface, and they could be mined without digging deep holes."

But the conditions quickly became dangerous. Not long after the mayor formally prohibited excavating for minerals, a mine shaft collapsed, killing five miners. Still, people kept digging, and by the time researchers for Amnesty International visited, less than a year after the discovery of cobalt in Kasulo, some of the holes made by *creuseurs* were a hundred feet deep. Once diggers reached seams of ore, they followed the mineral through the soil, often without building supports for their tunnels. As Murray Hitzman, the former U.S.G.S. scientist, pointed out, the heterogenite closest to the surface often contains the least cobalt, because of weathering. *Creuseurs* in Kasulo were risking their lives to obtain some of the worst ore.

One of Kajumba's teammates told me that their coöperative of six used to regularly extract two tons of raw material from a single pit in Kasulo. But most of the best sites were quickly excavated, and the yield from newer pits was less than half as much. The team was also ripped off by unscrupulous traders and corrupt officials. Kajumba said that lately he has struggled to pay his rent of twenty-five dollars a month. "Whenever we dig up a few tons, I send some money to my family," he added.

Drug and alcohol use are rampant among *creuseurs*.

Kajumba said that, though many people he knew in

Kasulo wasted all their earnings on narcotics, he avoided such temptations. Whenever I met up with him, he made a point of drinking a cola.

Children who work in the mines are often drugged, in order to suppress hunger. Sister Catherine Mutindi, the founder of Good Shepherd Kolwezi, a Catholic charity that tries to stop child labor, said, "If the kids don't make enough money, they have no food for the whole day.

Some children we interviewed did not remember the last time they had a meal."

Researchers estimate that thousands of children work in mining in Kolwezi alone. Mark Canavera, a faculty member at Columbia University who focusses on child welfare, has spent time in Kolwezi. "I don't think the government has any capacity to monitor children's involvement in this," he told me. "Even if it did, it doesn't have a framework for thinking about what is child labor and what isn't." In such a poor region, parents often expect their children to supplement the family's income, even if the work is dangerous.

At a school run by Good Shepherd, I met Ziki, a serious boy with large dark eyes. He was fifteen but, because he had been malnourished for long periods, he looked much younger. His parents had been killed in a roadside accident when he was three; afterward, he was sent to live with his father's sister. "My aunt sent her kids to school but sent me to the mines," he said. "I was full of bitterness." He joined a team of boys who roved across Kolwezi.

I was initially skeptical that Ziki had begun working at such a young age, but Mutindi said that she has seen many such cases. "The younger children of four, five, six, seven, these will mainly be collecting—picking stones," she said. "It's amazing how they know the value." Children are eventually given such jobs as washing ore or carrying heavy sacks of rocks to traders who loiter near the sites on motorcycles. When I visited Kolwezi, streams alongside the city's main roads teemed with women and children washing minerals.

As Ziki and his friends grew older, they began entering pits dug by *creuseurs*. The tunnels were square, four or five feet across, and about sixteen feet deep. It was infernally hot inside them, and oxygen was scarce. "As you were descending, there were rocks that you held on to," he recalled. "If you held on to the wrong rock and it loosened from the wall, you would tumble into the hole. I would bump into older people who were going down into the pits, and they would tell us, 'You children, if you enter you will die.'"

Ziki worked at mine sites around Kolwezi for eleven years. Although Congo's government

periodically claimed that it was cracking down on child labor, few adults tried to stop him from working. "Soldiers would hunt us," he recalled. "If they caught you, they would beat you." He went on, "If you sold your minerals, when you had money, there were street kids, thugs, who could stop you on the road and snatch your money. To pass safely, you had to pay five hundred francs"—about fifty cents—"so you could have safe passage. If you gave them nothing, they would beat you."

opper has been mined in Congo since at least the fourth century, and the deposits were known to Portuguese slave traders from the fifteenth century onward. Cobalt is a byproduct of copper production. In 1885, Belgium's King Leopold II claimed the country as his private property and brutally exploited it for rubber; according to "King Leopold's Ghost," a 1998 book by Adam Hochschild, as many as ten million Congolese were killed. But, because of local resistance and the inaccessibility of the region, large-scale commercial mining didn't begin in the south until the twentieth century.

Kolwezi was founded in 1937 by the Union Minière du Haut-Katanga, a mining monopoly created by Belgian royal decree. These colonialists may not have matched the atrocities of King Leopold, but they still saw the country in starkly exploitative terms. They understood that the best way to extract Congo's mineral wealth quickly was to create infrastructure. The company cleared the thickets of thorny acacias and miombo trees that had grown atop Kolwezi's rich mineral deposits and built the town across the area's rolling hills, with wide streets and bungalows for Europeans, whose neighborhoods were segregated from those where Congolese workers lived. Locals were used to create this infrastructure, and to labor in the mines, but, as Hitzman put it, "the whites ran everything."

After independence, the southernmost province, Katanga, was viewed as a prize by Cold War powers. In the sixties, Katanga unsuccessfully tried to secede, with the support of Belgium and the Union Minière. Then, in 1978, Soviet-armed and Cuban-trained rebels seized Kolwezi and several hundred civilians were killed. Before the insurrection, the Soviet Union appeared to have been stockpiling cobalt, and, according to a report by the C.I.A., the attack set off "a round of panic buying and hoarding in the developed West." Cobalt, the report declared, "is one of the most critical industrial metals." Then, as now, the mineral was used in the manufacture of corrosion-resistant alloys for aircraft engines and gas turbines.

The West's solution to the market instability was to prop up the country's dictator, <u>Mobutu Sese Seko</u>, who presided over an almost farcically kleptocratic regime. The country's élite sustained themselves, in part, on the profits from the mines. Gécamines, a state-controlled mining

company, ran a virtual monopoly in Katanga's copper-and-cobalt belt, and owned swaths of the cities that had been built to house miners.

By the early nineties, Mobutu and his cronies seemed to have stolen everything they could, and Congo was falling apart. As the country drifted toward civil war, the Army pillaged Gécamines, and former workers sold off minerals and machine parts in order to feed their families. In 1997, Mobutu went into exile. The disintegration of Gécamines transformed Congo's mining landscape. *Creuseurs* began digging at the company's largely abandoned sites, selling ore to foreign traders who had stayed behind after Mobutu was deposed.

Congo became mired in a series of wars in which more people were killed than in any other conflict since the Second World War. The country's next leader, <u>Laurent-Désiré Kabila</u>, was assassinated, in 2001, and his son Joseph took over. Both Kabilas funded their war efforts by selling Gécamines sites to foreigners. By the time Hitzman arrived, in the mid-two-thousands, Gécamines had become a shell. "Some of the best geologists I've ever met in my life were still working for Gécamines, and hadn't been paid for three years," Hitzman said. "It was sad as hell."

Some *creuseurs* in Odilon Kajumba Kilanga's collective used to work for Gécamines. Yannick Mputu, who is from Likasi, three hours east of Kolwezi, told me that he once reprocessed tailings at a company mine in his home town, adding, "When Gécamines closed, we had to go to Kolwezi."

The collective regularly sneaked into open-pit mines that are now owned by companies like the Swiss multinational Glencore. "We enter at night, we work, and leave early in the morning," Mputu told me. He noted that *creuseurs* put something aside for the soldiers and the police who supposedly prohibit outsiders from entering: "We give them a percentage of our earnings, and they let us in."

In June, 2019, more than forty *creuseurs* were killed in a landslide after breaking into a Glencore-owned mine in Kolwezi. Kajumba and his friends were also at the site that night, but they were working a different seam. "The worst thing I've seen as a miner is the sheer number of dead bodies when there were cave-ins," Kajumba said. The night after the Glencore landslide, a mining-company employee told me, "people snuck back in and continued digging."

Videos of Kasulo taken during the height of the 2014 cobalt rush show orange tarpaulins covering fresh pits and bags of minerals littering the streets. Michael Kavanagh, a journalist, visited the district a year later, and published an article in the *Times* observing that the

profusion of holes made it look "as if it had been bombed." At one point, after *creuseurs* tunnelled beneath the main road running west to Angola, the road collapsed.

Kajumba and his team were part of this initial frenzy. They knew that picking at the rock beneath Kasulo's sandy soil was treacherous, especially during the rainy season, but they were happy not to be risking arrest, as they were when they broke into the big mines. One day in December, 2014, Kajumba and other *creuseurs* were working a pit at Kasulo when they felt a rumble. "It was as if something was falling deep underneath us," Kajumba recalled. They knew that, the previous day, a group of *creuseurs* working in a neighboring hole had asked a local chief to perform a ritual over a new area where they had been digging. *Creuseurs*, many of whom have little formal education and enter pits every day fearing that they might die, can be superstitious. Magic practitioners, known as *féticheurs*, are sometimes employed in the hope of increasing the chances that a fresh pit will contain bounties of cobalt and copper.

Such rituals are often benign, but they can have a sinister side. Among the prevailing superstitions in the region is a belief that having sex with a virgin girl will enhance one's luck in the mines. While I was in Kolwezi, Mutindi, of Good Shepherd, showed me photographs of the bruised corpse of an eight-year-old girl who had been abducted and raped by a *creuseur* the previous week. (The miner was later apprehended; she sent me a video of him in prison.) Children frequently die while being raped. In one case, Mutindi said, she saw the body of an eighteen-month-old infant who had been raped by a *creuseur*.

At Kasulo, the *féticheur* who had performed the ritual over the neighboring pit had warned the miners not to enter it for three days, to avoid angering a dragon that, he said, lived at the bottom. The *creuseurs* were told that the pit would then be safe—and full of minerals. Rumors of the pit's riches spread, and a day later some miners decided to disobey the *féticheur*. "*Creuseurs* have curiosity," Mputu said. "They wanted to see what was down there."

After Kajumba and Mputu felt the ground shudder, they rushed to the neighboring hole. Part of the tunnel had caved in, trapping their neighbors deep below. Some fifty people vaulted into the darkness, desperate to save their friends. Rescuers nearly suffocated in the subterranean passages. Eleven of the trapped miners died, as did four rescuers.

Following another series of *féticheur* rituals, and another period of waiting, all the bodies were pulled from the hole. Some were horrifically burned. "The last person who escaped from the pit said that he saw a huge flame," Mputu told me. The fire's origin was unclear, but artisanal miners can unearth pockets of flammable gas. To Mputu and his colleagues, the accident had

supernatural trappings. "The cause of the flame was none other than the dragon," he told me.

Nine months after the cave-in, another group of *creuseurs* in Kasulo burned a tire in an underground gallery, in an attempt to crack open a stubborn rock face. Five people asphyxiated from the fumes; thirteen others were hospitalized. After the incident, Radio Okapi, a media group sponsored by the United Nations, interviewed Kolwezi's mayor, who said that a year earlier he had sent a report to his superiors urging the closure of the artisanal pits. According to Radio Okapi, the mayor "expressed regret that no site was closed because of this request." The report noted that more than a thousand holes had been dug in Kasulo.

The Democratic Republic of the Congo was reorganized in 2015, and Kolwezi became the new capital of a region called Lualaba. The first governor of Lualaba, Richard Muyej Mangez Mans, promoted himself as Papa Solution. In Kolwezi, many benches at bus stops were painted with his nickname. In <u>an interview</u> with the magazine *Mining and Business*, Muyej spoke critically of the cobalt "contagion" in Kasulo. "A plan is needed to avoid hasty movements that could turn into a humanitarian tragedy," he said. "We have made a project proposal that we will submit to the authorities."

The proposal, which Muyej didn't disclose at the time, involved granting the mineral rights at Kasulo to a foreign company: Congo Dongfang International Mining, a subsidiary of Zhejiang Huayou, a Chinese conglomerate that, among other things, has supplied materials for iPhone batteries. China is the world's largest producer of lithium-ion batteries, and Huayou has made a huge investment in Congo. After acquiring mineral rights in the region, in 2015, it built two cobalt refineries. According to an internal presentation, by 2017 Huayou controlled twenty-one per cent of the global cobalt market. (A Huayou spokesperson said that Congo Dongfang followed international standards in developing Kasulo, and plans to "gradually eradicate all forms of human-rights violation with a responsible supply chain.")

China and Congo have a long history. During Leopold's reign, Chinese workers were shipped to Congo to help build the national railroad. In the nineteen-seventies, Mobutu turned to Mao's regime for technical collaboration on infrastructure projects. By the nineties, the Chinese were becoming the bosses: the Beijing government and myriad Chinese businesses began making heavy investments in Africa, particularly in resource-rich and regulation-poor countries like the Democratic Republic of the Congo. Peter Zhou, a Chinese-born financier who has worked on a few mining deals in Congo, said that in such countries "there is corruption, there is lack of the rule of law, which gives you more autonomy to be entrepreneurial." (Zhou emphasized that he hadn't directly witnessed or engaged in corruption.) In 2007, Joseph Kabila made a six-billion-

dollar infrastructure deal with China that included a provision allowing the Chinese to extract six hundred thousand tons of cobalt.

The journalist Howard French, in his 2014 book, "China's Second Continent," writes that in Zambia, Congo's neighbor, Chinese companies invested so extensively in copper mines that the flood of foreign money was said to be influencing elections. Beijing was blamed for increasing Africa's debt burden, and an essay in the magazine *New African* accused China of "a new form of colonialism."

These days, most of the cobalt in southern Congo comes from industrial mines, which are largely owned by Chinese companies. In 2016, China Molybdenum paid the U.S. company Freeport-McMoRan \$2.65 billion for a controlling stake in Tenke Fungurume, a giant copperand-cobalt mine about two hours east of Kolwezi; three years later, China Molybdenum acquired another stake, for \$1.14 billion. Zhou, who worked on the Tenke Fungurume deal, divided the current Chinese involvement in Congo into two phases. At first, he said, companies had to take significant financial risks, because "there was a lack of infrastructure—the cost base is high to transport all the materials." They also had to pay bribes to government officials and Gécamines executives. During this phase, Chinese companies were incentivized to make money by whatever means possible. "If you conduct your business without, you know, a proper return, then you can't justify the risk," Zhou told me. During this period, he said, mines had few safety protections.

With sufficient infrastructure in place, Zhou went on, the "Chinese are now conducting business in a more moral way. They have to keep the people in a peaceful mind-set, so they started to build a social relationship—training locals in how to grow out their culture, their schools." He continued, "There's less gray conduct now, and more of a sort of transparent business."

In 2017, Chinese workers arrived in the village of Samukinda, half an hour northwest of Kasulo, and quickly constructed two dozen houses with corrugated-iron roofs. Kasulo residents were ordered to leave their neighborhood within two weeks. The Congolese government revealed that a mining permit had been granted to Congo Dongfang, which would remove the topsoil and then wall off what had once been the neighborhood. *Creuseurs* from an approved coöperative would be allowed to mine the site, and Congo Dongfang would become the exclusive buyer of Kasulo's ore.

Congo Dongfang offered the families of Kasulo either a lump sum for their plots—up to twenty-five hundred

dollars—or a new home in Samukinda. A consortium of local organizations wrote to Governor Muyej, protesting that the evictions were illegal, but he pressed on.

Muteba, the baker, told me that on a rainy day a couple of months later, employees of Congo Dongfang "came with huge trucks to crush our houses."

Around this time, Joseph Kabila announced that, after eighteen years in office, he would not run for reëlection. In January, 2019, Félix Antoine Tshisekedi Tshilombo became President. The following spring, I met with Governor Muyej at his fortified compound in the center

of Kolwezi. Muyej said that Tshisekedi would likely maintain the course set by Kabila—"a flight that we must take to get out of poverty."

Muyej told me that he hoped to diversify the local economy through tourism and agriculture. Mining, he said, exacerbated inequalities—"enormous mineral wealth beside a population that lives in enormous precarity." In 2018, *Forbes* praised Muyej's governorship as "a model for bringing together economic prosperity, political transparency and social impact." Yet it's hard to imagine Kolwezi becoming a travel destination anytime soon. On a recent trip there, I tried to visit Katebi Lodge, a new lakeside resort. At the entrance, a metal gate topped with barbed wire, I was shooed away by a police officer toting a Kalashnikov. Apparently, the lake was too polluted to allow visitors.

Muyej often cited the building of a new governorate office—a gaudy structure rising above a sea of ramshackle cinder-block houses—to show how he had modernized Kolwezi. Renovations of the local soccer stadium and the town's central roundabout, which features a statue of mine workers, were financed by mining companies.

Muyej told me that he hoped to reform the mining sector, in part, by reducing child labor and by centralizing the market where traders buy cobalt, thus instilling transparency in the supply chain. Critics have called such reforms cynical bids to control and tax artisanal production for personal gain. Muyej, his family, and officials close to him have profited from the mining boom. The Governor's son Yves is the C.E.O. of a logistics company in Kolwezi; on LinkedIn, one of his employees describes himself as the site supervisor of the Congo Dongfang mine. Muyej's cabinet chief, Yav Katshung, is a lawyer whose firm does work for Congo Dongfang. (Katshung and Yves Muyej both declined to speak to me.)

Muyej said that as many as a hundred and seventy thousand *creuseurs* work informally in his province. Among the forty or so sites where artisanal miners are employed as day laborers is the Congo Dongfang mine in Kasulo. Only eight hundred or so *creuseurs* work there, however, and that has stoked resentment. Jacques Kayembe, the president of an artisanal mining collective, told me, "Kasulo is a village that is built on mineral deposits, but not enough *creuseurs* can legally work on official artisanal deposits, and that's a problem."

Whenever Muyej tried to reason with *creuseurs* who had sneaked onto industrial concessions, he was attacked with stones, and in 2019 there was so much unrest in Kolwezi that the military was sent in. It has become common to see soldiers carrying machine guns and rocket launchers around the city. When I first visited the area, in 2019, a toll booth outside the city was riddled with bullet holes. A local journalist travelling with me said that a policeman at the booth had recently been murdered by gangsters.

Since the emergence of <u>covid-19</u>, Congo's south has endured a series of lockdowns. Kajumba said that *creuseurs* like him "continue to work, but the situation is difficult." Companies have furloughed workers, adding to their frustration. Several months ago, a Congolese friend sent me a video of miners protesting for back pay at a Chinese-run mine in Kolwezi. As pandemic restrictions continued, my friend sent me footage of protesters burning tires in the streets.

Last year, the Platform to Protect Whistleblowers in Africa announced that two Congolese citizens had leaked documents revealing numerous improprieties at Afriland First Bank, a Cameroon-based institution where Muyej had at least one account. Muyej, it was revealed, had been moving hundreds of thousands of dollars through the bank. He is now under investigation in Congo for corruption, and his vice-governor is running Lualaba. According to Radio France Internationale, the Congolese authorities have accused Muyej of not being able to justify forty per cent of his cabinet's expenses. (A representative for Muyej said that the Governor had done nothing wrong, and welcomed an audit of his finances.)

Huge sums of money continue to change hands in the region. In December, China Molybdenum paid Freeport-McMoRan half a billion dollars to acquire a controlling stake in Kisanfu, a copper-and-cobalt concession east of Kolwezi. At a recent conference sponsored by the *Financial Times*, Ivan Glasenberg, the C.E.O. of Glencore, said, "China, Inc., has realized how important cobalt is." He continued, "They've gone and tied up the supply." He warned that if Chinese companies stopped exporting batteries, this could hamper the ability of non-Chinese companies to produce electric vehicles. Last month, CATL, a Chinese conglomerate that develops and manufactures lithium-ion batteries, acquired a hundred-and-thirty-seven-million-dollar

stake in the Kisanfu mine. Tesla works with the company to make its car batteries, and CATL has supplied batteries to <u>Apple</u>. Recently, according to witnesses at Kisanfu, a cave-in killed at least four *creuseurs*.

In the spring of 2019, I visited the Congo Dongfang mine in Kasulo, escorted by company representatives. Signs by the gate said that children and pregnant women were forbidden to enter. Inside the compound, the land that had once been a bustling neighborhood was now a giant red crater. (I saw no children during my visit, but Kajumba told me that they still find their way in.) My minders cautioned me not to wander too close to the *creuseurs*, as they were liable to be violent. Not long before my arrival, a group of them had set some company trucks on fire.

Kajumba said that Congolese had been employed to mediate between the *creuseurs* and company officials. Often, the *creuseurs*' demands were not met and they went on strike. "You go in to work and say, 'No, I won't do anything,' "Kajumba said. "The Chinese will feel unsafe and call in the police." The police, he said, do the company's bidding: "They know they will get a gift from the Chinese, so they will threaten you with teargas and batons." Kajumba said that he had been teargassed by police at Kasulo: "Everyone ran to save his life. We felt defenseless."

At some sites, the treatment of Congolese by their Chinese bosses is reminiscent of the colonial period. In a video shared with me by Mutindi, of Good Shepherd, a Congolese guard with a Kalashnikov slung across his back beats a man who is lying, semi-naked, in mud, his arms bound. Behind the camera, a man otherwise speaking Mandarin starts yelling "*Piga!*"—the Kiswahili word for "beat." In the background are seven of the trucks that Congo Dongfang uses to transport cobalt ore.

Upon my arrival at the mine, I had been given a long explanation of safety protocols, but as I approached the *creuseurs* it was clear that they had only rudimentary equipment. Plastic jerricans, cut roughly in half and tied to ropes, were being used to haul ore. Many *creuseurs* were shoeless, and I saw none wearing helmets or goggles, despite the fact that a confidential 2018 audit, by the Korean conglomerate LG Chem, had criticized the site for a lack of proper safety equipment.

Some *creuseurs* washed ore in dirty ponds by the pits. "The Chinese are cheating us," one of them murmured. "They're telling us the ore is less pure than it is." Kajumba said that he had stopped working at Kasulo six months earlier because he felt that he was being treated unfairly. "It's as if you were working to suffer even more," he told me.

In a warehouse at the site, I watched a man, his face grim, pulverizing ore on a concrete floor as two Chinese overseers scrutinized *creuseurs* from behind a barrier of chicken wire. No Chinese employee interacted with me, and nobody responded when I waved in greeting.

ne night in Kolwezi, I went to a Chinese-run casino with a few Congolese friends. I was immediately allowed inside, but they were stopped at the door and told that they could not gamble. Black Africans, the casino's staff explained, can't be trusted with money. At a roulette table, a host of drunken white South Africans addressed a Congolese croupier as "Black man."

It's unclear how many Chinese live in Congo, though estimates range from fewer than ten thousand to as many as a hundred thousand. Before the pandemic, Ethiopian Airlines' daily flights from Addis Ababa into Lubumbashi were filled with Chinese passengers. When these workers arrive in a mining town, signs in Mandarin guide them to Chinese-run hotels, shops, and restaurants. Outside work, the Chinese rarely mingle with the locals. Very few of them know French or Kiswahili, the most commonly spoken languages of Congo's south. In <u>a 2017 essay</u>, the Congolese political scientist Germain Ngoie Tshibambe wrote that many Chinese find their time in Congo lonely and difficult. "It is no paradise for migrants," he noted.

Few locals patronize Chinese restaurants, which tend to be relatively expensive and not to their taste, but Chinese health clinics have become popular. The clinics offer a rare opportunity for casual social interaction—perhaps more so than at the mines themselves. In 2011, Jean Jolly, a French journalist, reported that one of Congo Dongfang's directors of external relations had never visited the mine that he represented, two miles away.

Congolese who work at Chinese-run mines said that their supervisors were often racist. A Congolese translator who speaks Mandarin told me, "Chinese people are coming here for business to make money, so they can never be our friends." He had overheard Chinese employers saying of the Congolese, "These people, they don't really *think*."

Creuseurs around Kolwezi frequently complained to me that Chinese-owned mines had replicated the harsh conditions of China's own mining industry. Congolese often say, "If they work without shoes there, how can they be expected to give us shoes to work here?" A Western mine official told me he had visited a mine in Congo, owned by a small Chinese company, that had many Chinese laborers. It reminded him of an internment camp: "The Chinese were barefoot, they were digging with shovels, and they couldn't leave."

Peter Zhou, the Chinese-born financier, referred to the locals in Congo as his "Congolese brothers," and argued that many big Chinese-run mines in the region had implemented strong safety standards. Recalling his first visit to southern Congo, Zhou said, "I wasn't too surprised about the poverty, because I grew up in Shanxi Province, in the interior of China." When he met with Congolese families in roughly constructed homes, he was reminded of the cinder-block rooms of his youth.

Zhou acknowledged that there was "a lot of corruption" in Congo's mining sector, but he maintained that, with enough economic prosperity, the gray economy in Congo will fade, much as it has in China. "My Western friends come to it and say, 'There are significant risks associated with business here,' "he said. "I see something familiar."

During one of my visits to Kolwezi, Kajumba invited me to the cramped room that he shares with Yannick Mputu and Mputu's brother, Trésor. I followed Kajumba down an alley in one of the town's sprawling working-class neighborhoods. We entered a courtyard, hung with drying linens, that smelled strongly of sewage, then passed through a green doorframe covered with printed fabric.

Inside, the walls were painted various bright colors. Above a bed facing an old cathode-ray television was a rack of neatly pressed suits, shirts, and jackets, many with natty checks and patterns. Even though Kajumba struggles to get by, he keeps up with the latest fashions. On the day that I visited, he was wearing an orange gingham button-down paired with a black-and-white-speckled baseball cap.

Creuseurs take pride in the ingenuity required to do their job well, and some of them told me that they like the irregular working hours. But Trésor Mputu, who has two children living in Likasi, told me, "As a father, I wouldn't accept my son going to the mines." Yannick nodded. "I would want, through my labors, to enable my children to go further," he said. "I want them to be able to study in good conditions, and for them to be able to leave the country to develop themselves."

Even if artisanal mining supports poor families in the region, it's hard to applaud it. The lives of most *creuseurs* are short and marked by suffering. Many have physical and psychological injuries from mine collapses and other accidents, and from violent confrontations with the police and the Army. Ziki, the former child *creuseur*, recalled an incident that took place when he was about twelve: "One Friday, we were sitting down, and soldiers came into the mine—they caught us. They threw us to the ground. They sprayed us with water and then began to whip us. We began

to cry and ask for mercy. And we swore to them that we would never come again to this place."

Soon afterward, Ziki left his group of friends, who had begun drinking and smoking heavily, and wandered around mine sites by himself. He began sleeping at sites, eating little and being abused by soldiers. At one point, he was taken hostage by older *creuseurs* who accused him of stealing their wares. In a stroke of luck, members of a CBS News crew met him while he was washing minerals. They encouraged his family to take him and his siblings out of the mines. "They asked my grandmother, 'Aren't these children capable of studying?' "he said. "My grandmother promised to take us back to school." (CBS viewers donated money for their schooling.)

I asked Ziki what he thought of people who profited from cobalt mining. "I have sadness in my heart when I think of people who buy the minerals," he said. "They make so much money, and we have to stay like this." When I told him that Americans paid more than a thousand dollars for the latest iPhone, he replied, "It really hurts me to hear that."

The companies that use lithium-ion batteries periodically respond to public pressure about the conditions in cobalt mines by promising to clean up their supply chains and innovate their way out of the problem. There is also a financial incentive to do so: cobalt is one of a battery's most expensive elements.

Last year, <u>Tesla</u> pledged to use lithium-iron-phosphate batteries, which do not contain cobalt, in some of its electric cars. Huayou stock plummeted. Still, Reuters noted, "it was not clear to what extent Tesla intends to use L.F.P. batteries," and the company "has no plans to stop" using batteries that contain cobalt. (L.F.P. batteries aren't used in cell phones: to achieve the required voltage, the batteries would have to be doubled up, adding unacceptable bulk and heft.)

After Amnesty International published <u>a report</u> on unethical cobalt mining, in 2016, Apple issued a statement saying that it "believes every worker in our supply chain has a right to safe, ethical working conditions," and that "underage labor is never tolerated." The following year, after <u>a report</u> by Sky News showed that cobalt mined by children was still being used in the company's devices, Apple suspended purchases of hand-

mined cobalt, but once the media attention died down the practice continued. Huayou remains part of Apple's supply chain.

In December, 2019, attorneys from International Rights Advocates, a law firm in Washington, D.C., sued Apple, Google, Dell, Microsoft, and Tesla for involvement in the injuries or deaths of child miners. "These boys are working under Stone Age conditions for paltry wages, and at immense personal risk, to provide cobalt," the complaint alleges. "The hundreds of billions of dollars generated by the Defendants each year would not be possible without cobalt mined in the D.R.C."

Terry Collingsworth, the lawyer for the plaintiffs, believes that the brutal conditions must have been apparent from the start. "I can't imagine that a company like Apple would become dependent upon a supply chain without having spent quite a bit of time on the ground," he told me. In response, Apple said that it had been improving standards since 2014 and contended that it is "constantly working to raise the bar for ourselves, and the industry." It also said that it had made innovations in cobalt recycling. (In August, 2020, the companies being sued jointly filed a motion to dismiss, and in October the plaintiffs filed a brief in opposition.)

The outcry over working conditions has led industry players to found the Fair Cobalt Alliance, an organization that, among other things, supports small-scale mining with safety equipment and clean water. The group is now present at Kasulo and at another site. Glencore, Huayou, and Tesla have joined the alliance.

Ziki, who is now in school, likes studying and playing soccer, and administrators have given him basic supplies to take home to his family. When I asked him what he hoped for in life, he replied, "I have the hope that I can become the governor!"

ne Sunday morning, I met Kajumba and Trésor Mputu at the Temple Évangélique de Carmel, a hangar-style megachurch in the center of Kolwezi. The sign outside proclaims that it is the "thirtieth Pentecostal community in Congo." Kajumba and Mputu attend services every Sunday. "When someone finds themselves in difficulties, they can come to the church, they can pray," Kajumba said.

Inside, people swayed and sang, their hands outstretched. A few congregants spoke in tongues. On a stage covered with flowers, one of the pastors declared that the church was "worth more than any enterprise." He promised that spiritual riches awaited even his poorest parishioners.

After church, Kajumba, Mputu, and I went to a local bar to watch the broadcast of a soccer match between a Malagasy team and TP Mazembe, which is passionately supported throughout the south. When Mazembe scored the first goal, Kajumba smiled. Suddenly, the television

crackled, and the programming switched to another game, in Kinshasa, the nation's capital. "They always forget us down here in the south," someone said. Kajumba sighed and said that he should probably head home.

One day, driving north out of Kolwezi, I noticed how deeply faith permeated everything around me: the Mount Carmel health clinic, the Salon Apocalypse hairdresser, the Light of God tire shop. Eventually, the road became unpaved. Trucks carrying sulfuric acid threw up plumes of dust as they trundled toward factories where raw minerals are processed.

I turned onto a side road and crossed a creek where men, women, and children were washing cobalt ore. On the other side lay a cluster of mud-brick houses. This was Samukinda, the village where new houses had been built for the exiled residents of Kasulo.

The sun was punishingly hot that day, and I was grateful when Nama Mavu, the local chief, invited me into her home for a chat. "My ancestors came from Angola, and they set up the village in 1941," she said. On her parlor wall there was an image of Jesus, and a poster advertising a copper-and-cobalt mine. "My ancestors came here to build the railroad, and, when the construction of the railroad finished, they stayed."

For years, the villagers farmed the surrounding bush, growing large crops of manioc, but about a decade ago the land became polluted after some foreign businessmen opened a cobalt-processing plant nearby. This left no source of employment for the villagers, except as low-paid day laborers. In 2018, the residents of Kasulo who had been displaced by the Congo Dongfang mine began to arrive.

As I walked through the village, children laughed and pointed at me, shouting "Chinese! Chinese!" Mavu said that the villagers were seldom visited by foreigners, even though their factories and mines now surrounded the town. She assigned two young men to escort me to the houses that Congo Dongfang had built. A row of modern-looking white buildings rose in the distance. As they came into focus, it was clear that their construction was slapdash.

Few of the homes were even occupied, as most of the original residents of Kasulo had accepted money instead. Those families who had chosen to take a house had been shown a brochure with beautiful pictures. But the homes turned out to have no electricity or bathrooms. The roofs leaked, and the well at the corner of the development was dry. Most of the families moved away.

Muteba, the baker, was one of the few arrivals from Kasulo who had remained in Samukinda. Now in his seventies and retired, he wore a soiled lab coat over his emaciated body. He welcomed me into his house, which was stifling hot. The roof was only roughly attached to the walls. He had dug himself a lavatory pit, which was covered with a board. "The water here, it's not good," he said. "The smell of acid and pollutants comes out of any hole we try to dig for water."

Muteba, who was ill with diarrhea, wistfully recalled his home in Kasulo. "It was a big parcel of land," he said. "It had at least fifteen trees—avocado trees, mango trees. All this was mine." He continued, "We were chased out of our homes like animals, and now we suffer like strangers."

Mavu told me that her village can hardly support its own inhabitants, much less the new ones from Kasulo. She has no means of transport, and Governor Muyej has refused to come and see her in order to take stock of the village's problems. She asked me to change about twenty dollars' worth of Zambian money that she had carefully folded away after making a trade with food importers. There is no school at Samukinda, and the nearest shops are miles away.

During my meeting with Governor Muyej, I raised some of the complaints I had heard at Samukinda. He insisted that I had "a bad comprehension of the issues." He promised to address the dry well and the poor housing construction. When I returned to the village, five months later, Mavu told me that Papa Solution still hadn't sent anyone: "All that has changed is that I am older."

At the end of my first visit to Samukinda, I noticed mining tailings spread across a path. The residents had put them there to check erosion during the rainy season. I wondered if the tailings contained any cobalt, and a young villager told me that they probably did—after all, the entire region rested on mineral deposits. I then asked him if the residents of Samukinda had considered digging beneath the village. The young man shrugged and said that the people in his village didn't want to suffer the same fate as those in Kasulo. Then he made a prediction: "In the end, they will come and kick us out of here." •

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