

The Political Economy of Super-Exploitation in Congolese Mineral Mining

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A lawsuit launched by International Rights Advocates in December 2019 on behalf of 14 families from the Democratic Republic of the Congo (DRC) accuses several prominent electronics multinationals of aiding and abetting in the “deaths or serious, crippling injuries” of children working in cobalt mines implicit in their global supply chains.¹ The defendants, which include Apple, Google, Dell, and Tesla, are alleged to have knowingly sourced lithium-ion batteries, a component for smartphones and other electronics, from manufacturers sourcing cobalt excavated from Congolese sites at which these children were maimed and killed while mining.² IRA assert that children working under “extremely dangerous stone age conditions” and “paid a dollar or two a day” populate the extraction sites of primary components for “the expensive gadgets made by some of the richest companies in the world”.³ Siddharth Kara claims the lawsuit, for which he is acting as an expert witness, is “intended to compel the defendants to remedy the horrific conditions at the bottom of cobalt supply chains.”⁴ This ongoing suit, representing “the first time that the voices of the children suffering in the dark underbelly of one of the richest supply chains in the world will be heard in a court of law,” may mark a significant moment in the contested history of efforts to eliminate minerals mined by forced labour from the global production networks (GPNs) of US tech firms.⁵ It is with the political economy of these production networks, the modes of labour exploitation implicit within them, and the means by which this nexus might be challenged, that this investigation is concerned.

I

The Democratic Republic of the Congo

The DRC, coming into national independence in 1960 with the conclusion of Belgian colonial rule, is today often characterised in terms of three interlinked phenomena - poverty, violence, and mining. The African nation, situated within the Congo Basin, remains one of the poorest on earth, with GDP per capita and HDI scores at the eleventh⁶ and twelfth⁷ lowest in the world respectively. With 63% of the population living below the national poverty line (less than \$1 per day), 74% without clean

¹ International Rights Advocates, ‘Cobalt DRC Case’, *International Rights Advocates* (16 December 2019) - [<http://www.iradvocates.org/case//cobalt-drc-case> - accessed 26/04/20].

² Annie Kennie, ‘Apple and Google named in US lawsuit over Congolese child cobalt mining deaths’, *The Guardian* (16 December 2019) - [<https://www.theguardian.com/global-development/2019/dec/16/apple-and-google-named-in-us-lawsuit-over-congolese-child-cobalt-mining-deaths> - accessed 26/04/20].

³ International Rights Advocates, ‘Cobalt DRC Case’.

⁴ Siddharth Kara, ‘I saw the unbearable grief inflicted on families by cobalt mining. I pray for change’, *The Guardian* (16 December 2019) - [<https://www.theguardian.com/global-development/commentisfree/2019/dec/16/i-saw-the-unbearable-grief-inflicted-on-families-by-cobalt-mining-i-pray-for-change> - accessed 26/04/20].

⁵ Ibid.

⁶ International Monetary Fund, ‘World Economic Outlook Database October 2019’, *World Economic and Financial Surveys* (2019) - [<https://www.imf.org/external/pubs/ft/weo/2019/02/weodata/index.aspx> - accessed 10/06/2020].

⁷ United Nations Development Programme, ‘2019 Human Development Index Ranking’, *Human Development Reports* (2019) - [<http://hdr.undp.org/en/content/2019-human-development-index-ranking> - accessed 10/06/2020].

water, 94% without electricity, and only an 18% secondary school completion rate, alongside other social pathologies including high rates of infant and maternal mortality, malaria, and HIV/AIDs, the people of the DRC are among the most deprived on earth - a situation compounded by the immense violence to which their society has been subjected in recent decades.⁸ The Congo Wars, sparked by the flight of Hutu *genocidaires* into the DRC from neighbouring Rwanda in the mid-1990s, and coming to a formal settlement in 2003, are estimated to have caused over 5.4 million deaths - excluding casualties of continued conflict since, especially in the eastern region of Kivu.⁹ Our focus will not be so much upon these wars as upon the role played by this violence within the politico-economic relations implicit within one of the DRC's primary industries - mineral mining.¹⁰

The disparity between the 'resource wealth' of the DRC and the crushing poverty of the vast majority of its population is remarkable. The country's geology is rich with deposits of gold, copper, diamonds, oil, uranium, manganese, silver, zinc and tin,¹¹ as well as the largest stocks of cobalt,¹² and coltan (an ore-form of the metal *tantalum*),¹³ in the world. Yet despite a total potential mineral 'wealth' estimated at US\$24 trillion, the Congolese people today live and labour under some of the worst material conditions found on earth.¹⁴

While a precise figure would be unattainable, owing to the informal or illicit nature of much of this activity, the number of Congolese citizens dependent upon 'artisanal and small-scale mining' (ASM) has previously been approximated at 12.5 million - around a fifth of the contemporary population.¹⁵ As well as meagre monetary remuneration (either as wages of around \$1-3 per day, or prices from traders),¹⁶ a variety of degradations upon the conditions of ASM workers combine to produce a distinctly exploitative form of proletarianisation - physically hazardous conditions around extraction sites, repression of collective bargaining, and no recourse to any welfare measures. Furthermore, outside of 'formally free' wage-labour, mining in the DRC has been conducted through

⁸ Benjamin Sovacool, 'The precarious political economy of cobalt: Balancing prosperity, poverty, and brutality in artisanal and industrial mining in the Democratic Republic of the Congo', *The Extractive Industries and Society* vol.6 (2019), 916.

⁹ Jeffrey Mantz, 'Blood diamonds of the digital age: coltan and the eastern Congo', *Global Studies Review* vol.4 (2008), 12.

¹⁰ For a comprehensive history of these wars, see Jason Stearns, *Dancing in the Glory of Monsters: The Collapse of the Congo and The Great War of Africa* (New York: Public Affairs, 2011).

¹¹ David Renton, David Seddon and Leo Zeilig, *The Congo: Plunder and Resistance* (London: Zed Books, 2007), 1.

¹² International Rights Advocates, 'Cobalt DRC Case' (2019).

¹³ Alberto Rojas Blanco and Raquel Villaecija, 'Blood and minerals: who profits from conflict in the DRC?', *Al Jazeera* (19 January 2016) -

[<https://www.aljazeera.com/indepth/features/2016/01/blood-minerals-profits-conflict-drc-160118124123342.html> - accessed 12/06/2020].

¹⁴ M.J. Morgan, 'DR Congo's \$24 Trillion Fortune', *African Business* vol.350 (February 2009) -

[<https://www.questia.com/magazine/1G1-193800184/dr-congo-s-24-trillion-fortune> - accessed 12/06/2020].

¹⁵ Nicholas Garrett, 'The Extractive Industries Transparency Initiative (EITI) & Artisanal and Small-Scale Mining (ASM): Preliminary Observations from the Democratic Republic of the Congo (DRC)', *Extractive Industries Transparency Initiative* (22 October 2007), 6 - [<https://eiti.org/document/eiti-artisanal-smallscale-mining> - accessed 12/06/2020].

¹⁶ Sovacool, 'The precarious political economy of cobalt', 921-922; Michael Nest, *Coltan* (Cambridge: Polity Press, 2011), 42. Both texts cite the \$1-3 figure for the average daily wage of cobalt and coltan artisanal miners respectively.

a range of unfree labour relations, including indentured servitude, debt-bondage, and other modalities of effective slavery.¹⁷ There are regional variations in these methods of labour exploitation - with the forms of enslaved ASM labour overseen by profiteering militias in Kivu leading to the denotation of coltan from the eastern DRC as a 'conflict mineral' - but incidences of effective coercion within mining are found across the DRC, palpably in the form of child labour.

UNICEF have estimated that around 40,000 children work in the mines of the southern DRC alone.¹⁸ Even aside from the horrors of compelled 'child soldiery' and slavery documented around coltan mines in Kivu,¹⁹ instances of child labour are abound across mining regions such as Katanga, where many children work to excavate cobalt for global markets (where, unlike coltan, it is not labelled a 'conflict mineral').²⁰ The desperation of many families, for whose children a primary education is inaccessible, suffices to drive thousands of minors into the backbreaking labour of the mines, often for up to 12 hours a day (with many children whose families *can* afford schooling fees still spending all available time on ASM sites).²¹ According to Amnesty International, children as young as seven may undertake ancillary tasks like sorting mined ore, before delving into the tunnels themselves from around the age of twelve.²² These mineshafts, often hand-excavated for lack of tools, are "some of the most dangerous in the world," according to an 'Expert Witness' for Sovacool's field research on conditions in Congolese cobalt mines.²³ Another claimed that:

"Artisanal miners work in terrible conditions. They are at the bottom end of the mining industry, in every imaginable way. There are no trade unions to defend their rights, no specific cooperatives that try to improve conditions. Too many important political individuals profit from the mining industry being as it is, to make it safer. The labor conditions within ASM are poor, dangerous, hazardous, and horrific."²⁴

The omnipresent danger for ASM miners of tunnel collapses, alongside other lethal hazards including gas explosions, chemical poisonings, electrocutions, drownings, and lung diseases - not to mention the chronic violence permeating labour relations on these sites - combine to produce a living and working environment characterised by conditions of extreme exploitation and degradation.²⁵ These were the conditions under which the children cited in the IRA lawsuit were killed and maimed, digging in the darkness for the raw materials that furnished Silicon Valley's embarrassment of riches.

¹⁷ Patience Kabamba, 'You Cannot Get Blood Out of a Stone: The Nexus of Neoliberalism, Violence and Slavery in the Democratic Republic of the Congo', *The Zambakari Advisory* (2018).

¹⁸ Amnesty International and Afrewatch, 'This is What We Die for: Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt', *Amnesty International* (19 January 2016), 6 - [<https://www.amnesty.org/en/documents/afr62/3183/2016/en/> - accessed 12/04/20].

¹⁹ Nest, *Coltan*, 96.

²⁰ Once formally Katanga Province, now partitioned into Haut-Katanga, Tanganyika, Haut-Lomani, and Lualaba provinces. References to 'Katanga' hereafter denote this wider historic south-eastern region, rather than Haut-Katanga Province in particular.

²¹ Amnesty International and Afrewatch, 'This is What We Die For', 6.

²² *Ibid*, 4-6.

²³ Sovacool, 'The precarious political economy of cobalt', 926.

²⁴ *Ibid*, 926-927.

²⁵ *Ibid*, 928-929.

The DRC is wrought with a number of systemic social pathologies: widespread poverty and underdevelopment, physical and sexual violence, forced labour, kleptocratic governance, and environmental degradation. However, we should be wary in our analysis not to *naturalise* these conditions - to imply that the nexus of poverty, violence, and mining driving many of these pathologies somehow represents an expression of innate features of Congolese society, rather than the observable product of historically contingent *social* factors. That way lies those chauvinistic accounts of violence and social dysfunction in the Congo as an incomprehensible Hobbesian atavism, or worse as exemplary of some inherent civilisational barbarism - contemporary redeployments of Conradian conceptions of the Congo as a 'Heart of Darkness' understandable only in terms of Kurtzian horror.²⁶ Kabamba writes that the DRC is often "perceived as a country in a state of quasi-anarchy and chaos, and as a theatre of senseless and horrific violence . . . contemporary scholars tend to replicate tired stereotypes of Africa by emphatically coupling state dysfunction and societal savagery."²⁷ Such discourses, as well as reproducing deeply racist conceptions of the Congolese, exhibit a mystifying tendency to de-historicise the pathologies of the DRC as somehow essential traits of an irretrievably terrible 'land out of time' - rather than as phenomena with comprehensible histories and causes that may be engaged with analytically. It is only through a *materialist* analysis of historical political economy that we may gain insight into the nature of the DRC's social ills. The Congo is not innately predisposed toward poverty and violence, but rather experiences pathologies engendered by its historically-produced structural subordination within a global capitalist political economy geared around the sustained underdevelopment of and predation upon the DRC as a site of *super-exploitation* of extractive labour.

Global Capitalism and Colonialism

The comfortable embeddedness of modes of extreme exploitation of Congolese labour within wider networks of contemporary capitalist accumulation is a vital premise for any analysis of the foundations of the current situation in the DRC.²⁸ Mining in the DRC is overwhelmingly export-oriented, with excavated metals streaming out into production networks spanning the globe. The typical Congolese mine is materially integrated into the transnational superstructure of market transactions and relations that constitutes contemporary capitalist 'globalisation' - an integration that has been produced through a long process of historical formation.²⁹ The role of *colonialism* in the construction of the DRC's extractivist paradigm, its structural subordination within international political economy, and its state apparatus itself, is *the decisive fact* in the historical genesis of the nexus between extreme exploitation of Congolese mining labour and an international capitalist system in which Congolese minerals play a vital role.

²⁶ Patience Kabamba, 'Heart of Darkness: Current images of the DRC and their theoretical underpinnings', *Anthropological Theory* vol.10 (2010).

²⁷ *Ibid*, 271.

²⁸ Genevieve Lebaron and Alison Ayers, 'The Rise of a 'New Slavery'? Understanding African unfree labour through neoliberalism', *Third World Quarterly* vol.34 (2013).

²⁹ We owe much of our conception of the interconnectedness of mine sites within global networks of production and commerce under contemporary capitalism to the innovative theoretical framework advanced in Martin Arboleda, *Planetary Mine: Territories of Extraction under Late Capitalism* (London: Verso, 2020).

The sordid history of colonialism in the Congo, from the Portuguese encounter that would precipitate the transatlantic slave-trade to the nightmare of Belgian King Leopold II's 'Congo Free State' at the time of the New Imperialism, has been well accounted elsewhere.³⁰ We will not attempt a narrative here, rather offering a theorisation of the processes whereby the modalities of oppression, exploitation, and underdevelopment that characterised colonial rule produced a lasting pattern and logic for the economic operations, state functions, and international relations of the Congo, from which the post-colonial state has proven hitherto incapable of escape.

The accounts of explorer Henry Morton Stanley, dispatched by Leopold to establish a network of trading stations throughout the Congo as embryonic infrastructure for his envisioned colony, indicate the significance of the envisaged productivity of Congolese labour to contemporary colonial designs for the Congo:

*'In every cordial-faced aborigine whom I meet I see a promise of assistance to me in the redemption of himself from the state of unproductiveness in which he at present lives. I look upon him with much of the same regard that an agriculturalist views his strong-limbed child; he is a future recruit to the ranks of soldier-labourers. The Congo basin, could I have but enough of his class, would become a vast productive garden.'*³¹

The obscenity of Leopoldian rule in the Congo (1885-1908), responsible for around ten million deaths,³² is exhibited by the methods deployed to enforce the collection of rubber sap - a valuable commodity on the contemporary world-market due to the 'rubber boom' engendered by the advent of the inflatable tire (and consequently, the automobile).³³ Hostage-taking of families upon pain of death for failure to meet rubber quotas was widespread, while torture, rape, dismemberment, and massacre served to impel the next village along to submit to Belgian demands.³⁴ This colonial brutalisation cannot, however, be neatly personalised as the project of one abominable individual. The Congo Free State, a free-trade zone, was a site of exploitation and accumulation in which much of contemporary capital was complicit.³⁵ The bottom-lines of automobile firms were raised by their reliance upon regimes of rubber extraction for which there were effectively no 'labour costs' (except those required to maintain the apparatus of terror). This period also saw *mining capital*, such as the 'Union Minière du Haut-Katanga', begin to predate upon Congolese minerals.³⁶ Established to mediate the exploitation of Congolese extractive labour by international capital, the Congo Free State - forebear of the DRC - was "designed as an extraction area and never as a political space . . . The network of roads and railways, the health and education system, the metropolitan

³⁰ Adam Hochschild, *King Leopold's Ghost: A Story of Greed, Terror and Heroism in Colonial Africa* (London, Pan Books, 2012 [1998]).

³¹ Henry Morton Stanley, *The Congo and the Founding of its Free State: A Story of Work and Exploration* vol.2 (Cambridge: Cambridge University Press, 2011 [1885]), 93-4.

³² Hochschild, 225-33.

³³ *Ibid*, 158-59.

³⁴ *Ibid*, 161-66.

³⁵ See Jules Marchal, *Lord Leverhulme's Ghosts: Colonial Exploitation in the Congo* (London: Verso, 2017).

³⁶ Renton, Seddon and Zeilig, *The Congo: Plunder and Resistance*, 37-8.

administration of the colony all met the predatory logic of Leopold's project . . ."³⁷ Throughout the Belle Époque, the Congo constituted the territory subject to the most intense forms of *super-exploitation* found within contemporary global capitalism.³⁸

Super-Exploitation

The concept of 'super-exploitation' descends from the critical tradition of Marxist political economy, in which the 'exploitation' of labour is seen as a generic feature of capitalist production, as an attempt to theorise the *particular* extremity of certain relations of exploitation, of a severity qualitatively distinct from those that normatively characterise wage-labour under capitalism.³⁹ The term was popularised by dependency theorist Ruy Mauro Marini, conceiving of "super-exploitation" as a means of increasing the 'rate of exploitation' by the remuneration of 'labour-power' "below its actual value."⁴⁰ Within the Marxist paradigm, the 'value of labour-power' refers to the total cost of goods required for the subsistence of the worker (and their dependents), represented in the wage. However, for Marx, "the determination of the value of labour-power contains a historical and moral element", as the worker's normative standard of living within a given society is significantly dependant upon the historical conditions within which the culturally-accepted minimum level of wage-remuneration has been formed.⁴¹ Marini's conception of 'super-exploitation' refers to the attainment of a heightened rate of exploitation through the concerted suppression of labourers' wages *below* this minimum (often into the realm of starvation wages). *Sustained* super-exploitation may thereby establish a diminished normative 'standard of living' for workers in the affected community - a regime of exploitation in which profits are assured by the immense precarity of the labourers' subsistence.

That which differentiates 'super-exploitation' from labour exploitation in general is the intercession of 'extra-economic' determinations, such as coercive force or hegemonic ideologies, to construct extra-exploitable sections of the labour-force.⁴² The repression of workers' freedom to collectively oppose wage-cuts - enacted through state- or employer-directed coercion, or the utilisation of modes of exploitation that dispense with wage-labour entirely - is often a precondition for super-exploitation. The pervasive presence in Congolese mining of unfree labour (informally through the violent suppression of organised resistance to starvation-wages, and formally as coerced and child labour), illustrates that super-exploitation is a hegemonic relation of production within Congolese extractivism.

³⁷ Patience Kabamba, 'A Happy Congolese Sisyphus? Rolling the Rock of the Conradian Project Ad Vit Eternum!', *Global Journal of Human Social Science* vol.15 (2015), 24.

³⁸ That is with the possible exception of the regimes of enslaved indigenous labour in the Amazon Rainforest during the 'rubber boom'. See Eric Hobsbawm, *The Age of Empire: 1875-1914* (London: Weidenfeld and Nicolson, 1995 [1987]), 63, 329-30.

³⁹ Ashley Bohrer, *Marxism and Intersectionality: Race, Gender, Class and Sexuality under Contemporary Capitalism* (London: Transcript, 2019), 47-50.

⁴⁰ Ruy Mauro Marini, *Dialéctica de la Dependencia* (Mexico City: Ediciones Era, 1973), 93 - cited and translated in John Smith, *Imperialism in the Twenty-First Century: Globalisation, Super-Exploitation, and Capitalism's Final Crisis* (New York: Monthly Review Press, 2016), 359.

⁴¹ Karl Marx, *Capital* vol.1 (London: Penguin Classic, 1990 [1867]), 275.

⁴² Anna Tsing, 'Supply Chains and the Human Condition', *Rethinking Marxism* vol.21 (2009), 158.

The question of the *beneficiaries* of this super-exploitation must draw our attention to the GPNs into which exported Congolese metals flow. Marini conceived of the super-exploitation of primary producers in dependent economies as “a necessary condition of world capitalism,” due to the role played by commodities produced cheaply by impoverished workers in the Global South in reducing costs of production and consumption in the Global North - identifying the role of super-exploitation in ‘peripheral’ countries in maintaining the rate of exploitation and profit in the industrialised core.⁴³ Our analysis must situate the super-exploitation of Congolese extractive labour within a global capitalist system historically and contemporarily structured by such *imperialist* regimes of accumulation, profiteering from socially-constructed disparities in the value of labour-power across different territories. The abjectly diminished ‘value of labour-power’ in the DRC is indeed “the product of history,” determined by “the conditions in which, and consequently the habits and expectations with which” the Congolese mining proletariat has been historically formed.⁴⁴ These conditions, imposed colonially through the ‘Congo Free State’, were characterised by enslavement and brutalisation, by which the Congolese population were ‘disciplined’ into their role as super-exploited producers within the capitalist world-system - a process in which *racialisation* played a decisive legitimating role.

Stuart Hall asserted that “race is the modality in which class is lived,” and indeed within contemporary global capitalism many impoverished populations experience their super-exploitation as an essential unity of racial and class oppression.⁴⁵ The term ‘racialisation’ is employed within analyses of ‘racial capitalism’ to refer to the socio-historical imposition of definite racial classifications upon certain populations, which serve to ideologically rationalise the hierarchical social relations required by capitalist production.⁴⁶ A key function of racialisation within global capitalism is the ideological construction of sub-groups of workers deemed ‘extra-exploitable’ due to their subordinate status as ‘raced’ subjects - meaning racial oppression often develops concomitantly with the devaluation of labour-power. Rodney offers a theorisation of the racialised super-exploitation of wage-workers in colonised Africa, positing that European capitalists had “additional racial justifications for dealing unjustly with the African worker,” meaning “wages paid to workers in Europe and North America were much higher than wages paid to African workers in comparable categories.”⁴⁷ Rodney gives the example of the vast disparities between the wages of Nigerian and German coal-miners to “illustrate how much greater was the rate of exploitation of African workers.”⁴⁸ The relationship between racialisation and colonial ‘super-profits’ was starkly exemplified in the Congo, where the racialisation of the Congolese excused the use of

⁴³ Marini, *Dialéctica de la Dependencia*, 91, translated and cited in Smith, *Imperialism in the Twenty-First Century*, 216-19.

⁴⁴ Marx, *Capital* vol.1, 275.

⁴⁵ Stuart Hall et al, *Policing the Crisis: Mugging, the State, and Law and Order* (London: Macmillan, 1978), 394.

⁴⁶ The term ‘Racial Capitalism’ was popularised in Cedric Robinson, *Black Marxism: The Making of the Black Radical Tradition* (London: The University of North Carolina Press, 2000 [1983]). See also Theodore Allen, *The Invention of the White Race* vols.1-2 (London, Verso, 2012 [1994]); Gargi Bhattacharyya, *Rethinking Racial Capitalism: Questions of Reproduction and Survival* (London: Rowman and Littlefield, 2017).

⁴⁷ Walter Rodney, *How Europe Underdeveloped Africa* (London: Verso, 2018 [1970]), 177.

⁴⁸ *Ibid.*

coercive, often arbitrarily sadistic methods by which their exploitation was intensified to levels unmatched elsewhere in the international division of labour. The terms on which Congolese labour was integrated into global capitalist production were one of intense racialised super-exploitation, deemed exploitable to a degree that would have been considered monstrous were Leopold's plantations worked by Europeans. Prolonged colonial super-exploitation had the effect of cementing and naturalising this radical devaluation of Congolese labour power - though the Congo is no longer formally colonised, the subordination of racialised Congolese labourers within international production, subsisting at a level starkly lower than white workers in the Global North, continues.

Racialisation within contemporary neoliberal capitalism structures global relations of production, maintaining the tacit extra-exploitability of certain labour-forces even in the absence of formally segregated labour-markets. Padovan and Alietti conceive of racialisation within modern capitalism as "a practical and theoretical tool" for the construction of racially differentiated workforces "to be hierarchically ordered" within a geographic division of labour across GPNs spatially stratified by the intensity of exploitation and immiseration - with peripheral extractivist spaces in the Global South serving as super-exploited, "racially demarcated zone[s] under a permanent state of 'bare existence' . . ."⁴⁹ The DRC has been historically constructed as one such zone, with the 'bare existence' of Congolese mineworkers a product of life within a space fundamentally conditioned by several overlapping modes of super-exploitation. [Neo]colonial underdevelopment has in the DRC produced a site of accumulation structurally integrated into the global economy as a subordinate, racialised zone for resource extraction, whose impoverishment and dependence is relied upon and reproduced by the commercio-financial edifice of neoliberal globalisation. One particularly dangerous aspect of the implicit racialisation of the Congo within contemporary discourse is its tendency to mystify the historically constructed nature of these pathologies - presenting poverty and oppression in the DRC as somehow natural features of Congolese society, rather than as contingent products of *social* contexts that might be subject to *political* challenge.

The Contemporary Structure of Congolese Super-Exploitation

The continuation of relations of colonial underdevelopment and dependency in the Congo, despite 'Flag Independence', is key to understanding the position of Congolese labourers within international relations of production, and of the systemic obstacles that efforts to ameliorate their exploitation would encounter. Though direct colonial rule became foreclosed by a mass independence movement, imperialist influence in the Congo maintained its hegemony during the period of 'decolonisation' through the overthrow of the country's first Prime Minister, the left-leaning Pan-Africanist Patrice Lumumba, by Congolese officers in 1961 (backed by the CIA and Belgian secret services) - a victory for international capital over anti-imperialist elements that had envisioned independence as a radical break with the imperialist super-exploitation of their

⁴⁹ Dario Padovan and Alfredo Alietti, 'Geo-capitalism and global racialization in the frame of the Anthropocene', *International Review of Sociology* vol.29 (2019), 21.

country.⁵⁰ For Kabamba, the post-colonial (or *neo-colonial*) Congolese state chiefly functioned to maintain the security and profitability of predatory extractivism in the country, embodying “the persistence . . . of the Leopoldian project” through internal “guardians of colonial structures.”⁵¹ The regime of General Mobutu (1967-1997), serving at the pleasure of Washington and international mining concerns, typified the Fanonist conception of an alignment of interests between imperialist capital and the post-colonial “national bourgeoisie” which, lacking indigenous capital, facilitates the operations of international corporations in their country and thereby fulfils “its historic mission . . . of [profiteering] intermediary.”⁵² The contemporary state retains this kleptocratic character, with government posts providing opportunities for personal enrichment in exchange for political loyalty to mining interests - Baudoin Nzowo, a former government employee, claimed that “out of 50 billion dollars produced from Congo mining, only 6 billion dollars reach the state treasury, the rest goes to individual pockets.”⁵³ This nexus between political corruption and corporate extractivism has engendered a situation in which the state, rather than functioning as an arbiter between mining firms and mineworkers (or those affected by mining), acts as a partisan force on the side of international capital against its own citizens.⁵⁴ A Katangese ‘Community Respondent’ interviewed by Sovacool claims that:

“The biggest threat to democracy . . . in the DRC is not war, or poverty, but mining. Mining prevents the capability of the Congolese people to be governed by those they like. The mining sector and the state capture of resources undermines development for the whole country. It allows them to run the show and buy off whatever they need to prevent real democracy, freedom of speech, and free and fair elections. Mining has undermined the whole nation.”⁵⁵

This neo-colonial predation upon the DRC was exacerbated by the *neoliberal* turn in global capitalism following the Third World Debt Crisis and advent of IMF ‘Structural Adjustment’, recomposing the political economy of Congolese super-exploitation into the modes which prevail today. ‘Neoliberalism’ constituted an offensive by organised capital in response to the profitability crisis of the 1970s, intensifying the general tendencies of capital accumulation, including “the deepening of commodity relations, the privatisation of formerly public services, the search for cheaper and more productive labour . . . and the collapse of space and time . . .”⁵⁶ ‘Globalisation’ represented the triumph of neoliberalism, championed by an American Empire systematically

⁵⁰ See Odd Arne Westad, *The Global Cold War: Third World Interventions and the Making of Our Times* (Cambridge: Cambridge University Press, 2012 [2005]), 137-141.

⁵¹ Kabamba, ‘A Happy Congolese Sisyphus’, 23.

⁵² Frantz Fanon, *The Wretched of the Earth* (London: Penguin Classics, 2001 [1961]), 122.

⁵³ Kabamba, ‘You Cannot Get Blood Out of a Stone’.

⁵⁴ Fleur Scheele, Esther de Haan and Vincent Kiezebrink, ‘Cobalt Blues: Environmental pollution and human rights violations in Katanga’s copper and cobalt mines’, *Centre for Research on Multinational Corporations* (1 April 2016) - [<https://www.somo.nl/cobalt-blues/>] - accessed 16/04/20].

⁵⁵ Sovacool, ‘The precarious political economy of cobalt’, 931.

⁵⁶ David Moore, ‘Neoliberal Globalisation and the Triple Crisis of ‘Modernisation’ in Africa: Zimbabwe, the Democratic Republic of the Congo and South Africa’, *Third World Quarterly* vol.22 (2001), 910. For a detailed account of the neoliberal turn as a political offensive in the interests of capitalist class-power, see David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2007 [2005]).

imposing an international 'liberalisation' of capitalism through the 'Washington Consensus'.⁵⁷ For the DRC, this catalyzation of capitalist accumulation meant the deepening of the neo-colonial relationship. Mobutu's DRC was "one of the first recipients in the early 1980s of a harsh structural adjustment regime," with market reforms demanded by the IMF in return for debt rescheduling seeing the decimation of "public institutions and the formal economy through privatization and liberalisation . . ." ⁵⁸ The erosion of formal employment across the DRC during this era threw millions into ASM, while macro-economic transformations accentuated the dependence of the DRC upon primary-commodity exports.⁵⁹ Under neoliberalism the Congolese working-class has entered into new labour relations that "perpetuate and deepen conditions of chronic poverty", with the explosion of ASM representing one of Sassen's "alternative survival circuits."⁶⁰ It is within this context that Lebaron and Ayers situate the emergence of the modalities of unfree labour found within Congolese mining today, seeing them as "rooted in fundamental shifts in social property relations associated with the neoliberal project, rather than as a continuation of the timeless institution of slavery separate from the otherwise 'free market' in which the 'new slavery' happens to take place."⁶¹

Neoliberalism compounded pathologies in the DRC through the 'digital revolution' that emerged with the mass-production of consumer electronics - consoles, laptops and smartphones. The 'New International Division of Labour' (NIDL) that emerged from neoliberal globalisation provided corporate multinationals with "new networks of integrated production" across the globe, outsourcing primary and secondary production to countries with lower values of labour-power than the Global North, thereby increasing the rate of exploitation (and profit) within production.⁶² Consumer electronics represented an epitomic product of these GPNs - for Panitch and Gindin, the Apple iPod "illustrated well the competitive integration and international hierarchy of production in this sector."⁶³ For the DRC the emergence of the NIDL has "intensified exploitation within the extant colonial division of labour," with increased demand for Congolese minerals as components for digital commodities exacerbating both corporate predation and illicit extractivist ventures within the country - provided with a desperate labour-force, and a comprador state eager to facilitate such operations.⁶⁴ The colonial subordination of Congolese labour within global production is actively reproduced by the international neoliberal paradigm upon which electronics consumer-capitalism relies - as this continued "provision of cheap raw materials by the Congolese people allows global consumers to purchase electronic commodities . . . at affordable prices."⁶⁵ The

⁵⁷ see David Harvey, *The New Imperialism* (Oxford: Oxford University Press, 2013 [2003]).

⁵⁸ Lee Wengraf, *Extracting Profit: Imperialism, Neoliberalism, and the New Scramble for Africa* (Chicago: Haymarket Books, 2018), Chapter 3: 'Neoliberalism: Crisis, Debt, and Structural Adjustment'.

⁵⁹ Ibid.

⁶⁰ Lebaron and Ayers, 'The Rise of a New Slavery?', 882; citing the 'alternative survival circuits' thesis advanced in Saskia Sassen, 'A savage sorting of winners and losers: contemporary versions of primitive accumulation', *Globalizations* vol.7 (2011).

⁶¹ Ibid, 874.

⁶² Leo Panitch and Sam Gindin, *The Making of Global Capitalism: The Political Economy of American Empire* (London: Verso, 2012), 287.

⁶³ Ibid, 288.

⁶⁴ Lebaron and Ayers, 'The Rise of a New Slavery?', 884-885.

⁶⁵ Kabamba, 'You Cannot Get Blood Out of a Stone'.

relationship between the profits of electronics capital and super-exploitation in the DRC, then, is “almost linear”.⁶⁶

The political economy of super-exploitation in Congolese mining - a neo-colonial, neoliberal project of capitalist accumulation through the exploitation of impoverished, brutalised and racialised workers, facilitated by a kleptocratic comprador state - is inextricable from the historical and contemporary totality of global capitalism. The Congo was colonially constructed as a space where profitability could be maximised through immense violence and immiseration - a logic which persists into ‘post-colonial’ capitalism through the continued devaluation of Congolese labour-power. The survival of the Lumumbist challenge by imperialist influence and by the Leopoldian state, catalysed by neoliberalism, produced the contemporary situation, where Congolese labourers, working for a pittance under hazardous conditions within various relations of unfreedom, excavate minerals with instrumental roles in the GPNs of some of the world’s wealthiest corporations. Under neoliberalism, the Congo has become the “vast productive garden” of Stanley’s dreams.⁶⁷

If the contemporary DRC is the cumulative product of one ‘side’ of capitalism’s janus-faced historical development, then modern electronics multinationals are the other - produced and maintained by the GPNs, legal regimes, markets, and divisions of labour established throughout the construction of the capitalist world-system. Tech corporations that profit from super-exploited Congolese labour directly emerged from the same capitalist structures that historically colonised, plundered and underdeveloped the Congo. The systemic development of modern ‘Globalised Capitalism’ has produced Silicon Valley at one pole, and the DRC at the other.

We will now examine the specific relationship between super-exploitation in Congolese mining and electronics capital, taking the processes and relations implicit within the production of the Apple iPhone as a touchstone from which to extrapolate a wider analysis of the infrastructures of accumulation that bind the suffering of the Congo and the wealth of Silicon Valley together. We will then undertake a critical evaluation of extant efforts to alleviate pathologies associated with these GPNs, identifying senses in which their limitations exemplify the inadequacies of reformist solutions to systemic problems. This investigation will conclude with a consideration of potential avenues for political action of the requisite scale and ambition for the enormity of the task facing those seeking transformative justice for the Congolese people.

II

The iPhone

The impact of the iPhone upon the global economy has lived up to Steve Jobs’ prognostication of its “revolutionary” nature, with the ‘smartphone’ model it pioneered becoming a decisive instrument of contemporary capitalism, both as a consumer commodity and as a technology for a range of

⁶⁶ Ibid.

⁶⁷ Stanley, *The Congo and the Founding of its Free State*, 93-4.

virtual interactions.⁶⁸ The mobile accessibility of the internet facilitated by the iPhone has created an entire new “space for accumulation” - in 2018, having sold over one billion iPhones since launch, Apple became “the first corporation to have a stock market valuation of one trillion dollars,” while Jeff Bezos, founder of online commercial monopolist Amazon, became “the world’s richest man” - exemplifying the significance of internet technologies to contemporary capitalism.⁶⁹ Arboleda conceives of the impact of the iPhone in “actively and systematically reweaving . . . modern life” as analogous to the manner in which “the locomotive, the automobile, and the computer deeply shaped the economies and societies of previous industrial eras . . .”⁷⁰ The analogy of the automobile is apt as, like the automobile during the ‘rubber boom’, the iPhone has emerged as a super-commodity reliant upon, and stimulating demand for, resources extracted by super-exploited Congolese labour. The iPhone contains several metals drawn heavily from the DRC - especially cobalt and coltan.⁷¹

Cobalt

The cobalt content of the iPhone is found within its lithium-ion battery, a decisive component of the device’s portability and high-energy capacity.⁷² With the rise of consumer electronics the last decade has seen an explosion of demand for cobalt, jumping “from 65,000 tons in 2010 to more than 90,000 tons per year in 2014 . . . the DRC was the largest producer, responsible for roughly 60% of global supply.”⁷³ It is likely that most electronics featuring lithium-ion batteries - smartphones, laptops, consoles - contain cobalt mined by super-exploited labour in Katanga.⁷⁴ Conca laments that this global demand for Cobalt is “increasing like a bacteria culture in a petri dish, and poor children are its food.”⁷⁵

Alongside the physical hazards within Congolese cobalt mining,⁷⁶ the labour relations found within these mines are characterised by unfreedom and abuse. Kolwezi mine-workers speaking to IndustriALL complained of “constant threats of dismissal, poor health and safety practices, occupational diseases, racism and discrimination, unfair and unjust job classifications, low remuneration, and inferior salaries for local workers compared to foreign workers”, describing their working conditions as “no less than slavery” and “comparable to ‘Guantanamo Bay’.”⁷⁷ Child

⁶⁸ Steve Jobs, ‘Keynote Speech’ (Macworld, 2007), cited in Brian Merchant, *The One Device: The Secret History of the iPhone* (London: Corgi, 2018 [2017]), ‘Teardown’.

⁶⁹ Robert Hassan, *The Condition of Digitality: A Post-Modern Marxism for the Practice of Digital Life* (London: University of Westminster Press, 2020), 106.

⁷⁰ Arboleda, *Planetary Mine*, 243-44.

⁷¹ Merchant, *The One Device*, chapter 2.

⁷² Ibid.

⁷³ Sovacool, ‘The precarious political economy of cobalt’, 915.

⁷⁴ Scheele, Haan, and Kiezebrink, ‘Cobalt Blues’, 5.

⁷⁵ James Conca, ‘Blood Batteries - Cobalt And The Congo’, *Forbes* (26 September 2018) - <https://www.forbes.com/sites/jamesconca/2018/09/26/blood-batteries-cobalt-and-the-congo/> - accessed 13/04/20].

⁷⁶ see pages 4-5.

⁷⁷ IndustriALL, ‘DRC: IndustriALL mission finds Glencore gravely mistreating workers at cobalt mines’, *industriALL global union* (22 February 2018) -

labour is forbidden by Congolese law, but these statutes are largely cosmetic - children occupy ASM mines across the country, where Amnesty believe “state officials are extorting illegal payments from artisanal miners, while turning a blind eye to . . . the prohibition on child labour in mines.”⁷⁸ Children are also frequently found upon larger, ‘industrial’ cobalt mines owned by international conglomerates, where Bissette, mother of a child killed mining, laments that “Our children are dying like dogs.”⁷⁹

Cobalt miners are mistreated not only upon extraction sites, but also upon interaction with the traders that intermediate between miners and manufacturers. The price of cobalt ore is often artificially depressed, with industrial firms selling for less so as to undercut artisanal miners, while many traders use their monopsonist position to impose cheaper prices still (or even demand the cobalt for “free as a tax” when purchasing other ores such as copper).⁸⁰ These exactions, alongside arbitrary ‘taxations’ by the police, compound the exploitation of ASM cobalt miners as their product enters into circulation to eventually reach Apple customers.⁸¹

Amnesty describe the journey of Kolwezi miners carrying cobalt ore to market at Musompo, where “independent traders - most of them Chinese - buy the ore, regardless of where it has come from or how it has been mined.”⁸² The ore is sold on to refinery plants, such as those operated by Zhejiang Huayou Cobalt,⁸³ before export to manufacturers in China via South Africa.⁸⁴ After smelting, Huayou markets the cobalt to “battery component manufacturers in China and South Korea,” who in turn “sell to battery manufacturers, which then sell on to well-known consumer brands.”⁸⁵ Amnesty identify the major customers of Huayou in 2014 as battery component manufacturers ‘Toda Hunan Shanshan New Material’ (subsidiary of ‘Ningbo Shanshan’), ‘L&F Material Co’, and ‘Tianjin Bamo Science and Technology Co’.⁸⁶ Of these three companies, two have been found to provide components to lithium-ion battery manufacturers ‘Samsung SDI’,⁸⁷ two to ‘Tianjin Lishen’,⁸⁸ and one to ‘LG Chem’,⁸⁹ all listed by Apple as leading suppliers.⁹⁰ This analysis of one supply chain exemplifies one specific route through which Congolese cobalt, extracted within terrible labour conditions and possibly by children, comes to enter the iPhone.

[<http://www.industrial-union.org/drc-industrial-mission-finds-glencore-gravelly-mistreating-workers-at-cobalt-mines> - accessed 24/04/2020].

⁷⁸ Amnesty International and Afreewatch, ‘This is What We Die For’, 8.

⁷⁹ Kara, ‘I saw the unbearable grief inflicted on families by cobalt mining. I pray for change’.

⁸⁰ Sovacool, ‘The precarious political economy of cobalt’, 929-931.

⁸¹ Ibid.

⁸² Amnesty International and Afreewatch, ‘This is What We Die For’, 8.

⁸³ Ibid.

⁸⁴ Ibid, 18.

⁸⁵ Ibid, 8.

⁸⁶ Ibid, 57-58.

⁸⁷ Ibid. SDI source from Ningbo Shanshan, 57, and L&F, 62.

⁸⁸ Ibid. Tianjin Lishen source from Ningbo Shanshan, 58, and Tianjin Bamo, 63.

⁸⁹ Ibid. LG Chem source from L&F, 62.

⁹⁰ Ibid, 57, 63, 58.

The demand for cobalt-based components catalysed by the smartphone is expected to inflate further in coming decades, with a turn from fossil-fuels toward electric vehicles impelling a mass expansion in lithium-ion battery production.⁹¹ Unless viable cobalt-free battery technologies are developed, this market will continue to rely on the DRC - for Caspar Rawles at Benchmark Mineral Intelligence, the DRC remains “absolutely critical to the production of lithium-ion batteries . . . Without the DRC, we are not going to have enough cobalt.”⁹² The projected expansion of demand for lithium-ion batteries will intensify this super-exploitative extractivism, with a ‘green transition’ reliant upon renewable batteries comprised of Congolese cobalt threatening to embed relations of “eco-coloniality”.⁹³

Coltan

Coltan is sourced within electronics GPNs for the manufacture of tantalum capacitors - components which “store and regulate the flow of electricity from batteries . . . to the parts of an electronic device that perform functions, such as the display windows of smartphones . . .”⁹⁴ Such capacitors are a key feature of many smartphones, including the iPhone.⁹⁵ Congolese coltan constitutes the second-most important source of tantalum in the world after Australia - a typical laptop or smartphone has “roughly a one-in-five chance that a tiny piece of eastern Congo is pulsing within it.”⁹⁶ The advent of consumer electronics sent demand for coltan soaring, stimulating an explosion of coltan ASM throughout the eastern DRC.⁹⁷ During the Second Congo War, many of these mines came under the control of local militias, financing their operations through intensifying extraction “from the barrel of a gun” - hence the denotation of Congolese coltan as a ‘conflict mineral’.⁹⁸ The eastern DRC remains wrought with internecine conflict, with coltan still excavated under coercive conditions.

Numbering around two million,⁹⁹ coltan miners in the eastern DRC suffer many of the same physical hazards as cobalt mineworkers in Katanga.¹⁰⁰ However, in these mines such conditions are compounded by systematic violence. Coltan extraction sites, such as Bisie mine in Walikale, are

⁹¹ Vivienne Walt, ‘Blood, Sweat, and Batteries’, *FORTUNE* (23 August 2018) - [<https://fortune.com/longform/blood-sweat-and-batteries/> - accessed 13/04/2020].

⁹² Ibid.

⁹³ Kate Aronoff, Alyssa Battistoni, Daniel Aldana Cohen and Thea Riofrancos, *A Planet to Win: Why we need a Green New Deal* (London: Verso, 2019), 151.

⁹⁴ Nest, *Coltan*, 8.

⁹⁵ Nick Powers, ‘Capacitors Play an Essential Role in Apple’s iPhone 6’, *Arrow* (16 September 2015) - [<https://www.arrow.com/en/research-and-events/articles/capacitors-play-an-essential-role-in-apples-iphone-6#:~:text=This%20device%2C%20the%20most%20expensive,the%20iPhone%206's%20main%20PCB> - accessed 24/06/2020].

⁹⁶ Ibid.

⁹⁷ Nest, *Coltan*, 32-33.

⁹⁸ Enda Brophy and Greig de Peuter, ‘Labors of Mobility: Communicative Capitalism and the Smartphone Cybertariat’, in Andrew Herman, Jan Hadlaw and Thom Swiss (eds.), *Theories of the Mobile Internet: Materialities and Imaginaries* (New York, Routledge, 2015), 36.

⁹⁹ Mining Technology, ‘On the trail of tantalum: tracking a conflict mineral’, *Mining Technology* (20 April 2016) - [<https://www.mining-technology.com/features/featureon-the-trail-of-tantalum-4831288/> - accessed 26/04/2020].

¹⁰⁰ Lebaron and Ayers, ‘The Rise of a New Slavery?’, 13.

typically overseen by a mine manager, heading a team of soldiers, administrators, and tax-collectors.¹⁰¹ As well as determining wage-rates (and ‘fees’ miners must pay for the right to work at the site),¹⁰² this apparatus enforces various forms of effective slavery - indentured servitude, debt-bondage, corvee labour, and sexual slavery - under which around 40% of miners at Bisie work.¹⁰³ The control of mines by armed groups permeates labour relations with violence, exemplified through the “rape, plunder and murder” by which these groups enforce “unfettered compliance among local populations.”¹⁰⁴ These sites are frequently populated with children, working within the mines or as child-soldiers.¹⁰⁵ These are the conditions in which the mining proletariat of the eastern Congo, eking out an existence under relations of unfreedom, excavate coltan for smartphones.

Coltan is purchased by intermediary *negociants*, who through circuitous routes sell to larger *comptoirs* from whom international buyers source.¹⁰⁶ It is here that the illicit nature of much coltan trade is evidenced, as minerals excavated by rebel groups are often smuggled across the Rwandan and Ugandan borders, from where they may be exported with no indication of their unsavoury provenance.¹⁰⁷ The ‘conflict-free’ tagging system, ostensibly introduced by the Congolese government to certify the source of coltan, is rarely practised - Burgis was informed by the “head of North Kivu’s mining division” that “not a single mine was tagging its output so that buyers could identify the mine at which it had originated.”¹⁰⁸ Through various obscure networks, Congolese coltan then flows from slave-worked mines “to anywhere smartphones and laptops can be found.”¹⁰⁹

The routes through which Congolese coltan travels through smartphone GPNs are more ambiguous than those of cobalt, due to the ‘underground’ nature of much of this commerce, and effective indistinguishability of tantalum produced from Congolese coltan from that produced from alternative sources. Nest writes that, upon entering global markets, “coltan enters the third step in the tantalum supply chain: processing”, undertaken at plants across Asia, Europe and North America to produce tantalum powder for capacitors.¹¹⁰ This tantalum is transported to capacitor and then circuitboard factories before finally reaching smartphone assembly facilities, many located in China.¹¹¹ It is among the customers of these factories that “some of the world’s biggest brand name corporations for electronic digital devices become involved,” such as Apple, Samsung and Nokia.¹¹²

¹⁰¹ Nest, *Coltan*, 40.

¹⁰² *Ibid*, 42-43.

¹⁰³ Christian Fuchs, *Digital Labour and Karl Marx* (New York, Routledge, 2014), 176-177.

¹⁰⁴ Mantz, ‘Blood Diamonds of the Digital Age’, 13.

¹⁰⁵ Nest, *Coltan*, 41, 96. For an interview with Chase, a sixteen-year-old who worked at Bisie mine for three years, see Frank Piasecki Poulsen, ‘Blood in the Mobile’, Koncern TV- og Filmproduktion (2010), [31:00-34:00].

¹⁰⁶ Nest, *Coltan*, 53-54.

¹⁰⁷ Burgis, *The Looting Machine*, 33-34.

¹⁰⁸ *Ibid*, 57-58.

¹⁰⁹ *Ibid*, 33-34.

¹¹⁰ Nest, *Coltan*, 60.

¹¹¹ *Ibid*, 62-63.

¹¹² *Ibid*, 63.

There has been no comprehensive, verifiable account produced of the specific routes through which coltan travels from Kivu to the tantalum capacitors of modern smartphones. Most brands deny such routes exist, with Apple claiming to have fully audited its tantalum sources for ‘conflict minerals’ (2014), but we have reason to impugn the viability of these claims.¹¹³ While the specific circuits through which Congolese coltan enters capacitor GPNs are necessarily obscure, it can be contended that it would be difficult for global tantalum production to *not* involve significant quantities of ‘conflict minerals’. A Business Insider report claims that “approximately half of all the tantalum that has made its way into our electronics is from a conflict source”, and that “[g]iven the amount, the grades, and the ease of mining tantalum in the DRC, it is unrealistic to believe that these resources can or will be ignored” in a continually expanding market.¹¹⁴

Kabamba conceptualises the relationship between Congolese coltan miners and electronics capital as one tangibly characterised by super-exploitation:

“If coltan were to be produced in such a way that it reflected the true cost of labor, and if there were a legitimate market organized around the commodity, cellphones and computers would be sold at ten to twenty times their current price. However, the price of raw materials is kept low for the citizens of other countries to afford cell phones and computers, and other commodities.”

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The iPhone and Congolese Super-Exploitation

The status of the iPhone as a profitable consumer commodity is necessarily reliant upon these modalities of super-exploitation. The iPhone X is retailed for around \$900 in the US, but were it *produced* within the US under US labour laws, the *Tricontinental* estimate it would “cost at least \$30,000 per phone”, becoming “unaffordable for the vast mass of the world’s population.”¹¹⁶ The ‘affordability’ of the iPhone within mass markets, and hence its profitability, is decisively predicated upon a high rate of exploitation of workers that manufacture its component parts for minimal remuneration. Due to the immense suffering appreciated within their GPNs in the Congo and elsewhere, Fuchs argues that the reality of electronics capitalism “is that iPhones and Nokia phones, iPads and iMacs are ‘blood phones’, ‘blood pads’ and blood Macs”.¹¹⁷

¹¹³ Lynnley Browning, ‘Where Apple Gets the Tantalum for Your iPhone’, *Newsweek* (2 April 2015)- [<https://www.newsweek.com/2015/02/13/where-apple-gets-tantalum-your-iphone-304351.html>] - accessed 25/04/2020].

¹¹⁴ Business Insider, ‘Intel plans conflict-free Tantalum Microprocessors’, *Business Insider* (7 June 2012) - [<https://www.businessinsider.com/intel-plans-conflict-free-tantalum-microprocessors-2012-6?r=US&IR=T>] - accessed 14/04/2020].

¹¹⁵ Kabamba, ‘You Cannot Get Blood out of a Stone’.

¹¹⁶ The Tricontinental, ‘Notebook #2: The Rate of Exploitation - The Case of the iPhone’, *Monthly Review* (26 September 2019) - [<https://mronline.org/2019/09/26/notebook-2-the-rate-of-exploitation/>] - accessed 25/04/20].

¹¹⁷ Fuchs, *Digital Labour and Karl Marx*, 130.

III

Extant Reform Efforts

Public awareness of Congolese ‘conflict minerals’ within electronics GPNs had by the late 2000s developed into a public relations scandal for the industry, exemplified by the NGO campaigns depicted in ‘Blood in the Mobile’ (2010).¹¹⁸ The demands of these campaigns typically involved the introduction of corporate ‘due diligence’ measures within supply-chains to ameliorate human rights abuses across production chains. Such ‘due diligence’ discourses bore fruit with numerous initiatives subsequently introduced to audit mineral suppliers, and work towards removing metals excavated through forced labour from GPNs. However, many of these initiatives, by their administration by corporations and the capitalist state, the insufficient resources devoted towards them, and their reformist and technical approach to tackle pathologies of a *systemic* nature, have proven incapable of affecting the scale of reorganisation of international political economy required to dismantle these modes of super-exploitation.

‘Dodd-Frank’

The Dodd-Frank Act, passed by the US Senate in 2010 in the wake of popular demand for financial reform following the 2008 Crash, included a passage introducing legislation for Silicon Valley.¹¹⁹ ‘Section 1502’, drafted in correspondence with NGOs such as Global Witness (and electronics industry lobby groups),¹²⁰ requires companies whose products contain potential ‘conflict minerals’ (denoted as ‘3TG’: tin, tungsten, tantalum, and gold) to submit an audited report of their GPNs to regulators, with a further requirement for companies sourcing *Congolese* 3TG to identify due diligence measures taken to remove forced labour from GPNs.¹²¹ This legislation, “respond[ing] to years of pressure from campaigners”, affected 6,000 US-registered multinationals, including Apple.¹²² However, a decade since its introduction, Dodd-Frank has exhibited deficiencies as a framework for eradicating the pathologies associated with the nexus between Congolese coltan mining and electronics capital.

The technical possibility of successfully auditing the entirety of the DRC’s coltan supply networks is a seriously questionable proposition. The viability of Dodd-Frank’s ‘due diligence’ requirements were impugned from the beginning, with one journalist heralding that “there is no such thing as a conflict-free phone”.¹²³ The lack of formal infrastructure throughout much of Kivu has meant that “only a small fraction of the hundreds of mine sites in the . . . DRC have been reached by the

¹¹⁸ Poulsen, ‘Blood in the Mobile’.

¹¹⁹ For the wider political and legislative context of ‘Dodd-Frank’, see Adam Tooze, *Crashed: How a Decade of Financial Crises Changed the World* (London: Allen Lane, 2018), 307-308.

¹²⁰ Nest, *Coltan*, 123-24.

¹²¹ Burgis, *The Looting Machine*, 54.

¹²² *Ibid.*

¹²³ Brody and de Peuter, ‘Labors of Mobility’, 63.

practical measures required to conform to Dodd-Frank legislation . . . such as supply chain traceability or mineral export certification.”¹²⁴ Such schemes as *have* been implemented have faced “large, if not insurmountable challenges,” with the labyrinthine trade routes and incapacity to verify certification meaning many exported ores remain of uncertain provenance, due to tendencies of “negociants, comptoirs and international minerals traders . . . to mix illegally produced or traded ore with certified ore, or to substitute consignments of certified with illegal ore.”¹²⁵ Technical means to overcome these challenges do exist, such as ‘fingerprinting technology’ that can chemically “distinguish the origin of ores from different sites,” but their implementation remains limited by the minimal resources devoted to the ground-level administration of these schemes, and complicating factors such as “the fluidity of armed movements in the Kivus mak[ing] the validation of ‘clean sites’ both difficult and unreliable over time.”¹²⁶ With infrastructures to implement such technological solutions lacking, it is “unlikely that certification schemes will ever reliably cover the whole of eastern Congo’s mining trade.”¹²⁷ The unreliability of these initiatives continues across the GPN to processing facilities, as “audit procedures at smelters in China and Russia are opaque and vulnerable to corruption.”¹²⁸ Sasha Lezhnev of The Enough Project claims that the “audit procedures” for coltan within electronics GPNs “are not as transparent as they should be . . .”¹²⁹

These failures to implement reliable certification across GPNs suggest that the reliability of corporate claims to have entirely vetted tantalum supply chains for conflict minerals, such as that made by Apple in 2014, are ineluctably suspect. Radley and Vogel characterise the electronics industry as “largely disinterested in local realities, including the minerals’ actual ‘cleanliness’, as long as the market continues to function,” with “almost no corporate stake-holder - despite their well-publicized corporate social responsibility policies - ha[ving] visibly engaged in Eastern Congo to help Congolese actors comply with regulations, improve labor security, or increase decent livelihoods.”¹³⁰

These practical inadequacies are compounded by structural limitations inherent in the mode of reform represented by Dodd-Frank. The legislation does mandate for companies to disclose the presence of 3TG in their GPNs, but “there are no penalties imposed on companies that report they have taken no action.”¹³¹ Thus the primary motivation for corporations to comply with Dodd-Frank is their public image of ‘Corporate Social Responsibility’, rather than any legal impellation.¹³² These corporations may satisfy their Dodd-Frank obligations through opaque internal audits (of suspect

¹²⁴ Ben Radley and Christoph Vogel, ‘Fighting Windmills in Eastern Congo? The Ambiguous Impact of the ‘Conflict Minerals’ Movement’, *The Extractive Industries and Society* vol.2 (2015), 409.

¹²⁵ Nest, *Coltan*, 117.

¹²⁶ Radley and Vogel, ‘Fighting Windmills in Eastern Congo?’, 409.

¹²⁷ Burgis, *The Looting Machine*, 59.

¹²⁸ Browning, ‘Where Apple Gets the Tantalum for Your iPhone’.

¹²⁹ *Ibid.*

¹³⁰ Radley and Vogel, ‘Fighting Windmills in Eastern Congo?’, 409.

¹³¹ Nest, *Coltan*, 122-123.

¹³² For an excellent analysis of ‘Corporate Social Responsibility’ discourses as an ideological technology of capitalist accumulation, see Eren Karaca Akbas, ‘A Sociological study of corporate social responsibility: A Marxist perspective’, MSc Thesis, Middle East Technical University (2012).

veracity), with the methodology behind their sanguine conclusions undisclosed.¹³³ Dodd-Frank exemplifies a mode of reformism oriented toward eliding the contradiction between the amelioration of these Congolese pathologies and the maintenance of corporate profitability. This is achieved through the prescription of regulatory requirements that appear to mandate ethical practices, but practically fail to foreclose unethical operations within electronics GPNs. A key aspect of Dodd-Frank's ineffectual framework is its focus upon 'conflict minerals' - discursively delimiting the conceptual bounds of the impermissible practices requiring reform into those of a specific problem of specific abuses, rather than broader pathologies with systemic roots in the political economy of Congolese extractivism.

The definition of conflict minerals under Dodd-Frank as '3TG' excludes other minerals excavated under conditions of super-exploitation - notably cobalt. No government "requires companies in the cobalt supply chain to carry out due diligence or disclose their efforts," unlike the regulations nominally introduced for coltan.¹³⁴ This is despite the well-publicised exploitation, danger and abuse, and open secret of child labour, within Congolese cobalt mines. According to one of Sovacool's 'Expert Respondents', the extreme violence to which cobalt miners are often subject, including police killings of industrial protestors, displays that "there is no such thing as clean or conflict-free minerals when it comes to the DRC."¹³⁵ As Amnesty attest, 'due diligence' within cobalt supply-chains is often evaded by corporations due to the lack of any legislation classifying cobalt as a 'conflict mineral' necessitating audit measures.¹³⁶

The exclusion of cobalt from the category of 'conflict minerals' is predicated upon a conception of an essential distinction between the 'unfree labour' extracting coltan in Kivu, and the 'free' wage-labour extracting cobalt in Katanga, as 'unacceptable' and 'acceptable' forms of labour-relation respectively. This fetishisation of formally unfree labour as uniquely oppressive allows for it to be conceptualised as an isolable problem for which there may be technocratic solutions, rather than one expression of a wider phenomena of super-exploitation across the DRC that warrants a systemic approach. Lebaron and Ayers contend that an analysis of these phenomena "requires transcending the rigid binary typically posited between free and unfree labour" and recognising "the fluidity of unfreedoms characterising diverse modalities of labour exploitation in the capitalist global political economy, understood as a spectrum or continuum" that have arisen from "the deepening of Africa's (mal)integration within global political economy" during the neoliberal age.¹³⁷

The conception of forced labour as essentially distinct from other modes of labour exploitation is cynically exploited by electronics capital - appearing to work to diminish the role of slavery in their GPNs, and in so doing implicitly contrasting these 'unacceptable' forms of extractivism with 'acceptable' forms - e.g. adult waged-labour. The wage-labour within Congolese cobalt mines,

¹³³ Nest, *Coltan*, 122-123.

¹³⁴ Amnesty International and Afrewatch, 'This Is What We Die For', 43-44.

¹³⁵ Sovacool, 'The precarious political economy of cobalt', 934.

¹³⁶ Amnesty International and Afrewatch, 'This Is What We Die For' 10.

¹³⁷ Lebaron and Ayers, 'The Rise of a New Slavery?', 874-875.

however, is still an intensely exploitative, oppressive form of employment, and its relative normalisation by its contrast with forced labour serves as a foil whereby cobalt excavated by super-exploited wage-workers is presented as a legitimate commodity, contrasted with the illegitimate 'conflict mineral' extractivism in Kivu. This discursive construction of a meaningful qualitative distinction between exploitations practised in coltan and cobalt mining represents a cynical manipulation of liberal consumer sensibilities - the difference between the two is only one of *degree*, and the two share the same colossal distance from any decent standard of remuneration for the value contributed towards electronics GPNs by their extractive labour. The hierarchisation of exploitations implicit in the respective inclusion and exclusion of coltan and cobalt from the category of 'conflict minerals' is employed by electronics capital to maintain an ethical brand while still accumulating super-profits from the neo-colonial super-exploitation of Congolese *cobalt* miners.

The Limits of Reformism

The modality of reform exemplified in Dodd-Frank fails, due to a number of technical, political, and ideological factors, to substantively alleviate either the pathologies engendered by super-exploitation in Congolese mining, or the presence of those minerals within electronics GPNs. Even prior to the Trump administration's revocation of its audit requirements,¹³⁸ Dodd-Frank was criticised for the structural lacunae within its framework. The inadequacy of Dodd-Frank is suggested by the conclusion of Raphael Debert, author of the *Mining the Disclosures 2019* report, that "a large majority of . . . companies disregard their corporate responsibility on conflict minerals and cobalt . . ." ¹³⁹ The crux of Dodd-Frank's limitations may be found in its origins as legislation introduced by the US capitalist state, in coordination with electronics lobbyists, to affect nominal reform to the expected behaviour of corporations while leaving the *structure* of profiteering from super-exploitation intact.

This structure is a systemic product of the development of global capitalism, with the Congo having been constructed as a racialised space of devalued labour-power, overseen by a comprador state facilitating the super-exploitation of its population by international capital. The existence of such super-exploitable zones, maintained through the institutions of neoliberal globalisation, remains a core condition for the profitability of international capitalist production. It is this world-systemic context which has engendered the pathologies associated with Congolese mining, and which must

¹³⁸ Ed Pilkington, 'Proposed Trump executive order would allow US firms to sell 'conflict minerals'', *The Guardian* (8 February 2017) - [<https://www.theguardian.com/us-news/2017/feb/08/trump-administration-order-conflict-mineral-regulations> - accessed 26/04/20]; Sarah Lynch, 'SEC halts some enforcement of conflict minerals rule amid review', *REUTERS* (7 April 2017) - [<https://www.reuters.com/article/us-usa-sec-conflictminerals/sec-halts-some-enforcement-of-conflict-minerals-rule-amid-review-idUSKBN1792WX> - accessed 26/04/2020].

¹³⁹ Cecil Jamasmie, 'Majority of firms fail at conflict minerals due diligence', *Mining.com* (11 October 2019) - [<https://www.mining.com/number-of-companies-ensuring-they-use-conflict-free-minerals-drops/> - accessed 26/04/20].

be met with a challenge of commensurate scale to extricate the DRC from its brutalisation and super-exploitation.

Within this challenge, liberal regulation within 'consumer' countries might play a role, but will be insufficient by itself. The presence of minerals extracted by super-exploited Congolese miners in electronics GPNs is a problem with roots in the normative tendencies of global capitalism to maximise profits - sourcing the cheapest goods, and taking all opportunities to evade the costs implicit in a rigorous preclusion of conflict minerals from GPNs. These modes of reformism, in their efforts to resolve particularly egregious practices within GPNs through technocratic policy adjustment rather than a *systemic* challenge to international political economy, fail to identify the roots of Congolese social pathologies within the normal functioning of global capitalism. Global capitalism perpetuates the suffering of the people of the DRC, and it can only be through the *dismantlement* of this system that the impoverishment, oppression and exploitation of the Congolese people may be ended.

IV

Anti-Capitalism and Congolese Liberation

The super-exploitation of Congolese miners within the GPNs of consumer electronics is mediated through an internal-external dialectic between the neo-Leopoldian DRC state and the systemic architecture of global capitalism. Nothing less than a wholesale assault upon this nexus, and consequently a recomposition of the entirety of international political economy, will suffice to overcome the politico-economic context that decisively maintains the impoverishment and underdevelopment of the Congo. The agents in this movement will be manifold - but must include the revolutionary struggle of the Congolese proletariat against corporate exploitation and state repression, backed by an international working-class movement expressing solidarity within and against the extant structures of global capitalism. This envisaged mobilisation is not a utopian dream of some ideal solution, but a sober recognition of the necessary course of action - rupture.

The foremost juncture of contestation must be the collective organisation of Congolese workers against super-exploitation at the point of production, both resisting ongoing oppressions and concertedly pushing for material gains in remuneration and conditions. The weakness of organised unionisation in the Congolese mining sector - due to numerous factors including the informal and diffuse nature of much ASM, and widespread employer- and state-deployed violence - has been decisive for the depths of immiseration and degradation to which mineworkers have been driven by super-exploitative labour relations. Within cobalt mining, the "ASM community . . . lacks an effective and nationally representative union," with the consequent "inability for labor groups to protect workers" directly relating to the "patterns of exploitation" that predominate in this sector.

¹⁴⁰ This is even more so the case in coltan mining, where “armed groups controlling mine sites are able to get away with using violence” against workers because “labour is cheap and miners lack collective bargaining power” - with the vast ranks of impoverished workers meaning “miners in coltan artisanal mines are dispensable because they are easily replaced and . . . their colleagues are less likely to engage in collective action.”¹⁴¹ In instances where unions do exist, they are “often weak and . . . controlled by employers”, constituting “yellow (instead of red) unions.”¹⁴² The revival of a militant labour movement, of the scale and ambition that helped bring down colonialism, will be essential for any challenge to the super-exploitation of Congolese mineworkers. There have been recent positive developments with the formation of TUMEC, a mineworkers union intended to pioneer a new model of democratic, accountable unionism in the extractive sector, which has had some success in organising Glencore mineworkers for improved conditions.¹⁴³ Such initiatives, which primarily organise relatively formalised workers on ‘industrial’ sites must, however, work to develop linkages with the majority of workers, including artisanal miners, that labour outside of the ‘formal’ economy.¹⁴⁴ We cannot prescribe the precise organisational tactics required to build this movement, that is the task of the Congolese themselves through their own experience of struggle. We can, however, identify its necessity, and the significance of the self-activity of Congolese workers for any struggle against the present state of things in the DRC.

The antagonisms within Congolese extractivism may be contested through industrial struggle, but may only be resolved through political challenge at the level of the state. However, the structural alignment of the DRC’s state apparatus with the continued freedom of international capital to super-exploit its people, demonstrated through the frequent deployment of coercive force to suppress strikes, protests and other impediments to the functioning of neo-colonial extractivism, presents a systemic obstacle to efforts to achieve internal reform in the DRC electorally. For Kabamba, “the most urgent and challenging issue in the Congo now” is to overthrow this neo-colonial edifice and establish a wholly new national state in its place, “not just a vehicle for a new Leopold.”¹⁴⁵ The industrial struggle must be waged alongside a political struggle with a transformative programme for the Congolese state - pushing for democratisation, human and social rights, and meaningful economic sovereignty and development. The grip of international capital over Congolese political economy must be broken, with corporate assets including mines nationalised, and a new model of state-led developmentalism introduced - with investment in housing, education, healthcare and physical infrastructures. Alongside a scheme of ‘import substitution industrialisation’, such a programme will likely remain significantly dependent upon

¹⁴⁰ Sovacool, ‘The precarious political economy of cobalt’, 931.

¹⁴¹ Nest, *Coltan*, 52-53.

¹⁴² Fuchs, *Digital Labour and Karl Marx*, 179.

¹⁴³ IndustriALL, ‘New union challenges the status quo in DR Congo’, industriALL global union (19 February 2016) - [<http://www.industrialunion.org/challenging-the-status-quo-the-rise-of-tumec> - accessed 24/04/2020]; IndustriALL, ‘Congo mining unions unite at Glencore’, industriALL global union (15 November 2018) - [<http://www.industrialunion.org/congo-mining-unions-unite-to-confront-glencore> - accessed 24/04/2020].

¹⁴⁴ Tamara Gausi, ‘Congolese trade unionist Joséphine Shimbi Umba: “We say ‘protect the workers’, but which workers are we talking about if only 2.5 per cent have formal jobs?”’, *EQUAL TIMES* (10 October 2018) - [https://www.equaltimes.org/congolese-trade-unionist-josephine?lang=en#.Xo_dw8hKjIU - accessed 26/04/2020].

¹⁴⁵ Kabamba, ‘A Happy Congolese Sisyphus’.

mineral exports - but with public ownership of the extractive sector, wide-ranging reforms must be implemented to end the super-exploitation of mineworkers. Jim Nichol, attorney for those affected by the Marikana massacre of striking South African mineworkers, offers a vision of radical reform to African extractive industries that may be generative for envisaged transformations to the Congolese mining sector:

*"We are for democratic control. We say we are for the seven hour day. We also say that no miner can work in the mine for more than twenty years of their life because after that you probably have acquired serious health problems. We say that you can only work three weeks in four. We call for health care. We say that you get retraining after your twenty-year stint."*¹⁴⁶

These envisioned reforms would necessitate fundamental reform of the Congolese state. The geo-economic subordination of the DRC and the super-exploitation of Congolese workers are inextricable, both representative of the domination of the DRC by neo-colonial capitalism, mediated through the neo-Leopoldian state. It is upon the destruction of this edifice that Congolese labour and radical movements must set their sights, as an essential preliminary to any progressive development of the DRC's socio-economic circumstances.

Addressing an Independence Ceremony in 1960, Patrice Lumumba explicated his vision for a free Congo:

*"Together, we are going to establish social justice and ensure that every person receives a just reward for their labor. We are going to show the world what the black man can do when he works in liberty, and we are going to make the Congo an example for all of Africa. We are going to ensure that the lands of our native country are used for the benefit of its children."*¹⁴⁷

An end to the super-exploitation of Congolese mineworkers, and the neo-colonial state that facilitates it, will require the revival of the Lumumbist project. It will also, however, require a reckoning with that project's historical defeat - the movement was suppressed for the specific purpose of maintaining the Congo's structural underdevelopment and dependence within global capitalism. The neo-Leopoldian state must be dismantled, but any meaningfully developmentalist successor will necessarily have to contend with the hostile institutions of neoliberal globalisation.

The neo-colonial subordination of the Congo within global capitalism is today maintained through supra-national institutions such as the IMF, which since the Third World Debt Crisis have spearheaded the opening of national economies to unfettered capital mobility, using the conditionality of debt rescheduling upon neoliberal reforms to coerce states into facilitating the

¹⁴⁶ Interview with Rehad Desai and Jim Nichol (2015), cited in Wengraf, *Extracting Profit*, Chapter 8: 'Class Struggle and Permanent Revolution'.

¹⁴⁷ Patrice Lumumba, Congolese Independence Speech (30 June 1960), cited in 'Patrice Lumumba on the Congo's Independence: "Our Wounds Are Too Fresh and Too Painful"', *Jacobin Magazine* (30 June 2020) - [<https://jacobinmag.com/2020/06/patrice-lumumba-belgium-republic-of-congo-independence> - accessed 30/06/2020] - accessed 30/06/2020].

operations of multinationals within their countries.¹⁴⁸ The contemporary global economy is structured through such institutions to discipline countries into their position as peripheral, primary-producing economies, with the deep indebtedness of these countries discouraging a radical break with international capital. A left-developmental Congo that repudiated this neoliberal framework, and the corporate domination it implies, would impede the profitability of multinationals reliant upon the super-exploitation of Congolese mineworkers - invoking the wrath of these institutions (and the US imperial hegemony they ultimately represent), as did the Bolivarian social democracies following the Latin American 'Pink Wave'. Within any consequent struggle between a developmentalist Congo and the forces of imperialism, *international solidarity* with the Congolese people will be decisive.

International campaigns, from Global Witness' campaigning to the IRA lawsuit, have played an impressive role in heightening popular consciousness of the conditions in Congolese mining, and the complicity of prominent multinationals. However, a systemic challenge to these structures of super-exploitation will require more than "the interventions of professionalized NGOs and technocrats," necessitating practical solidarity from workers across these GPNs.¹⁴⁹ During any push within the DRC against super-exploitation at the point of production, international solidarity from workers in the "smartphone cybertariat" will be paramount in exacting concessions from multinationals - with such "transnational commodity unionism" offering a means to "confront a mobile industry engaged in planetary arbitrage."¹⁵⁰ Solidarity strikes at critical production bottlenecks, combined with civil society mobilisations, donations and tactical coordinations, represent methods by which the labour-process interconnectedness implicit in these GPNs could be turned against their corporate founders to enforce concessions to the demands of Congolese mineworkers. However, as in the DRC, such actions *within* extant economic structures must be combined with political movements *against* them. Recent years have seen a revival of a 'democratic socialist' politics across the Global North, a key programme of which has been a proposed 'Global Green New Deal' to enact a radical 'green transition' from neo-colonial 'fossil capitalism'.¹⁵¹ A transformation of global economic architecture along these lines - with the dismantlement of the IMF and World Bank, and radical reorganization of international finance including a debt jubilee for the Global South - would constitute the beginning of the systemic global change required to disestablish the structural conditions for the super-exploitation of the Congo.¹⁵²

The super-exploitation of Congolese miners is a neo-colonial phenomenon embedded within the totality of the capitalist world-system, with multinationals maintaining high rates of profit within the GPNs of consumer electronics through the utilisation of abject labour within a space historically constructed as a racialised, immiserated zone of extraction. This exploitation is mediated through a comprador state, and reproduced through the institutions of neoliberal globalisation. Reformist and legalist efforts may ameliorate certain excesses, but the genuine liberation of the Congolese people

¹⁴⁸ See Panitch and Gindin, *The Making of Global Capitalism*.

¹⁴⁹ Aronoff, Battistoni, Cohen, and Riofrancos, *A Planet to Win*, 156.

¹⁵⁰ Brody and de Peuter, 'Labors of Mobility', 76-77.

¹⁵¹ See Aronoff, Battistoni, Cohen, and Riofrancos, *A Planet to Win*.

¹⁵² Grace Blakeley, *Stolen: How to Save the World from Financialisation* (London: Repeater, 2019).

from the pathologies that blight the DRC will require a world-historic transformation of global political economy away from one predicated upon capitalist accumulation.

Congolese Mining without Super-Exploitation?

The revolutionary effects of the smartphone upon society, like those of the steam-engine and automobile, are deeply embedded, and a future global economy without technologies dependent upon Congolese minerals seems improbable - especially with the demand for lithium-ion batteries implicit in a 'green transition'. A key task would therefore be to construct a global economic infrastructure concertedly oriented toward rectifying the colonial underdevelopment of the DRC, ensuring that the country is a primary beneficiary of any expansion in demand for its resources, and that extractive labour in the DRC becomes safe, secure, well-remunerated and dignified employment. *A Planet to Win* envisages "a new, fair, and sustainable trade regime, where working people at all points in the . . . supply chain have a voice in deciding how much to conserve, how much to extract, and how to improve communities' lives worldwide."¹⁵³ Alongside institutionalised recycling measures, any extraction should be "held to stringent . . . regulations, and, in some cases, subjected to moratoria pending holistic impact assessments and improved mining techniques."¹⁵⁴

Demand-side reform would also be essential - the abolition of Congolese super-exploitation would not necessarily be incompatible with smartphone production, but certainly would be with the high rate of profit that electronics multinationals currently enjoy. The relative 'cheapness' of the iPhone for consumers in the Global North is necessarily predicated upon a high rate of exploitation within smartphone production, so any recomposition of GPNs to offer greater remuneration to these workers (including Congolese miners) would challenge the viability of smartphone production as a capitalist venture. The reconception of these technologies as *public goods*, however, with the nationalisation of 'Silicon Valley' and planned production of longer-lasting smartphones (rather than the wasteful regular release of 'new models'), might provide a more sustainable avenue for smartphone production. A key aspect of any such model must be the redirection of significant part of 'profits' thereby produced to the Congo as reparations for centuries of colonial underdevelopment and exploitation - helping to fund positive social development in that country, and to break its dependence upon export-oriented extractivism. Any 'green transition' must affect such a global reconstitution, breaking with colonial modes of extractivism and ending the alienation of the Congolese people from the material and fiscal benefits of global production.

Such reforms, whereby mineral exports would finance Congolese social democracy, would be far from resolving all issues of exploitation and dispossession associated with extractivism in the DRC. Under this model the Congo would likely still be a site of the forms of contestation between developmentalist 'resource nationalism' and indigenous anti-extractivism that proved a key fissure in Bolivia under the Morales government. This proposed framework does not presume to tackle the question of extractivism *itself*, only its specific super-exploitative articulation within neo-colonial

¹⁵³ Aronoff, Battistoni, Cohen, and Riofrancos, *A Planet to Win*, 159.

¹⁵⁴ *Ibid.*

capitalism. These measures will not be sufficient for the resolution of the manifold problems historical development has bestowed upon the Congo, but they will be necessary.

The social pathologies associated with mineral mining in the Congo cannot all be reduced to external causes, and personal responsibility for much of the corruption, violence, and exploitation that have plagued the country can be laid at the feet of internal actors. However, the decisive contexts for, and ultimate beneficiaries of, these dynamics can be found outside of the Congo, within global political economy. The enemies of the Congolese people, which must be confronted through systemic challenge, remain as they have been since the Portuguese first arrived upon their shores - colonialism and capitalism.

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