

# More than a glance at the ocean: international law, seabed mining, and the monetary nature of capitalism

Michele Tedeschi \*

\*Postdoctoral researcher, SCRIPTS Cluster of Excellence at Freie Universität Berlin. Email: michele.tedeschini@fu-berlin.de

## ABSTRACT

The article draws on Rosa Luxemburg to examine current legal developments concerning seabed mining. Building on the macro-monetary reading of capitalism that Luxemburg developed in *The Accumulation of Capital* and the *Anti-Critique*, the analysis casts doubt on the international law of the sea's alignment with the contradictions inherent in capitalist production.

## INTRODUCTION

In a letter from 1917, Rosa Luxemburg exhorted the friend to whom she was writing: 'Don't forget, as busy as you may be ... to quickly raise your head and cast a glance at those great silver clouds and that silent blue ocean in which they are swimming.'<sup>1</sup> Luxemburg has left us rigorous academic writings, as well as a wealth of personal correspondence affording glimpses into her personal life. This article shows that her analysis of capitalism keeps offering a lens to examine present phenomena. If it sets out from a letter, however, it is to venture that the offhand injunction addressed to her friend betrays a certain apprehension for the beauties of nature. Luxemburg, who was to be murdered within two years of writing these words, had devoted a lifetime of intellectual labour to examining the causes of material injustice, and a lifetime of revolutionary fervour to fighting against them. Beneath her invitation to cast a glance at the clouds and the ocean, is there a premonition that those spaces were at risk of being ingested by capital? As we revisit her writings to analyse the contemporary dynamics of capitalism, the appeal to cast a glance at the clouds and the sea could also be read—tendentiously, no doubt—as an admonition to today's political economists. In the

<sup>1</sup> Letter from Rosa Luxemburg to Hans Diefenbach (6 July 1917) in Georg Adler, Peter Hudis and Annelies Laschitza (eds), *The Letters of Rosa Luxemburg* (George Shriver tr, Verso 2011).

current historical juncture, after all, outer space and the oceans have emerged as new frontiers of capital accumulation.<sup>2</sup>

As the article's next section discusses in more detail, the seabed and its vast deposits of commercially valuable minerals have taken centre stage in this context. Some of those deposits are rich in cobalt, manganese, and nickel, all primary inputs in the manufacture of electric vehicles (EV).<sup>3</sup> As electric mobility is a pillar of the 'green transition' discourse<sup>4</sup>—whereby saving the environment goes hand in hand with boosting profitability under capitalist conditions of production<sup>5</sup>—the ocean floor has emerged as a frontier of technologically-driven extraction<sup>6</sup> and economic growth.<sup>7</sup> Moreover, it also provides the setting in which law meets its frontier, as seabed mining is regulated by a relatively recent legal framework that is still in a state of becoming, at least in part. Under the UN Convention on the Law of the Sea (LOSC) which entered into force in 1994, in fact, two different sets of rules apply to the seabed.<sup>8</sup> One concerns the 'continental shelf', a portion of the ocean floor that the LOSC designates as a continuation of national territories.<sup>9</sup> Within the boundaries of the continental shelf, the coastal state enjoys full sovereignty over seabed resources. Based on this regime, the Norwegian parliament recently greenlighted mining operations in its national seabed,<sup>10</sup> as part of a strategy to free European EV manufacturers from their dependency on China for raw materials.<sup>11</sup> The second set of rules concerns the ocean floor falling outside the boundaries of national jurisdiction, which the LOSC defines as the 'Area'.<sup>12</sup> Despite revolving around the principle that the Area's resources are the 'common heritage of mankind',<sup>13</sup> this regime has grounded a trend whereby the LOSC-based International Seabed Authority (ISA) is expected to authorise commercial mining in the Area by 2025.<sup>14</sup> This is partly due to lobbying activities that the Republic of Nauru carried out on behalf of The Metals Company (TMC), a Canadian corporation which has successfully trialled mineral collection from the Pacific Ocean floor.<sup>15</sup> Just like Norway, TMC also aims to erode

<sup>2</sup> Regarding the new space race, see eg Cait Storr, "Space Is the Only Way to Go": The Evolution of the Extractivist Imaginary of International Law' in Sundhya Pahuja and Shane Chalmers (eds), *Routledge Handbook of International Law and the Humanities* (Routledge 2021).

<sup>3</sup> Fazel Mohammadi and Mehrdad Saif, 'A Comprehensive Overview of Electric Vehicle Batteries Market' (2023) 3 *e-Prime—Advances in Electrical Engineering, Electronics and Energy* 100127.

<sup>4</sup> Måns Nilsson and Björn Nykvist, 'Governing the Electric Vehicle Transition—Near Term Interventions to Support a Green Energy Economy' (2016) 179 *Applied Energy* 1360.

<sup>5</sup> Ulrich Brand and Markus Wissen, 'Strategies of a Green Economy, Contours of a Green Capitalism' in Kees van der Pijl (ed), *Handbook of the International Political Economy of Production* (Edward Elgar Publishing 2015). Although Brand and Wissen call it 'the Green Economy', they analyse the same process which is also commonly referred to as 'green transition': see eg Eric Kemp-Benedict, 'Investing in a Green Transition' (2018) 153 *Ecological Economics* 218.

<sup>6</sup> Olive Heffernan, 'Deep-Sea Dilemma' (2019) 571 *Nature* 465.

<sup>7</sup> Marcel JC Rozemeijer et al, 'Seabed Mining' in Kate Johnson, Gordon Dalton and Ian Masters (eds), *Building Industries at Sea: 'Blue Growth' and the New Maritime Economy* (River Publishers 2018).

<sup>8</sup> UN Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 399 (LOSC).

<sup>9</sup> *ibid* arts 76-85.

<sup>10</sup> Government of Norway, 'Norway gives green light for seabed minerals' (Ministry of Energy, 10 January 2024) <<https://www.regjeringen.no/en/aktuelt/norway-gives-green-light-for-seabed-minerals/id3021433/>>. All URLs last accessed 27 September 2024.

<sup>11</sup> Richard Milne and Kenza Bryan, 'Norway Seeks to Open Vast Ocean Area to Deep-Sea Mining' *Financial Times* (9 June 2023) <<https://www.ft.com/content/44855d32-82c2-4f4c-b77c-1c21d3c1279f>>.

<sup>12</sup> LOSC (n 8) art 1 para 1(1).

<sup>13</sup> *ibid* arts 136-37.

<sup>14</sup> Daniel Rosenberg, 'The Legal Fight Over Deep-Sea Resources Enters a New and Uncertain Phase' (*EJIL: Talk!*, 22 August 2023) <<https://www.ejiltalk.org/the-legal-fight-over-deep-sea-resources-enters-a-new-and-uncertain-phase/>>.

<sup>15</sup> The Metals Company, 'NORI and Allseas Lift Over 3,000 Tonnes of Polymetallic Nodules to Surface from Planet's Largest Deposit of Battery Metals, as Leading Scientists and Marine Experts Continue Gathering Environmental Data' (14 November 2022) <<https://investors.metals.co/news-releases/news-release-details/nori-and-allseas-lift-over-3000-tonnes-poly-metallic-nodules/>>.

China's control over the electric battery supply chain, but to the benefit of US manufacturers instead of European ones.<sup>16</sup>

Thinking with Luxemburg enables us to place these developments within the dynamics of global capitalism. This task requires casting more than a glance at the ocean floor, however. As the article shows, indeed, there are two ways of applying Luxemburg's insights to current developments regarding seabed mining. One, although plausible, risks trivialising her thought, whereas the second more accurately reflects her intellectual standing. The former, which is developed in the third section, builds on a central claim from *The Accumulation of Capital*,<sup>17</sup> according to which there exist two aspects of capital accumulation, the first occurring through the production and exchange of commodities under peaceful conditions and the sanction of bourgeois laws; the second involving violence, unlawfulness, and contests of power on the international level.<sup>18</sup> Despite what some Marxian literature suggests,<sup>19</sup> this second aspect cannot be understood as a historical antecedent to the emergence of industrial capital in imperial centres. On the contrary, due to capital's tendency towards endless expansion, both aspects of accumulation are constitutive elements of the capitalist mode of production throughout its entire historical career. According to David Harvey, this is the one crucial insight to be retained from Luxemburg's analysis, which goes down the wrong path when it locates the cause of capital's recurrent crises in underconsumption by the working class.<sup>20</sup> Arguably, even if this critique were accurate, Luxemburg's thought could still be used to make sense of the struggle over seabed mining. When read in conjunction with environmental Marxism, in fact, the distinction between the two aspects of accumulation lends support to Jason Moore's claim that capitalism must constantly open up new frontiers from where labour power and raw materials can be obtained at cheaper prices than currently available.<sup>21</sup> Using the distinction between the two aspects of accumulation to examine the case of the ocean floor, however, reveals the suppleness of the twofold dichotomy *peacefulness-legality* (first aspect) versus *violence-unlawfulness* (second aspect) upon which Luxemburg ostensibly builds her theory. Upon close inspection, it becomes clear that the two aspects of accumulation can be both violent and both unlawful at the same time. Accordingly, the question is what prompted Luxemburg to theorise them as interconnected, yet conceptually distinct features of capital's trajectory. Answering this query requires that we delve deep into her economic thinking. The article's fourth section does so by drawing on Riccardo Bellofiore's analysis of the *Anti-Critique*,<sup>22</sup> a response to the criticisms drawn by *The Accumulation of Capital* that Luxemburg wrote in 1915. The first step is understanding the problematic Luxemburg set out to address, namely the schema of enlarged reproduction found in *Capital* volume two. There, Marx analysed the conditions under which a closed capitalist economy (i.e. one made of only two classes, capitalists and workers) can grow.<sup>23</sup> Contra Marx, Luxemburg developed a macro-monetary reading which led her to the conclusion that growth is simply impossible in such an economy.<sup>24</sup> Simply put, Luxemburg notes that where two classes alone exist, all the money that is in circulation comes from the

<sup>16</sup> The Metals Company, 'Revolutionizing the Mineral Supply Chain for Fast Growing EV Demand' (17 May 2021) <<https://metalsco.canto.com/pdfviewer/viewer/viewer.html?v=InvestorVideos&portalType=v%2FInvestorVideos&column=document&id=8404914u417bh39qnj8qbnrq67&suffix=pdf&from=landingpage>>.

<sup>17</sup> Rosa Luxemburg, *The Accumulation of Capital* (Agnes Schwartzschild tr, Routledge & Kegan Paul 1951).

<sup>18</sup> *ibid* 452–53.

<sup>19</sup> See Ellen Meiksins Wood, *The Origin of Capitalism: A Longer View* (new edn, Verso 2002) 34–49.

<sup>20</sup> David Harvey, *The New Imperialism* (Oxford University Press 2003) 138–40.

<sup>21</sup> Jason W Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (Verso 2015).

<sup>22</sup> Rosa Luxemburg, *Die Akkumulation Des Kapitals Oder Was Die Epigonen Aus Der Marxschen Theorie Gemacht Haben: Eine Antikritik* (Franke 1921).

<sup>23</sup> Karl Marx, *Capital: A Critique of Political Economy*, vol 2 (Friedrich Engels ed, Lawrence Wishart 2010) 488–523.

<sup>24</sup> See Riccardo Bellofiore, 'General Introduction: Rosa Luxemburg on Capitalist Dynamics, Distribution and Effective Demand Crises' in Riccardo Bellofiore (ed), *Rosa Luxemburg and the Critique of Political Economy* (Routledge 2009).

capitalists. And if the workers spend all the money they receive in wages to buy commodities, any production cycle results in simple reproduction, whereby the capitalists return in possession of the money they had advanced at the cycle's outset. But how can enlarged reproduction of the economy *as a whole* take place, under similar conditions? Who are the buyers for the surplus in commodity output that is required for growth? To put it differently, where is the money that buys this surplus supposed to come from? Luxemburg's answer is straightforward: it is only in the presence of an external demand financed by money which has not been advanced by capitalists, that a given economy can grow. Whence her view that the first aspect of accumulation—commodity production and exchange 'at home'<sup>25</sup>—must always be complemented by a second aspect directed abroad, whose goal is securing ever more sources of demand that can realise subsequent increases in commodity production against money receipts. Historically, as Luxemburg notes in *The Accumulation of Capital*, this second aspect has resulted in imperialist ventures of various kinds.<sup>26</sup> Bellofiore slightly amends this approach to better account for the contemporary workings of capitalism,<sup>27</sup> at least as far as the theory of the monetary circuit understands them.<sup>28</sup> If we introduce banks into the system and we distinguish banks (that create money but do not produce commodities) from firms (that produce commodities but do not create money), the problem changes slightly, but it certainly does not disappear. By creating money *ex nihilo*, banks can issue the monetary supply that finances any surplus in commodity output at the beginning of subsequent production cycles. But how can firms—again, as a whole sector, for Luxemburg focuses here on the macro-level and is not concerned with the fate of single capitalists—eventually pay interests to the banks, which is to say, how can they give back more money than the banks have issued, when banks are the only entities endowed with the prerogative of creating money in the first place?

These questions are too complex to be answered here, but they must be considered to give Luxemburg's thought a proper representation and understand the insights it does offer with respect to seabed mining. As shown in the fifth section, indeed, concerns over the realisation of existing output are already at the heart of EV manufacture in Europe and the US,<sup>29</sup> an industry in which competition from Chinese companies loom large.<sup>30</sup> Moreover, due to China's dominance of the electric battery supply chain,<sup>31</sup> a crucial issue for US and European EV makers is that every vehicle they sell entails a monetary transfer towards China. Against this background, and assuming the European and US economies to be fully capitalist for the purposes of the analysis, Luxemburg's work suggests that seabed mining be examined as part of a triangular relationship involving the European total capital and US total capital as competitors of one another, as well as China as a competitor of both. The question is if, by legalising seabed mining in international and domestic waters, the international law of the sea can address the problems faced by US and European EV manufacturers, thereby enabling EV production to drive growth in those regions. To be sure, my interest

<sup>25</sup> Luxemburg, *Accumulation* (n 17) 466 and *passim*.

<sup>26</sup> *ibid* 446 and *passim*.

<sup>27</sup> Riccardo Bellofiore, 'The Monetary Circuit of Capital in the Anti-Critique' in Riccardo Bellofiore (ed), *Rosa Luxemburg and the Critique of Political Economy* (Routledge 2009) 61–63.

<sup>28</sup> See Alain Parguez and Mario Seccareccia, 'The Credit Theory of Money: The Monetary Circuit Approach' in *What is Money?* (Routledge 2000).

<sup>29</sup> See eg Keith Naughton, Archie Hunter and Heejin Kim, 'Ford Cuts Battery Orders as EV Losses Top \$100,000 Per Car' *Bloomberg* (10 May 2024) <<https://www.bloomberg.com/news/articles/2024-05-10/ford-cuts-battery-orders-as-ev-losses-top-100-000-per-car>>.

<sup>30</sup> Maciej Bukowski, 'US and Europe Drive Different Roads to Confront Chinese Electric Vehicles' (*Center for European Policy Analysis*, 18 September 2024) <<https://cepa.org/article/us-and-europe-drive-different-roads-to-confront-chinese-electric-vehicles/>>.

<sup>31</sup> International Energy Agency, 'Critical Minerals Market Review 2023' (2023) 7–8 <<https://iea.blob.core.windows.net/assets/afc35261-41b2-47d4-86d6-d5d77fc259be/CriticalMineralsMarketReview2023.pdf>>.

lies in whether it is fitting to pursue solutions to such problems through pushing the frontiers of legal regulation, *not* in whether the law can successfully deliver those solutions. In other words, it is beyond the scope of the article to gauge the extent to which international law's sanction is a determinant of developments in seabed mining. Any legal commentator who examines this topic is bound to note that the US is not a party to the LOSC, and it is not altogether implausible that disputes over the ocean's minerals give rise to something more than political confrontation, such as forms of military engagement. The central question at issue here, however, is simply whether the LOSC provisions on seabed resources are well adjusted to the green transition's promise of delivering growth.<sup>32</sup> To this query, the article proffers a sceptical answer. Future trends are impossible to predict, but even if large-scale mining activities in the ocean floor finally got underway—which is supposed to lower EV production costs and therefore sale prices<sup>33</sup>—their effects could be limited to several shifts that are internal to the capitalist dynamics of Europe and the US. To envisage a reaction chain whereby seabed mining generates growth within those regions, however, one must be able to answer the question that Luxemburg compels us to ask: where are the buyers who will purchase the spiralling numbers of EVs that would be produced with the ocean's minerals?<sup>34</sup> What the US and European EV industries need, if they are to represent a veritable engine of growth, is a gigantic queue of potential customers who can inject new money into their economies. It is therefore logical to think of highly populated countries like China, which would have to absorb the output of European and US producers, rather than configuring itself as a competitor against the latter. This is all beyond reach for the international law of the sea, however. As the concluding section underscores, an attentive Luxemburgian analysis of seabed mining reveals not just the legal phenomenon's complicity in subjecting the environment and its resources to the capitalist mode of production, but also the misalignment that occasionally emerges between international law's focus and the inherent contradictions affecting the expansionary drive of capital. To see how an analysis of this kind unfolds, we must first set the stage and understand the importance of that frontier space that the ocean floor has become.

## THE FRONTIER IN THE DEPTHS OF THE OCEANS

There are several ways in which the ocean floor can be seen as a frontier.<sup>35</sup> Perhaps most obviously, it represents a frontier of extraction and technology, given that the minerals lying on the seabed have important commercial applications, yet they pose formidable challenges to anyone who set out to collect them. It is the presence of large quantities of polymetallic nodules containing cobalt and nickel to have put seabed mining on the map to the green transition,<sup>36</sup> in view of the growing demand for those minerals that the manufacture of EVs is expected to ground.<sup>37</sup> To be sure, the assumption that retrieving minerals from the ocean

<sup>32</sup> See eg European Commission, 'Green transition' <[https://reform-support.ec.europa.eu/what-we-do/green-transition\\_en](https://reform-support.ec.europa.eu/what-we-do/green-transition_en)>.

<sup>33</sup> Kris Van Nijen, Steven Van Passel and Dale Squires, 'A Stochastic Techno-Economic Assessment of Seabed Mining of Polymetallic Nodules in the Clarion Clipperton Fracture Zone' (2018) 95 *Marine Policy* 133, 140.

<sup>34</sup> See Bellofiore, 'Introduction' (n 24) 9–10.

<sup>35</sup> I am not the first to use this designation for the seabed. See eg David Hartley, 'Guarding the Final Frontier: The Future Regulations of the International Seabed Authority' (2012) 26 *Temple International and Comparative Law Journal* 335; John Childs, 'Extraction in Four Dimensions: Time, Space and the Emerging Geo(-)Politics of Deep-Sea Mining' (2020) 25 *Geopolitics* 189.

<sup>36</sup> Ephrat Livni et al, 'Why Deep-Sea Mining Is the Next Battleground in the Energy Transition' *The New York Times* (17 July 2023) 3.

<sup>37</sup> KA Miller et al, 'Challenging the Need for Deep Seabed Mining From the Perspective of Metal Demand, Biodiversity, Ecosystems Services, and Benefit Sharing' (2021) 8 *Frontiers in Marine Science* <<https://doi.org/10.3389/fmars.2021.706161>>.

floor is necessary to buttress a societal switch from fossil-fuel mobility to EVs is by no means uncontroversial. Projections in this sense have been criticised for relying on business-as-usual models which discount technological improvements and the potential development of transport systems that are less reliant on personal vehicles.<sup>38</sup> Future demand is impossible to predict, but when these prospects are factored in, existing land-based reserves of cobalt and nickel could be sufficient to support a transition away from fossil-fuel mobility.<sup>39</sup> Be that as it may, it is undeniable that its proponents have couched seabed mining as a more sustainable alternative to land mining and ‘a necessary, new “frontier” for resource extraction’.<sup>40</sup> It is also a frontier that poses significant challenges, however, in view of the geologic and hydrodynamic complexity of the high-pressure, low-temperature environments found on the ocean floor.<sup>41</sup> But despite previous setbacks experienced during collection trials,<sup>42</sup> the required technology might have finally become available.<sup>43</sup> As Victor Wallis has noted, after all, ‘[t]he technological fixation has been a constant of capitalist development’,<sup>44</sup> and it could not but take centre place in an epoch in which the environmental crisis is causing a reorganisation of capitalist production and exchange.<sup>45</sup> More to the point, as several critical scholars have argued, technology is as an essential aspect of the green transition, whereby the latter must be understood as a strategy aimed at reinvigorating the process of capital accumulation.<sup>46</sup> Anneleen Kenis and Matthias Lievens, for instance, have noted that climate change ‘opens up possibilities for the creation of new markets which make profit and growth possible once again’.<sup>47</sup> Writing in 2014, Kenis and Lievens lumped electric cars together with a list of commodities whose economic value paled in comparison with emissions trading, which the authors saw as the most profitable opportunity pursued on the pretext of greening the economy. The difference in economic magnitude between emissions trading and the EV market has since waned, however. In 2022, for instance, the global trade in carbon dioxide permits (i.e. the largest emissions market) amounted to approximately 910 billion US dollars.<sup>48</sup> In the same year, consumers worldwide spent an estimated 380 billion US dollars on electric cars.<sup>49</sup> Moreover, according to the International Energy Agency (IEA), ‘the combined market capitalisation of pure play EV makers’ (i.e. those companies whose sole business is manufacturing EVs) rose ‘from USD 100 billion in 2020 to USD 1 trillion at the end of 2023’, while ‘[t]he market capitalisation of battery makers and battery metal

<sup>38</sup> *ibid* 2.

<sup>39</sup> André Månberger and Björn Stenqvist, ‘Global Metal Flows in the Renewable Energy Transition: Exploring the Effects of Substitutes, Technological Mix and Development’ (2018) 119 *Energy Policy* 226.

<sup>40</sup> See John Childs, ‘Greening the Blue? Corporate Strategies for Legitimising Deep Sea Mining’ (2019) 74 *Political Geography* 1 <<https://doi.org/10.1016/j.polgeo.2019.102060>>.

<sup>41</sup> Xingsen Guo et al, ‘Deep Seabed Mining: Frontiers in Engineering Geology and Environment’ (2023) 10 *International Journal of Coal Science & Technology* 3.

<sup>42</sup> Walter Leal Filho et al, ‘Deep Seabed Mining: A Note on Some Potentials and Risks to the Sustainable Mineral Extraction from the Oceans’ (2021) 9 *Journal of Marine Science and Engineering* 521, 8–10. See also Yajuan Kang and Shaojun Liu, ‘The Development History and Latest Progress of Deep-Sea Polymetallic Nodule Mining Technology’ (2021) 11 *Minerals* 1132; Heffernan (n 6) 466.

<sup>43</sup> See International Seabed Authority, ‘Seabed Technology’ (June 2022) <<https://www.isa.org.jm/wp-content/uploads/2022/06/eng10.pdf>>.

<sup>44</sup> Victor Wallis, ‘Beyond “Green Capitalism”’ (2010) 61(9) *Monthly Review* 32, 35.

<sup>45</sup> See Anneleen Kenis and Matthias Lievens, ‘Greening the Economy or Economizing the Green Project? When Environmental Concerns Are Turned into a Means to Save the Market’ (2016) 48 *Review of Radical Political Economics* 217.

<sup>46</sup> Brand and Wissen (n 5).

<sup>47</sup> Anneleen Kenis and Matthias Lievens, *The Limits of the Green Economy: From Reinventing Capitalism to Repoliticising the Present* (Routledge 2015) 71.

<sup>48</sup> Swati Verma et al, ‘Global Carbon Markets Value Hit Record \$909 Bln Last Year’ *Reuters* (7 February 2023) <<https://www.reuters.com/business/sustainable-business/global-carbon-markets-value-hit-record-909-bln-last-year-2023-02-07/>>.

<sup>49</sup> International Energy Agency, ‘Global EV Outlook 2023: Catching up with Climate Ambitions’ (2023) <<https://iea.blob.core.windows.net/assets/dac14d2-eabc-498a-8263-9f97fd5dc327/GEVO2023.pdf>>.

companies also increased significantly over the same period.<sup>50</sup> All the above suggests that the green transition has come to constitute a site of capital accumulation,<sup>51</sup> and so has the EV market as one of its main components.<sup>52</sup> As a frontier of extraction and technology, in other words, the ocean floor is also a frontier of capitalist expansion. Accordingly, it may become a battleground on which old and new imperialist aspirations play out in a struggle over natural resources.<sup>53</sup> And even though it is obviously uninhabited by human populations (while hosting a vast array of animal species), the seabed may thus follow in the wake of a ‘new scramble for Africa’ pitting US, European, and Chinese imperialisms against one another in a contest that ‘has been galvanised, in large part, by the increased global demand for fossil fuels and the quest for energy security’.<sup>54</sup>

Perhaps not coincidentally, given the centrality of resource allocation to the legal phenomenon at large,<sup>55</sup> it is also possible to understand the seabed as a space where law meets its frontier. This is true in at least two senses, spatial and chronological. The former relates to the fact that parts of the seabed that is rich in polymetallic nodules lie in the outermost sections of so-called ‘continental shelf’, which the LOSC places under the jurisdiction of coastal states.<sup>56</sup> The latter stems from the impending legal developments that are required for commercial mining in the seabed *beyond* national jurisdiction to get underway. Elaborating on these two regimes enables us to appreciate how, at the present historical juncture, the legal frontiers pertaining to the seabed are being tested (or conquered) by national and corporate actors. Starting with the seabed within national jurisdiction, LOSC article 76 establishes that

The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.<sup>57</sup>

While setting a 200-nautical-miles minimum breadth for the continental shelf, this provision enables states to assert sovereignty over a larger segment of the ocean floor (up to 350 nautical miles from the coast)<sup>58</sup> whenever the submarine areas projecting seawards from their

<sup>50</sup> International Energy Agency, ‘Global EV Outlook 2024’ (2024) 88 <<https://iea.blob.core.windows.net/assets/a9e3544b-0b12-4e15-b407-65f5c8ce1b5f/GlobalEVOutlook2024.pdf>>.

<sup>51</sup> See Kenis and Lievens (n 45); Max Ajl, *A People’s Green New Deal* (Pluto Press 2021); John Bellamy Foster, Brett Clark and Richard York, *The Ecological Rift: Capitalism’s War on the Earth* (Monthly Review Press 2010) 255–57.

<sup>52</sup> See Nick J Fox, ‘Green Capitalism, Climate Change and the Technological Fix: A More-than-Human Assessment’ (2023) 71 *The Sociological Review* 1115.

<sup>53</sup> See Parker Thomas Moon, ‘Raw Materials and Imperialism’ (1926) 12 *Proceedings of the Academy of Political Science in the City of New York* 180. In Marxist theory, the view that conflicts over natural resources are a factor of inter-imperialist rivalry is usually attributed to Lenin: see Vladimir Il’ich Lenin, *Imperialism: The Highest Stage of Capitalism* (Resistance Books 1999).

<sup>54</sup> Alison J Ayers, ‘Beyond Myths, Lies and Stereotypes: The Political Economy of a “New Scramble for Africa”’ (2013) 18 *New Political Economy* 227, 240. On China’s challenge to US economic dominance and its ‘extractivist’ relationship with Latin American countries as well as with Africa, see also Adrian Budd, ‘China and Imperialism in the 21st Century’ (2021) 170 *International Socialism Journal* 123. Against the view that China can be seen as an imperial power, however, see Minqi Li, ‘China: Imperialism or Semi-Periphery?’ (2021) 73(3) *Monthly Review* 47. On the centrality of raw materials to various US imperialist interventions in Asia, see Andrew J Rotter, *The Path to Vietnam: Origins of the American Commitment to Southeast Asia* (Cornell University Press 1989). On access to oil as a determinant of the Gulf Wars, see David J Lorenzo, *War and American Foreign Policy: Justifications of Major Military Actions in the US* (Palgrave Macmillan 2021) 197–241.

<sup>55</sup> Concerning international law, see eg Lillian Aponte Miranda, ‘The Role of International Law in Intrastate Natural Resource Allocation’ (2012) 106 *Proceedings of the Annual Meeting-American Society of International Law* 75.

<sup>56</sup> LOSC (n 8) arts 76–85.

<sup>57</sup> *ibid* art 76 para 1.

<sup>58</sup> *ibid* art 76 paras 5–6.

territory satisfy certain morphological conditions.<sup>59</sup> This ‘natural prolongation’ of land and its natural resources (including minerals) are subject to the control of the coastal state, which enjoys ‘the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.’<sup>60</sup> Where mineral-rich areas of the ocean floor lie in portions of continental shelf which extend beyond the 200-nautical-miles minimum breadth,<sup>61</sup> therefore, the seabed is not only a frontier of extraction and technologically driven profit seeking. It is also a frontier of sovereignty, the utmost outward extension of a national jurisdiction that spreads over the ocean floor but no longer captures the superjacent waters. Such a frontier is in the process of being tested by Norway, whose parliament, in early 2024, approved the Norwegian government’s proposal for opening the nation’s continental shelf to mineral exploration.<sup>62</sup> Although Norway’s minister of energy clarified that ‘[a]n opening of an area does not mean that extraction starts’, he made no secret that this is a first step towards ‘awarding extraction licences’ to mining corporations.<sup>63</sup> The area in question measures approximately 281,000 square kilometres,<sup>64</sup> and a report by the government indicates the presence of a multitude of deposits, several of which are located at a distance from the Norwegian coast that well exceeds the minimum breadth of the continental shelf.<sup>65</sup> This is a result of events which occurred in 2006, when Norway relied on the LOSC to assert sovereign rights on sections of the ocean floor extending beyond 200 nautical miles from its coastal baselines.<sup>66</sup> In 2009, the LOSC-established Commission on the Limits of the Continental Shelf adopted a set of recommendations largely accepting the claims submitted by Norway.<sup>67</sup> As per LOSC article 76, the limits of the continental shelf established based on these recommendations are ‘final and binding’,<sup>68</sup> and have therefore grounded the Norwegian government’s inclusion of the deposits lying over 200 nautical miles from Norway’s coast in the area that will be opened for seabed mining.

The rest of the ocean floor beyond the boundaries of coastal states’ continental shelves is what the LOSC designates as the Area.<sup>69</sup> Part XI of the Convention is dedicated to regulating this vast portion of the seabed beyond national jurisdiction. The very impetus for a comprehensive instrument on the international law of the sea stemmed from the discovery of vast mineral deposits in the ocean floor,<sup>70</sup> which had occurred in the late 1950s.<sup>71</sup> Negotiated at the UN over the 1970s and signed in 1982, the LOSC only entered into force in 1994. Such a delay was due to disagreements over the rules applicable to the Area’s

<sup>59</sup> *ibid* art 76 para 4.

<sup>60</sup> *ibid* art 81.

<sup>61</sup> See Bramley J Murton, ‘A Global Review of Non-Living Resources on the Extended Continental Shelf’ (2000) 18 *Revista Brasileira de Geofísica* 281, 294–95.

<sup>62</sup> Government of Norway (n 10).

<sup>63</sup> *ibid*.

<sup>64</sup> Det Kongelige Olje- og Energidepartement, ‘Mineralverksemd på norsk kontinentalsokkel—opning av areal og strategi for forvaltning av ressursane’ (2022) 75 <<https://www.regjeringen.no/contentassets/e0d0706a51274b598e4ef832545e59d3/nr-no/pdfs/stm202220230025000dddpdfs.pdf>>.

<sup>65</sup> *ibid* 22.

<sup>66</sup> LOSC Commission on the Limits of the Continental Shelf, ‘Statement by the Chairman of the Commission on the Limits of the Continental Shelf on the progress of work in the Commission’ (27 April 2007) 19th Session (2007) CLCS/54 Item 9.

<sup>67</sup> LOSC Commission on the Limits of the Continental Shelf, ‘Summary of the recommendations of the Commission on the Limits of the Continental Shelf in regard to the submission made by Norway in respect of areas in the Arctic Ocean, the Barents Sea and the Norwegian Sea on 27 November 2006’ (2009) <[https://www.un.org/depts/los/clcs\\_new/submissions\\_files/nor06/nor\\_rec\\_summ.pdf](https://www.un.org/depts/los/clcs_new/submissions_files/nor06/nor_rec_summ.pdf)>.

<sup>68</sup> LOSC (n 8) art 76 para 8.

<sup>69</sup> *ibid* art 1.

<sup>70</sup> Robin R Churchill, ‘The 1982 United Nations Convention on the Law of the Sea’ in Donald R Rothwell et al (eds), *The Oxford Handbook of the Law of the Sea* (Oxford University Press 2015) 25.

<sup>71</sup> John L Mero, ‘Minerals on the Ocean Floor’ (1960) 203 *Scientific American* 64.

resources, which industrialised states deemed overly tilted in favour of developing nations. Among other things, the latter were said to unduly benefit from some redistributive mechanisms concerning the profits potentially ensuing from seabed mining in international waters.<sup>72</sup> The deadlock was broken by adopting a so-called 'Implementation Agreement'<sup>73</sup> that significantly amended the 1982 text of Part XI and allowed the LOSC to draw widespread ratification (although the US, whose Reagan administration led the dissatisfied camp, have never ratified the treaty).<sup>74</sup> Even after the 1994 settlement, however, Part XI of the Convention has all but remained in abeyance, especially as concerns the regulation of activities aimed at exploiting the Area's minerals, which the LOSC vests in the ISA.<sup>75</sup> This is because technological difficulties caused deep seabed mining to remain a future prospect for decades, despite the initial wave of enthusiasm which brought about the LOSC.<sup>76</sup> As late as 2013, Moragodage Pinto, who chaired the Area committee when the treaty was being discussed, could still complain about the 'protracted and arcane negotiations over resources which were effectively so remote as to be those of another planet'.<sup>77</sup> In the same year, however, a technical study published by the ISA noted that '[a]fter decades "on hold", there [was] renewed interest in the potential for commercial exploitation of deep seabed polymetallic nodules'.<sup>78</sup> Since then, the ISA has been developing a mining code for commercial exploitation of the Area, releasing several drafts throughout the process. Fast forward to July 2023, when state representatives gathered at the ISA's headquarters for the Authority's 28th session, and the passing into law of the mining code had become a concrete possibility. Indeed, much of the session consisted in discussing the code's latest draft, the meeting's agenda even contemplating 'adoption of regulations in the event that they are ready for adoption'.<sup>79</sup> Considering the background to such a development shows how this second legal frontier constituted by the seabed is also in the process of being tested. As Pradeep Singh has documented, the ISA's steady progress towards adopting a mining code was halted by the Covid-19 pandemic.<sup>80</sup> In view of the ensuing impasse, in June 2021, the Republic of Nauru attempted to force the ISA's hand to authorise commercial activities in the Area by invoking Section 1(15) of the 1994 Implementing Agreement. As per Singh's summary, this provision

allows any ISA member State whose national intends to apply for the approval of a plan of work for exploitation to compel the ISA to accelerate progress towards completing the elaboration and adoption of the exploitation regulations within two years ... If the Council is unable to complete the elaboration of the same within that prescribed time, it

<sup>72</sup> Per Magnus Wijkman, 'UNCLOS and the Redistribution of Ocean Wealth' (1982) 16 *Journal of World Trade Law* 22.

<sup>73</sup> Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, UNGA Res 48/263 of 17 August 1994.

<sup>74</sup> Ram Prakash Anand, *Studies in International Law and History: An Asian Perspective* (Martinus Nijhoff 2004) 185–95.

<sup>75</sup> LOSC (n 8) art 153.

<sup>76</sup> Hartley (n 35).

<sup>77</sup> Moragodage CW Pinto, 'The Common Heritage of Mankind: Then and Now' (2013) 361 *Recueil des Cours de l'Académie de Droit International* 13, 112.

<sup>78</sup> International Seabed Authority, 'Towards the Development of a Regulatory Framework for Polymetallic Nodule Exploitation in the Area' (Technical Study no 11, 2013) 3 <<https://www.isa.org.jm/wp-content/uploads/2022/04/DiscussionPaper-FinMech.pdf>>.

<sup>79</sup> Council of the International Seabed Authority, 'Indicative programme of work, rev. 1, Twenty-Eight Session, Part II, 10–21 July 2023' (revised on 4 July 2023) <[www.isa.org.jm/wp-content/uploads/2023/07/IPW\\_Council\\_PartII\\_rev\\_1.pdf](http://www.isa.org.jm/wp-content/uploads/2023/07/IPW_Council_PartII_rev_1.pdf)>; 'Agenda of the Council' (16 March 2023) 28th Session (2023) ISBA/28/C/1 item 10.

<sup>80</sup> Pradeep A Singh, 'The Invocation of the "Two-Year Rule" at the International Seabed Authority: Legal Consequences and Implications' (2022) 37 *The International Journal of Marine and Coastal Law* 375, 379.

must still nevertheless consider and provisionally approve any pending application—notwithstanding the absence of the exploitation regulations.<sup>81</sup>

Nauru's strategy was intended to benefit TMC,<sup>82</sup> whose very *raison d'être* is collecting minerals from a large region of the seabed in the central Pacific Ocean, namely the Clarion Clipperton Zone.<sup>83</sup> Acting through a fully-owned subsidiary incorporated in Nauru, TMC successfully carried out large collection trials while waiting for the ISA to greenlight its exploitation plans.<sup>84</sup> Expectations that the ISA's 2023 session would result in a breakthrough for seabed mining were disappointed, however. Despite having 'made significant progress concerning the negotiations on the draft exploitation regulations for mineral resources in the Area', in fact, the session resulted in the ISA's executive organ postponing any decisions with respect to such regulations.<sup>85</sup> Given that many states,<sup>86</sup> non-governmental actors,<sup>87</sup> as well as corporations<sup>88</sup> oppose seabed mining—allegedly on environmental grounds—it will have to be seen whether and when the code is finally approved. This legal frontier has not quite been conquered yet, but the tide seems to favour those who are eager to exploit the ocean floor, as the ISA is now working 'with a view to their [the regulations]' adoption during its thirtieth session' to be held in 2025.<sup>89</sup>

It is apparent that the various usages of the term 'frontier' to characterise the ocean floor are interrelated. One may argue that the quest to conquer the seabed as a frontier space of technologically driven extraction and accumulation exerts a gravitational pull on a frontier body of international law that is in a state of becoming. As the legal developments discussed in this section ensue from the seabed being a frontier of capital accumulation and a potential terrain of inter-imperialist rivalry, it is fitting to examine whether Rosa Luxemburg's thought can help us make sense of their underlying catalyst. Luxemburg's economic analysis, after all, resulted in the claim that capitalist economies are constantly in need of engulfing outer spaces to ensure their own growth. Her most famous work, *The Accumulation of Capital*, aimed to show how capital accumulation always requires two dimensions. One is 'the realm of "peaceful competition" ... and pure commodity exchange'<sup>90</sup> that Marx unpacks in the first volume of *Capital*.<sup>91</sup> The other enduring and no less important dimension, however, entails a 'tangle of political violence and contests of power'<sup>92</sup> whereby the agents of capital clash with one another over access to new frontiers, thus engendering an endless 'competitive struggle for the non-capitalist environment' that is at the very heart of

<sup>81</sup> *ibid* 376.

<sup>82</sup> According to LOSC art 153 para 2(b), mining activities in the Area can be carried out by 'juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, when sponsored by such States'. Although TMC is registered in Canada, its mining operations are scheduled to be carried out through a subsidiary incorporated and registered under Nauruan domestic laws. See Singh (n 80) 385.

<sup>83</sup> See The Metals Company, 'NORI-D Project—Nauru Ocean Resources Inc.' <<https://metals.co/nori/>>.

<sup>84</sup> The Metals Company (n 15).

<sup>85</sup> International Seabed Authority, 'ISA Council closes Part II of its 28th session' (24 July 2023) <<https://www.isa.org.jm/news/isa-council-closes-part-ii-of-its-28th-session/>>.

<sup>86</sup> Angela Symons, 'Deep Sea Mining: Here's Which Countries Oppose and Support the Controversial Practice' *euronews* (2 August 2023) <<https://www.euronews.com/green/2023/08/02/deep-sea-mining-heres-which-countries-oppose-and-support-the-controversial-practice>>.

<sup>87</sup> Michael Hamersky, 'Extracting Environmental Harm from Deep Seabed Mining' (2023) 53 *Environmental Law Reporter* 10815.

<sup>88</sup> Helen Reid, 'Renault and U.S. Carmaker Rivian Back Moratorium on Deep-Sea Mining' *Reuters* (11 February 2022) <<https://www.reuters.com/business/autos-transportation/exclusive-frances-renault-says-it-backs-moratorium-deep-sea-mining-2022-02-09/>>.

<sup>89</sup> International Seabed Authority (n 85).

<sup>90</sup> Luxemburg, *Accumulation* (n 17) 452.

<sup>91</sup> Karl Marx, *Capital: A Critique of Political Economy*, vol 1 (Lawrence & Wishart 1996).

<sup>92</sup> Luxemburg, *Accumulation* (n 17) 452.

imperialism.<sup>93</sup> In Luxemburg's view, these two aspects of capital accumulation are qualitatively different but historically inseparable: for peaceful accumulation within a given economy to continue indefinitely, 'appropriate measures' on the international stage are recurrently made necessary.<sup>94</sup> In a way, Luxemburg argues that capitalism thrives on its own frontier,<sup>95</sup> although the frontier also materialises the prospect of the system's very demise. Once every frontier has been conquered, in fact, expansion becomes impossible,<sup>96</sup> and expansion is 'a coercive law, an economic condition of existence' that spreads from the individual capitalist to the capitalist economy at large.<sup>97</sup> As a result of this theoretical stance, Luxemburg's thinking offers a suitable perspective to analyse the current frenzy over seabed mining—a frontier space that various actors compete to occupy, with a view to improving their position within capitalist production—and its reverberations in the field of international law. This is the thread that informs the remainder of the article.

### VIOLENCE AND LAWFULNESS IN THE SECOND ASPECT OF ACCUMULATION

One way of drawing on Luxemburg to examine developments around seabed mining is to strip her thinking to a bare intuition, namely the idea that the reproduction of capital is structurally dependent on the continued exploitation of non-capitalist areas. Onur Ulas Ince has argued that this is in fact Luxemburg's 'real theoretical contribution', a 'crucial insight' that 'remains a guiding beacon for contemporary studies of imperialism'<sup>98</sup>—such as David Harvey's work on the subject. For his part, Harvey claims that Luxemburg's *The Accumulation of Capital* mistakenly locates the cause of capital's recurrent global crises in underconsumption of the commodities sold on the market,<sup>99</sup> while 20th-century history showed that the problem lies in overaccumulation, i.e. 'the lack of opportunities for profitable investment' at a given historical juncture relative to the capital accumulated up to that point.<sup>100</sup> Harvey is not alone in dismissing Luxemburg's economic analysis based on her alleged reliance on underconsumption as the cause of crisis,<sup>101</sup> and this is a point to which I shall return later. Having stressed this fundamental flaw, however, Harvey rescues Luxemburg for her proposition that episodes of 'predation, fraud, and violence'<sup>102</sup> constitute a standard remedy for the pitfalls incurred by commodity exchange under capitalist conditions of production.<sup>103</sup> Even when it is reduced to this simple insight, Luxemburg's theory of accumulation can arguably be of some help to the current analysis. In her work, Luxemburg named 'colonial policy, an international loan system ... and war' as the 'predominant methods' of a violent aspect of capital accumulation that complements and supports 'the realm of "peaceful competition" ... and pure commodity exchange'.<sup>104</sup> But

<sup>93</sup> *ibid* 450 and *passim* in ch 31.

<sup>94</sup> *ibid* 446.

<sup>95</sup> The association between Luxemburg's thought and the analytic category of 'frontier' has been drawn by David Renton and (although implicitly) by Maria Backhouse. See David Renton, 'Economic Globalisation versus Social Justice? Rosa Luxemburg and the "Frontier of Control"' (2003) 34 *Society in Transition* 221; Maria Backhouse, 'Die Aktualität der Frontier als Analysekonzept. Eine Einordnung der aktuellen Landkonflikte in Amazonien' (2023) 42 *Peripherie* 346, 349.

<sup>96</sup> Luxemburg, *Accumulation* (n 17) 467.

<sup>97</sup> *ibid* 40–41.

<sup>98</sup> Onur Ulas Ince, 'Primitive Accumulation, New Enclosures, and Global Land Grabs: A Theoretical Intervention' (2014) 79 *Rural Sociology* 104, 114–15.

<sup>99</sup> Harvey (n 20) 138.

<sup>100</sup> *ibid* 139.

<sup>101</sup> See Bellofiore, 'Introduction' (n 24) 5.

<sup>102</sup> Harvey (n 20) 144.

<sup>103</sup> *ibid* 176.

<sup>104</sup> Luxemburg, *Accumulation* (n 17) 452.

other techniques have been theorised that fit Luxemburg's view of violent accumulation as a constitutive phenomenon of capitalist growth. Maria Backhouse has drawn a connection between Luxemburg's work and Jason Moore's thesis that capitalism requires the endless opening of new frontiers to secure 'labour-power, food, energy, and', crucially for present purposes, 'raw materials'.<sup>105</sup> Combining 'Marxism and environmental historiography',<sup>106</sup> Moore highlights that a key component of capital's historical trajectory is the relentless appropriation of nature to boost labour productivity, a component that Marxist theory has largely overlooked as a source of surplus value.<sup>107</sup> As Backhouse seems to imply, Moore pushes us to include the production of unpaid nature among the predominant methods of accumulation listed by Luxemburg.<sup>108</sup> Whatever qualitative differences mark these phenomena apart, both colonial policy and the appropriation of natural resources are, from Luxemburg's and Moore's perspectives, processes whereby capital conquers new frontiers to secure its continued existence. Accordingly, when it comes to seabed mining as a staple of the EV transition, we are confronted with an instance of the new imperialisms described by Moore, whereby 'capitalist and territorialist agencies seek to find, secure, and appropriate Cheap Natures that can resolve the problems of the old order.'<sup>109</sup> Together with the pursuit of major industrial and scientific innovations, this process of locating and assimilating unpaid nature lies at the core of global capitalism, forming a 'trinity' of moments which tend to converge during crises of accumulation.<sup>110</sup>

In delineating the two aspects of accumulation that she distinguished from one another, Luxemburg juxtaposed the legalised exploitation of wage labour through commodity production and exchange (first aspect) to the 'lawlessness and violence'<sup>111</sup> of imperialism in a variety of forms (second aspect).<sup>112</sup> To be sure, she analysed the two as interconnected—the latter serving to guarantee that the former can overcome its recurrent crises—yet she described the first aspect as keeping within bourgeois laws, i.e. the domain of 'peaceful competition', and the second as occurring outside legality, where capital unleashes its 'blustering violence'.<sup>113</sup> But while Luxemburg's account draws a line dividing peacefulness and legality from violence and unlawfulness, only one limb of that twofold dichotomy appears relevant in the case of the ocean floor. As was noted in the foregoing, in fact, the international law of the sea already enables exploitation of the continental shelf, whereas the ISA's mining code is the final piece that must fall into place for the Area to become a frontier of lawful extraction. That seabed mining within and without the limits of national jurisdiction may thus happen in a sphere of international legality, however, does not mean that it is not characterised by a certain degree of violence. In comparison with colonial policy and war—namely two of the predominant methods of violent accumulation identified by Luxemburg<sup>114</sup>—the violence of collecting minerals from the ocean floor is arguably less evident, but it emerges in at least three distinct ways. First, as Surabhi Ranganathan has noted, granting states exclusive rights over the continental shelf up to 350 nautical miles from the coast could ground

<sup>105</sup> Moore (n 21) 79 and passim (emphasis added). For Backhouse's analysis, see Backhouse (n 95) 349.

<sup>106</sup> Moore (n 21) 22.

<sup>107</sup> *ibid* 25–28.

<sup>108</sup> Backhouse (n 95) 349.

<sup>109</sup> Moore (n 21) 100.

<sup>110</sup> *ibid* 154–55.

<sup>111</sup> Luxemburg, *Accumulation* (n 17) 446.

<sup>112</sup> *ibid*.

<sup>113</sup> *ibid* 452.

<sup>114</sup> I leave to the side international loans, although Luxemburg shows the violence they entailed by reference to British loans in 19th-century Egypt, which ultimately ended in occupation, and German loans in early 20th-century Turkey, both entailing extractions of value from the peasant economy. See Luxemburg, *Accumulation* (n 17) 433–39, 439–45.

multiple forms of dispossession against coastal communities, while also affecting fisheries, waters, and the health of human and non-human species.<sup>115</sup> Second, apart from such a prospect and disregarding the fact that destabilising oceanic ecosystems is likely to negatively affect human life,<sup>116</sup> mining the ocean floor might involve considerable harm to non-human living beings,<sup>117</sup> causing forms of suffering to which Luxemburg herself was not insensitive<sup>118</sup> and which have recently entered the horizon of scholars working in the Marxist tradition. Corinne Painter, for instance, has claimed that ‘a properly interpreted, consistent Marxism ... requires animal liberation on the basis of acknowledging the alienated plight of animals within capitalism and the misery and suffering that it causes’.<sup>119</sup> Third and most importantly, it may be misleading to think about violence as something that is external to the vicissitudes of capital, as though it was a condition to be met for Luxemburg’s second aspect of accumulation to materialise. As James Tyner has convincingly argued, violence does not have an ontological status that remains immutable regardless of the societal conditions under which it occurs. Instead, it is a category whose meaning depends on the configuration of social relations that obtains in a particular historical-geographical setting. In the study of contemporary phenomena, therefore, the meaning of violence cannot be grasped without considering the structuring effects that the capitalist mode of production exerts on society.<sup>120</sup> It is to the extent that it brings the ocean’s minerals into the circuit of capital that the international law of the seabed can thus be considered violent. Violence is not to be found in the way that this is achieved, in other words; it resides in the purpose itself, which amounts to expanding the capitalist mode of production to yet another domain. The ‘consolidation of a primarily extractive imaginary’ within the (international) legal profession,<sup>121</sup> the stratigraphical mapping of the ocean floor<sup>122</sup> and its dissection into discrete areas to be orderly distributed among mining entities,<sup>123</sup> all combine to turn the production of the seabed as a mining site into a violent process.

This type of violence is something that is often understood in terms of ‘structural’ violence. It is not a physical act committed by some identifiable agents (‘direct’ violence), but it entails dynamics that have become embedded in the workings of society. At first blush, such a distinction seems to inform Luxemburg’s own thinking on what distinguishes the two aspects of accumulation. In the realm of peaceful competition and commodity exchange, violence appears to have been displaced to the structural level, whereas colonial policy and war provide blatant expressions of the direct violence that pertains to the second form. But we should remember that Luxemburg’s purpose was to stress the contemporaneity between

<sup>115</sup> Surabhi Ranganathan, ‘Ocean Floor Grab: International Law and the Making of an Extractive Imaginary’ (2019) 30 *European Journal of International Law* 573, 578–79.

<sup>116</sup> Paul A Sandifer and Ariana E Sutton-Grier, ‘Connecting Stressors, Ocean Ecosystem Services, and Human Health’ (2014) 38 *Natural Resources Forum* 157.

<sup>117</sup> See eg Diva J Amon et al, ‘Assessment of Scientific Gaps Related to the Effective Environmental Management of Deep-Seabed Mining’ (2022) 138 *Marine Policy* 105006.

<sup>118</sup> Jane Anna Gordon and Drucilla Cornell, “‘I Have a Thousand More Things I Want to Say to You’: An Introduction to Creolizing Rosa Luxemburg” in Jane Anna Gordon and Drucilla Cornell (eds), *Creolizing Rosa Luxemburg* (Rowman & Littlefield 2021). See also Luxemburg’s letter to Sonja Liebknecht (2 May 1917) in Peter Hudis and Kevin Anderson (eds), *The Rosa Luxemburg Reader* (Monthly Review Press 2004) 391.

<sup>119</sup> Corinne Painter, ‘Non-Human Animals within Contemporary Capitalism: A Marxist Account of Non-Human Animal Liberation’ (2016) 40 *Capital & Class* 327, 338.

<sup>120</sup> See James A Tyner, *Violence in Capitalism: Devaluing Life in an Age of Responsibility* (University of Nebraska Press 2016).

<sup>121</sup> Surabhi Ranganathan, ‘Sea Change’ in Annabel Brett, Martti Koskeniemi and Megan Donaldson (eds), *History, Politics, Law: Thinking through the International* (Cambridge University Press 2021) 302.

<sup>122</sup> On the connection between imperial explorations and the institutionalisation of geology, see John M MacKenzie, ‘Introduction’ in John M MacKenzie (ed), *Imperialism and the natural world* (Manchester University Press 2017).

<sup>123</sup> Jan-Stefan Fritz, ‘Deep Sea Anarchy: Mining at the Frontiers of International Law’ (2015) 30 *The International Journal of Marine and Coastal Law* 445, 465.

these two aspects of accumulation, highlighting that neither becomes irrelevant at any point of capitalist development.<sup>124</sup> In other words, there is no historical progression from the violence of imperialism to the peaceful realm of commodity exchange, because the latter keeps requiring the former's support for as long as capitalism survives.<sup>125</sup> As will become clear below, moreover, this stance was Luxemburg's response to a theoretical problem arising from Marx's thought. Distinguishing commodity production from colonial policy (and other extra-economic measures) based on the violence that informs the latter but not the former, in any case, only serves illustrative purposes in *The Accumulation of Capital*. Any 'peaceful' aspect of capital accumulation always appears in inverted commas throughout the book, because the peacefulness of commodity production and exchange only exists in the eyes of 'bourgeois liberal theory'.<sup>126</sup> And while such a theory treats political violence on the international stage as 'quite independent of the economic sphere of capital',<sup>127</sup> Luxemburg makes it clear that the two actually rest on the same violence informing them both. As she puts it elsewhere, 'bourgeois society draws a veil of invisibility over its crimes'.<sup>128</sup> It could not be otherwise for a thinker who followed in Marx's wake, at least in attributing primary importance to class relations in determining distributional outcomes. Already for Luxemburg, then, violence is a constitutive element of both aspects of accumulation, although in the case of commodity production such violence is all but concealed by the normalisation of capitalist processes and the sanction such processes receive from national legal systems. 'Regarded in this light, accumulation is a purely economic process ... between the capitalist and wage labourer ... in which, in form at any rate, peace, property and equality prevail'.<sup>129</sup> The case of seabed mining, moreover, suggests that the two aspects of accumulation can also benefit from the same aura of lawfulness. Once again, it is largely domestic jurisdictions that regulate the exploitation of wage labour, while international law allows (or may allow) for the minerals of the ocean floor to be injected into capitalist production.

This second finding, that international legal norms can facilitate the reproduction of capitalist relations, is nothing new. Several scholars investigating the political economy of international law have demonstrated that the discipline is one of the domains in which the political violence of capital accumulation unfolds.<sup>130</sup> What is particularly striking in the case of the international law of the seabed, is that it consists of two regimes supposedly informed by opposite principles—national sovereignty versus international governance—and yet two regimes which yield substantively the same result, namely that mineral-rich portions of the ocean floor may become available to private mining entities via the mediation of nation states. Clearly, there exist substantial differences between the mechanisms through which these outcomes are delivered. By force of the provisions on the continental shelf, portions of the seabed are annexed to the state's territory, so to speak. This is the result of a historical trajectory whereby international law has brought ever greater portions of the oceans within the control of nation states, over the course of the twentieth century. Where the freedom of the sea and narrow strips of national waters prevailed until World War II, in fact, the LOSC codified a trend toward more extensive sovereign control over the seabed and the

<sup>124</sup> Luxemburg, *Accumulation* (n 17) 453 and passim.

<sup>125</sup> Contra what Marx seemed to imply in certain passages of *Capital*: see Ince (n 98) 107.

<sup>126</sup> Luxemburg, *Accumulation* (n 17) 452.

<sup>127</sup> *ibid.*

<sup>128</sup> Rosa Luxemburg, 'Nur ein Menschenleben!' in *Gesammelte Werke*, vol 1 (Dietz Verlag, 1972) 468 quoted in Søren Mads Mau, *Mute Compulsion: A Marxist Theory of the Economic Power of Capital* (Verso 2023) 1.

<sup>129</sup> Luxemburg, *Accumulation* (n 17) 452 (emphasis added).

<sup>130</sup> See eg Onur Ulas Ince, *Colonial Capitalism and the Dilemmas of Liberalism* (Oxford University Press 2018); Ntina Tzouvala, *Capitalism as Civilisation: A History of International Law* (Cambridge University Press 2020); Umut Özsü, 'Grabbing Land Legally: A Marxist Analysis' (2019) 32 *Leiden Journal of International Law* 215.

suprajacent waters.<sup>131</sup> Now, Ranganathan is certainly right that the freedom of the sea famously theorised by Hugo Grotius was by no means antithetical to the interests of commercial capital, of which the Dutch East India Company was a 17th-century manifestation.<sup>132</sup> What is distinctive of today's international law of the sea, however, is that those interests are combined in an ingenious layering of physical spaces to which different rules concurrently apply. Beyond a 12-nautical-mile territorial sea, states enjoy exclusive rights over seabed resources up to 350 nautical miles from the coast, as well as exclusive economic rights with respect to living and non-living resources in the waters up to 200 nautical miles from the coast,<sup>133</sup> while the surface of the oceans continues functioning as a free thoroughfare for the global trade of commodities.<sup>134</sup> The seabed beyond national jurisdiction and its resources, meanwhile, are defined by LOSC Part XI as the 'common heritage of mankind' (CHM).<sup>135</sup> Despite its communal undertones, however, Part XI represents the regulatory space within which the mining code described in the article's second section is discussed, whereby mineral-rich sections of the Area may soon become mining sites to be awarded to private corporations by the ISA. The mediation of nation states is necessary for this prospect to materialise, as Part XI sanctions exploitation by juridical persons only when the latter 'possess the nationality of States Parties or are effectively controlled by them or their nationals, when sponsored by such States'.<sup>136</sup> As Singh has noted, however, a tenuous link between private company and sponsoring state seems sufficient to meet this requirement.<sup>137</sup> In any event, the principle under which '[a]ll rights in the resources of the Area are vested in mankind as a whole'<sup>138</sup> has proven compatible with the profit-making interests of private actors, as it has not hindered a trajectory that is likely to result in commercial exploitation of the international seabed. This trend might speak to the suppleness of the CHM, which Pinto dismissed as 'an emotive metaphor whose original meaning was lost over time, if it was ever clearly apprehended'.<sup>139</sup> Pinto's words reflect the view that before amendment by the 1994 Implementation Agreement, the 1982 text of LOSC Part XI was truer to the redistributive thrust embedded in the CHM ideal.<sup>140</sup> The extent to which this is accurate should not be overstated, however. As B.S. Chimni already noted in June 1982, when the LOSC was fresh from adoption and over a decade before the Implementation Agreement, Part XI in its original formulation contained very few concessions for developing nations and the international community at large, as it was fundamentally aligned to the existing capitalist structure of the world economy.<sup>141</sup> Perhaps Luxemburg could come to the rescue here, suggesting that the CHM is part of a lineage of "'eternal" sentimental formulae' that are typical of bourgeois liberalism—a collection of 'empty, noncommittal concepts that have no meaning of their own', to which she juxtaposed 'the scientific method of historical materialism and the class

<sup>131</sup> Ranganathan (n 115) 575.

<sup>132</sup> *ibid* 579.

<sup>133</sup> LOSC (n 8) arts 55-75 on the Exclusive Economic Zone.

<sup>134</sup> *ibid* art 87. According to a UN report, over 80 per cent of goods traded all over the world are carried by ships. See United Nations Conference on Trade and Development, 'Review of Maritime Transport 2022' (2022) <[https://unctad.org/system/files/official-document/rmt2022\\_en.pdf](https://unctad.org/system/files/official-document/rmt2022_en.pdf)>.

<sup>135</sup> LOSC (n 8) art 136.

<sup>136</sup> *ibid* art 153 para 2(b).

<sup>137</sup> Singh (n 80) 391-92.

<sup>138</sup> LOSC (n 8) art 137 para 2.

<sup>139</sup> Pinto (n 77) 110.

<sup>140</sup> See also Anand (n 74) 180-96.

<sup>141</sup> BS Chimni, 'Law of the Sea: Winners Are Losers' (1982) 17 *Economic and Political Weekly* 987; See also BS Chimni, 'Law of the Sea: Imperialism All the Way' (1982) 17 *Economic and Political Weekly* 407.

struggle'.<sup>142</sup> But following Luxemburg's political writings would lead us astray, given that the article's goal is to retrieve the foundations of her economic outlook to make sense of the legal debate around seabed mining.

Now that it has become clear that Luxemburg's two aspects of capital accumulation can each be both violent and lawful at the same time, an important question ensues. If neither violence nor lawlessness is the criterion that distinguishes these two aspects of accumulation from one another, then the difference must lie in that internal-external distinction for which the concept of 'frontier' serves as a shorthand. One aspect is commodity production at home with the normalised violence against wage labour it entails, the other is military and political violence on the international plane, where capital seeks to ingest ever more outer spaces to secure its survival. The question, however, is what prompted Luxemburg to distinguish between these two as different aspects of *capital accumulation*. As observable phenomena, commodity production (factory work serving as its paradigmatic embodiment) and colonial policy (or mineral collection projects) are obviously different things. But from the theoretical perspective of capital accumulation, why do they deserve to be placed on separate conceptual planes? Luxemburg could have argued that the exploitation of wage labour, colonial policy, war, international loans, and so on are discrete aspects of capitalist accumulation, perhaps all interconnected and logically contemporaneous to one another. Instead, she spoke of *two* aspects bound by an 'organic link' that must be revealed to appreciate 'the historical career of capitalism'.<sup>143</sup> Why two, then? Answering this question requires us to engage with Luxemburg at a somewhat deeper level, examining her path to the view that imperialist ventures were a structural component of capital accumulation. This examination will bring into relief the stakes of current contestations regarding the international legal rules of the ocean floor.

### 'WE ARE RUNNING IN CIRCLES': LUXEMBURG ON ENLARGED REPRODUCTION

If we follow Harvey's and Ince's reading, contemporary struggles over seabed mining (as reflected by developments in the international law of the sea) lend support to Luxemburg's overall intuition that capital accumulation via production and exchange is structurally dependent on international action aimed at preserving or restoring conditions of profitability—and that this is true at all times, not only at the dawn of capitalism. It is in the natural order of capitalist economics, therefore, that EV makers should seek the help of nation states in their attempt to secure raw materials at cheaper prices, whatever the non-economic costs may be. But this is not very specific, and it raises the question of whether Luxemburg's thought cannot offer any sharper analytical tools in this context. My argument in this section is that it can, and I will develop it by drawing on two essays authored by Riccardo Bellofiore.<sup>144</sup> As one reviewer of the volume in which these essays appeared has put it, Bellofiore 'clearly grasps the essential features of Luxemburg's theory of crisis. This alone makes him one of the greatest researchers in Marxian economics'.<sup>145</sup> Value judgment aside, Bellofiore certainly does justice to Luxemburg in a way that few other commentators do.<sup>146</sup>

<sup>142</sup> Rosa Luxemburg, 'The Right of Nations to Self-Determination' in *The National Question* (1909) <<https://www.marxists.org/archive/luxemburg/1909/national-question/ch02.htm>>. Among instances of such formulae, Luxemburg includes the 'rights of man', 'democracy', 'national freedom', and 'equality'.

<sup>143</sup> Luxemburg, *Accumulation* (n 17) 453.

<sup>144</sup> Bellofiore, 'Introduction' (n 24); Bellofiore, 'Monetary Circuit' (n 27).

<sup>145</sup> Jelle Versieren, 'Rosa Luxemburg: Accumulation of Capital and the Perennial Crisis' (2010) 38 *Critique* 675, 679.

<sup>146</sup> For another work refuting the criticisms raised against *The Accumulation of Capital*, see Paul Zarembka, 'Rosa Luxemburg's The Accumulation of Capital: Critics Try to Bury the Message' in Jennifer M Lehmann (ed), *Bringing Capitalism Back for Critique by Social Theory* (JAI 2002).

But before we entertain his analysis, we must clearly define the central problem that Luxemburg tackles in *The Accumulation of Capital*. Such a problem is raised by the schema of enlarged reproduction as it appears in the second volume of *Capital*, where Marx considers the conditions that enable a closed economy—ie an economy that is fully capitalist in which only two classes exist, workers and the bourgeoisie—to increase its overall output of commodities without eroding the rate of profit. Without attempting to build a thorough analysis of this contested part of *Capital*,<sup>147</sup> it is sufficient to mention Marx's conclusion, according to which a closed capitalist economy could grow indefinitely as long as a balance is found between the production of machinery and the production of consumption goods.<sup>148</sup> As per Luxemburg's reformulation,

Accumulation here takes its course, but it is not in the least indicated who is to benefit by it, who are the new consumers for whose sake production is ever more enlarged. The diagram assumes, say, the following course of events: the coal industry is expanded in order to expand the iron industry in order to expand the machine industry in order to expand the production of consumer goods. This last, in turn, is expanded to maintain both its own workers and the growing army of coal, iron and machine operatives. And so on *ad infinitum*. We are running in circles ...<sup>149</sup>

The passage already contains the main question Luxemburg figuratively addresses to Marx: 'who are the new consumers for whose sake production is ever more enlarged'? It is this query that grounds her argument—buttressed by historical examples in the third section of *The Accumulation of Capital*—that for the purpose of growing, capitalist economies require non-capitalist social strata to which commodities produced in excess of internal demand can be sold, and from which raw materials to continue increasing output can be obtained cheap. It is this focus on a necessary demand that must exist outside of capitalist production, to have led Harvey and others to pass Luxemburg off as a theorist of underconsumption. As Bellofiore makes clear, however, this is a misunderstanding. To corroborate the point, Bellofiore draws attention to an aspect that Luxemburg's critics miss, namely her insistence on the monetary nature of capitalism. As is evidenced by the *Anti-Critique*, Luxemburg's economic thinking rests on a 'quite novel and original re-reading of Marxian theory as based upon a class and macro-monetary picture of the economy. Capitalist production is for profit, in the form of "glittering bullion", and a constantly growing profit.'<sup>150</sup> As a result, two conditions are required for this kind of production to take place: 'first, that the labour market and the production process are such that the extraction of labour and surplus labour may be fulfilled'.<sup>151</sup> Second, this extraction must be validated by the market in commodities. In Luxemburg's words, there must exist 'the possibility of selling the goods produced by the workers to recover, *in money*, the capitalist's original expenses as well as the surplus value stolen from the labour forces.'<sup>152</sup> These two conditions form the first aspect of capital accumulation theorised by Luxemburg, the one via commodity production and exchanged that is normalised by bourgeois laws. Foregrounding the monetary component of this process, however, brings the necessity of the second aspect of accumulation into view, as well as its

<sup>147</sup> See eg Christian Gehrke, 'Marx's Reproduction Schemes and Multi-Sector Growth Models' (2018) 25 *European Journal of the History of Economic Thought* 859.

<sup>148</sup> Marx (n 23) 488–523.

<sup>149</sup> Luxemburg, *Accumulation* (n 17) 330.

<sup>150</sup> Bellofiore, 'Introduction' (n 24) 8.

<sup>151</sup> *ibid.*

<sup>152</sup> Luxemburg, *Antikritik* (n 22) 49 quoted in Bellofiore, 'Introduction' (n 24) 8.

strict correlation to the first aspect: ‘gross social capital continually realizes an aggregate profit in money-form, which must continually grow for gross accumulation to take place. Now, *how can the amount grow if its component parts are always circulating from one pocket to another*’,<sup>153</sup> namely from the capitalists to the workers and vice versa, or between capitalists themselves? The required money for every transaction that occurs within a capitalist economy, in fact, ‘comes out of the capitalists’ pockets’<sup>154</sup>—be it the money for buying new machinery, for purchasing luxury consumer goods, or even for the subsistence of the workers. And since the ‘means of subsistence already belong to the capitalists in the form of the commodity stock before exchange, by virtue of capitalist relations, according to which all commodities—except for labour-power—come into this world as the property of the capitalist’,<sup>155</sup> the money wage ultimately ‘returns whence it began—into the pockets of the capitalists as a class.’<sup>156</sup>

Here is the crux of the matter, the ‘deadly serious problem’<sup>157</sup> with Marx’s scheme of enlarged reproduction that Luxemburg identifies. For capitalists can always receive back the money they advance to finance their demand and that of the working class, but no source of additional money to support the demand for a growth in production can spring from their midst. Importantly,

[t]his demand must be ‘productive’, capitalistically productive, starting a new production of surplus value. The problem cannot be overcome by suggesting that enlarged reproduction capital buys new means of production or employs new workers. The reason is straightforward: these new means of production and these new workers are paid by capital itself, so any amount of money ‘coming in’ because of the new investment or the new consumption is ‘flowing out’ from the same capitalist class. And it cannot but be so in a ‘pure’ capitalist world, in which money springs only from the capitalist class.<sup>158</sup>

The second aspect of accumulation becomes a logical necessity, from this perspective. Capital needs to find an external source of money against which the surplus in commodity output is realised, ‘because it is a strict impossibility for the capitalist class as a whole to gain an excess of money receipts over the money injected into the system’.<sup>159</sup> From this monetary standpoint, it is clear that the problem is *not* underconsumption on the part of the working class. As Bellofiore notes, Luxemburg’s scheme does not envisage any savings or liquidity preference on the part of the working class. On the contrary, ‘the money wage bill is *entirely* spent buying the output of the section of the firm sector producing the means of subsistence.’<sup>160</sup> And given that whatever amount of money workers receive to buy commodities always comes from (and ultimately returns to) the capitalist class, their consumption cannot ground *enlarged* reproduction, which is to say, systemic growth. Whence a fundamental problem: *where does the money for enlarged reproduction come from?* It is a question that ‘is loaded with dynamite’, as two commentators have put it,<sup>161</sup> yet one to be

<sup>153</sup> Luxemburg, *Antikritik* (n 22) 73 quoted in Bellofiore, ‘Monetary Circuit’ (n 27) 55.

<sup>154</sup> Luxemburg, *Antikritik* (n 22) 52 quoted in Bellofiore, ‘Monetary Circuit’ (n 27) 55.

<sup>155</sup> Luxemburg, *Antikritik* (n 22) 52 quoted in Bellofiore, ‘Monetary Circuit’ (n 27) 56.

<sup>156</sup> Luxemburg, *Antikritik* (n 22) 53 quoted in Bellofiore, ‘Monetary Circuit’ (n 27) 56.

<sup>157</sup> Bellofiore, ‘Introduction’ (n 24) 9.

<sup>158</sup> *ibid.* 10.

<sup>159</sup> *ibid.*

<sup>160</sup> Bellofiore, ‘Monetary Circuit’ (n 27) 56.

<sup>161</sup> Meghnad Desai and Roberto Veneziani, ‘Rosa Luxemburg’s Critique of Marx’s Schemes of Reproduction: A Re-evaluation and a Possible Generalization’ in Riccardo Bellofiore (ed), *Rosa Luxemburg and the Critique of Political Economy* (Routledge 2009) 25.

complemented by a crucial clarification. Remember that Luxemburg followed Marx in considering a society in which only two classes exist, namely capitalists and workers, whereby any amount of money available to the latter is always advanced by the former. In his commentary, Bellofiore amends this assumption to offer what is arguably a more realistic picture of contemporary economics. He does so by bringing banks into the picture, a category that must be distinguished from firms (i.e. Luxemburg's 'capitalists') because the latter 'produce commodities but do not produce money', while banks 'produce money ... but do not produce commodities'.<sup>162</sup> At first blush, the problem of financing effective demand may appear non-existent as a result of this shift: by creating money *ex nihilo*, banks can provide any monetary input that is required by subsequent increases in the production of commodities within a given economy. But this is a dead-end, for the problem posed by Luxemburg simply reappears in a different guise. Indeed, companies must resort to banks for the money they need to start production, which they obtain in the form of loans. And how can those companies 'pay interest on the loan, in money, to banks, since what they can obtain back from the commodity market is only the 'initial' finance?'<sup>163</sup> Crucially, this is a question that obtains at the level of *total* capital, which is the one on which Luxemburg operated. Her interest did not lie in how individual capitalists increase their capital stock but in the reproduction of 'gross *social* capital as a concrete amount, which finds its tangible expression in aggregate capitalist profit and its distribution'.<sup>164</sup> Any single capitalist can realise its surplus in production by capturing new sections of the market in which they operate. But when the magnitude of total capital is at issue—or, in keeping with my assumption, when a fully capitalist economy is considered in its entirety—how can more money return to banks than it was originally disbursed, in the absence of any monetary input from outside the economy in which commodities are produced and exchanged? This is a contentious issue among theorists of the monetary circuit such as Bellofiore himself.<sup>165</sup> While the query cannot receive an answer here, it also cannot be ignored altogether, if the aim is to develop a view of current developments concerning seabed mining that is informed by Luxemburg's view on capital accumulation.

### SEABED MINING AS A VEHICLE FOR GROWTH: 'A QUESTION LOADED WITH DYNAMITE'

From a Luxemburgian perspective, the struggle over the ocean floor and its attendant legal fray must be analysed by considering questions of effective demand and realisation of commodity output against money receipts. The first step in that direction requires locating the total capital that is at stake in these dynamics. In fact, one must speak of the total capitals in the plural form, because in the race to the minerals of the seabed, European and American actors compete with one another in the shade of a supply-chain 'stranglehold'<sup>166</sup> exerted by their mutual trading partner and fiercest strategic competitor. Although other countries have larger shares of production, in fact, processing operations to turn minerals into EV battery components are highly concentrated in China.<sup>167</sup> In 2022, for instance, the Democratic

<sup>162</sup> Bellofiore, 'Monetary Circuit' (n 27) 61.

<sup>163</sup> *ibid* 62.

<sup>164</sup> Luxemburg, *Antikritik* (n 22) 73 quoted in Bellofiore, 'Monetary Circuit' (n 27) 54.

<sup>165</sup> See Bellofiore, 'Monetary Circuit' (n 27) 62.

<sup>166</sup> Sophia Kalantzakos, 'The Race for Critical Minerals in an Era of Geopolitical Realignments' (2020) 55 *The International Spectator* 1, 3.

<sup>167</sup> International Energy Agency, 'Critical Minerals' (n 31) 7–8. Unless indicated otherwise, the following data are based on this report.

Republic of the Congo accounted for over 70 per cent of the global production of cobalt, but China refined more than 75 per cent of the world's cobalt.<sup>168</sup> Data are even starker when it comes to manganese: while mine production by South Africa and Gabon combined is almost four times as much as that of China,<sup>169</sup> the latter produces 97 per cent of battery-grade manganese sulphate.<sup>170</sup> In respect of nickel, the world's largest miner, Indonesia, recently overtake China in terms of refined output. As the International Energy Agency highlights, however, this result was achieved thanks to the financial support offered by Chinese companies.<sup>171</sup> This is the backdrop to both Norway's and TMC's keenness on exploiting the seabed. The former makes no secret that opening its continental shelf for mineral collection is part of a strategy to supply *European* EV manufacturers with raw materials for which they currently depend on countries like China.<sup>172</sup> On its part, TMC's business plan explicitly aims to erode China's domination of the EV supply chain to the advantage of *US* manufacturers,<sup>173</sup> in what looks like a response to a warning issued by the US federal government that '[t]he dependency of the United States on foreign sources of critical minerals creates a strategic vulnerability' for its economy.<sup>174</sup> This view has also spurred a renewed enthusiasm for land-based extraction, as witnessed by the incentives for onshore mining in US territory introduced by the 2022 Inflation Reduction Act.<sup>175</sup> But TMC argues that these incentives cannot obviate the underdevelopment of US mineral supply chains, and may result in hampering the domestic EV market rather than promoting its growth.<sup>176</sup> While European and US manufacturers feel pressured to catch up with China, however, they are also pitted against each other in the scramble for EV market shares. A 2019 report of the CNN, for instance, noted that German carmaker Volkswagen would need 'to fend off new challengers from China and Silicon Valley' to succeed in the EV market and avert the decline of 'a company with 665,000 employees and annual revenue of \$265 billion'.<sup>177</sup> This is not to say that the US, Chinese, and European economies exist in sealed compartments barring economic and industrial interactions between one another—China's predominant role in the supply chain being but one piece of evidence that the opposite is true—or that competition does not occur *within* these blocks. What I claim is instead that a better perspective on current struggles over seabed mining can be gained by considering the problems faced under China's increasing economic competitiveness by two total capitals, namely that of the US economy and that of the European economy. In empirical terms, it may be impossible to define the magnitude and contours of these capitals. This is particularly true in the European case: what region does the Norwegian Ministry of Petroleum and Energy have in mind, when it claims that seabed mining 'would help *Europe*' make the green transition happen?<sup>178</sup> If one were to take membership in the European Union as the crucial criterion, for instance,

<sup>168</sup> *ibid* 56.

<sup>169</sup> Statista, 'Mine production of manganese worldwide in 2021, by country' <<https://www.statista.com/statistics/1244066/global-manganese-production-volume-by-country/>>.

<sup>170</sup> International Energy Agency, 'Global EV Outlook 2023' (n 49) 60.

<sup>171</sup> International Energy Agency, 'Critical Minerals' (n 31) 55.

<sup>172</sup> Milne and Bryan (n 11).

<sup>173</sup> The Metals Company, 'Revolutionizing the Mineral Supply Chain for Fast Growing EV Demand' (17 May 2021) <[metalsco.canto.com/pdfviewer/viewer/viewer.html?v=InvestorVideos&portalType=v%2FInvestorVideos&column=document&id=8404914u417bh39qj8qbnr67&suffix=pdf&from=landingpage](https://metalsco.canto.com/pdfviewer/viewer/viewer.html?v=InvestorVideos&portalType=v%2FInvestorVideos&column=document&id=8404914u417bh39qj8qbnr67&suffix=pdf&from=landingpage)>.

<sup>174</sup> US Department of Commerce, 'A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals' (2020) 6 <[https://www.commerce.gov/sites/default/files/2020-01/Critical\\_Minerals\\_Strategy\\_Final.pdf](https://www.commerce.gov/sites/default/files/2020-01/Critical_Minerals_Strategy_Final.pdf)>.

<sup>175</sup> 'Inflation Reduction Act' US Congress (2022) H.R. 5376.

<sup>176</sup> The Metals Company, 'Inflation Reduction Act Clean Vehicle Credit' (August 2022) <<https://metals.co/inflation-reduction-act-clean-vehicle-credit/>>.

<sup>177</sup> Charles Riley, 'The Race to the Electric Car Is Just Getting Started' *CNN Business* (August 2019) <<https://www.cnn.com/interactive/2019/08/business/electric-cars-audi-volkswagen-tesla>> (emphasis added).

<sup>178</sup> Milne and Bryan (n 11) (emphasis added).

Norway itself would be excluded from the group. In any case, setting the boundaries of what constitutes the European (or US) total capital is beside the point. What matters is that the concept is essential to preserve a ‘macro-social’<sup>179</sup> approach to the analysis of economic phenomena, an approach that Marxian political economy privileges over inquiries concerning the individual behaviour of single capitalists. To say it with Luxemburg, ‘Marx’s economic theory stands and falls with the concept of gross social capital ... whose invisible movement initiates all visible movements of individual sums of capital.’<sup>180</sup> Adopting this perspective reminds us that the US and European economies are bound by the ‘hidden laws which organize *the whole of society* in the midst of the confusion of private enterprise’, namely the ‘objective invisible rules of capitalist accumulation’.<sup>181</sup>

As expressions of three total capitals that confront one another, so to speak, the Chinese, European, and US economies also represent external markets for each other.<sup>182</sup> Now, it must be noted that Luxemburg conceives of the divide between internal and external markets ‘in terms of social economy rather than of political geography.’<sup>183</sup> This is because non-capitalist strata and modes of production can and do exist within economies that are largely informed by capitalist principles. Hence her observation that ‘from the point of view of economics, [early 20th-century] Germany and England traffic in commodities chiefly on an internal, capitalist market, whilst the give and take between German industry and German peasants is transacted on an external market as far as German capital is concerned’.<sup>184</sup> As she worked towards refuting Marx’s schema of enlarged reproduction in a closed economy, her point was that demand for growth must come from money that has *not* been advanced by the capitalist class of that economy (as wages or otherwise). From this standpoint, it makes perfect sense to argue that peasant labour feeds a demand originating outside the capitalist class of a given country. From the perspective of a capitalist economy, however, it matters not that the realisation of surplus value (and therefore continued enlarged reproduction) is enabled by capitalist or non-capitalist social formations, *as long as these formations have access to money that has not been advanced by domestic capital*. My assumption is that, today, few forms of production in Europe and the US happen outside the capitalist structure that informs these economies. Obviously, this gives rise to the question of what such a structure looks like—a question that Luxemburg answers in clear terms. In line with her macro-monetary approach, she argues that

Two basic structures are characteristic of the capitalist mode of production. Firstly, a general exchange of goods, i.e. nobody receives anything from the social stock of commodities without the means of purchase—money. Secondly, the capitalist wage system, i.e. the majority of the working population, must exchange its labour power with capital to acquire means of purchase, while the propertied class receives its means of subsistence only by exploiting this relationship ... Every capitalist must advance the necessary money capital to purchase his labour force ... in order to keep his enterprise going. But this money

<sup>179</sup> Bellofiore, ‘Monetary Circuit’ (n 27) 54.

<sup>180</sup> Luxemburg, *Antikritik* (n 22) 73 quoted in Bellofiore, ‘Monetary Circuit’ (n 27) 54.

<sup>181</sup> Rosa Luxemburg, ‘The Accumulation of Capital—An Anti-Critique’ in Paul Le Blanc and Helen C Scott (eds), *Socialism or Barbarism: The Selected Writings of Rosa Luxemburg* (Pluto Press 2010) 186 (emphasis added).

<sup>182</sup> For the argument’s purposes, it is unnecessary to take a stance concerning the structure of China’s economy and its susceptibility to being called ‘capitalist’. See Jamie Peck and Jun Zhang, ‘A Variety of Capitalism ... with Chinese Characteristics?’ (2013) 13 *Journal of Economic Geography* 357. The only relevant aspect is that China represents a potential (and potentially gigantic) source of demand that lies outside the US and European economies.

<sup>183</sup> Luxemburg, *Accumulation* (n 17) 366.

<sup>184</sup> *ibid.*

returns, down to the last penny, into the pockets of the capitalists as a class ... since it is the capitalists who sell means of subsistence to the workers as commodities.<sup>185</sup>

Paraphrasing Luxemburg, we might say that workers (and, in fact, anyone who does not belong to the capitalist class)<sup>186</sup> need capitalists to obtain the money that will afford them a range of commodities including their means of subsistence. Capitalists, however, also need workers, as the latter reappear in the monetary circuit in the guise of consumers. As they form the greatest consumption output existing within the economy, in fact, workers return to capitalists the money that capitalists themselves spent in production, allowing accumulation (at the level of single capitalists) and simple reproduction (at the level of the total capital) to take place. Following this approach, a fully capitalist society is one in which the entirety of money in circulation is transmitted from (banks to) entrepreneurs to workers at the beginning of each production cycle, and back to capitalists (and to banks with interest) at the end of it. Obviously, this assumption ignores the public sector as a source of consumption and employment, but this is in line with Luxemburg's model, which disregards as irrelevant any expenditures funded through deductions from profits or wages.<sup>187</sup> As the funds available to governments originate in either taxes or borrowing, in other words, the money of which they consist does not contradict the circuit Luxemburg describes—it simply deviates from it. Based on these criteria, it seems perfectly acceptable that Europe and the US be considered fully capitalist societies for analytical purposes, as some existing literature already (if implicitly) does, for instance when it comes to examining different models of capitalism.<sup>188</sup> This assumption provides a useful conceptual standpoint to examine whether a surge in EV sales fuelled by seabed mining can contribute to fulfilling the green transition's promise of delivering growth. To succeed in that task, Luxemburg suggests, the European and US total capitals would need to realise their industrial (EV) outputs against an effective demand backed by money that originates outside those economies.

By applying this lens to the prospect of a lawful extraction of minerals from the ocean floor, two possible scenarios emerge. The first is that retrieving raw materials from the seabed (eg in the Norwegian continental shelf and/or in the Clarion Clipperton Zone) results in the establishment of supply chains that circumvent China, thereby enabling EV makers based in Europe and/or the US to lower their production costs. Such a development may stave off potential shortages of effective demand for EVs that are *internal* to either of those regions.<sup>189</sup> This is because, as Western media often explain, manufacturing EVs is too expensive for US and European carmakers to turn sufficient profits, which prevents those same carmakers from offering competitive prices that would draw large pools of customers

<sup>185</sup> Luxemburg, 'Anti-Critique' (n 182) 184–85.

<sup>186</sup> As Søren Mau has argued, the two-class society that obtains under capitalism is constituted by the divide 'between those who control the conditions of social reproduction and those who are excluded' from direct access to such conditions. See Mau (n 128) 129. Accordingly, Mau notes that '[b]ecause not everyone who depends on capital for their survival works (or has the ability to do so)', it is more accurate to speak of 'the proletariat' (rather than 'the workers') as the class that is subjected to 'the capitalists'. *ibid* 130.

<sup>187</sup> See Bellofiore, 'Monetary Circuit' (n 27) 57–58.

<sup>188</sup> See eg Thomas Kalinowski, *Why International Cooperation Is Failing: How the Clash of Capitalisms Undermines the Regulation of Finance* (Oxford University Press 2022).

<sup>189</sup> At the time of writing, for instance, EV sales are stagnating in both regions. See European Automobile Manufacturers' Association, 'New car registrations: -18.3% in August 2024; BEV market share down by almost one third' (19 September 2024) <<https://www.acea.auto/pc-registrations/new-car-registrations-18-3-in-august-2024-bev-market-share-down-by-almost-one-third/>>; Keith Naughton, 'EV Inventories Hit Record High in US as Cars Pile Up on Dealer Lots' *Bloomberg* (14 December 2023) <<https://www.bloomberg.com/news/articles/2023-12-14/ev-inventories-hit-record-high-in-us-as-cars-pile-up-on-dealer-lots>>; Lawrence Hodge, 'So Many Unsold Teslas Are Piling Up That You Can See Them From Space' *Jalopnik*, 7 June 2024) <<https://jalopnik.com/so-many-unsold-teslas-are-piling-up-that-you-can-see-th-1851526312>>.

away from combustion-engine vehicles.<sup>190</sup> Reducing sale prices (further to a decrease in production costs) could help address this problem, averting realisation deadlocks whereby US and European consumers do not absorb their respective industry's output of EVs. *This prospect does not contemplate growth via a transition to electric mobility*, however. All it does is envisage a shift within the European and US economies, 'a family arrangement of the entrepreneurial class'<sup>191</sup> causing capital to migrate from the market in combustion-engine vehicles to EVs. At the level of single capitalists, such a transition may occasion demise for some companies and capital accumulation for others. Perhaps this helps explaining why various EV makers, as well as state representatives, vocally oppose seabed mining.<sup>192</sup> For those who have secured reportedly advantageous deals with land-based suppliers of critical minerals, the opening of new deposits deep into the bottom of the oceans would only herald increasing competition, including from the capitalist bloc to which they belong.<sup>193</sup> As far as the total capital is concerned, however, no enlarged reproduction can happen by way of a similar shift.<sup>194</sup> In a second scenario, the outcome of negotiations on the legal regime of the Area could alter the dynamics of capital accumulation along the divide between the US and European total capitals. Should the mining code not come to fruition while extraction from the Norwegian continental shelf gets underway, for instance, European manufacturers may become able to charge lower prices for the EVs they produce, thereby seizing shares of the US market previously occupied by US companies. In this eventuality, growth of the European total capital may be driven by an additional source of demand for its EVs coming from US consumers. Or the opposite can happen, for example if seabed mining in the Area receives the ISA's approval and US-friendly mining entities unlock access to bigger deposits than their pro-European competitors.<sup>195</sup> It is obviously impossible to predict if either of these two non-mutually exclusive scenarios will materialise, and if so, to what extent.

What can be observed is instead that regardless of any economic rivalries that exist between Europe and the US, both these economies are under pressure due to China's

<sup>190</sup> See eg Neil Winton, 'Europe's Wobbling EV Mandate Will Force Hard Choices' *Forbes* (19 May 2024) <<https://www.forbes.com/sites/neilwinton/2024/05/19/europes-wobbling-ev-mandate-will-force-hard-choices/>>. For an academic study advancing the same claim, see Adrian König et al, 'An Overview of Parameter and Cost for Battery Electric Vehicles' (2021) 12 *World Electric Vehicle Journal* 21.

<sup>191</sup> Luxemburg, *Antikritik* (n 22) quoted in Bellofiore, 'Monetary Circuit' (n 27) 55–56.

<sup>192</sup> See Éléonore Lèbre et al, 'Mining on Land or in the Deep Sea? Overlooked Considerations of a Reshuffling in the Supply Source Mix' (2023) 191 *Resources, Conservation and Recycling* 106898, 2.

<sup>193</sup> Germany made its opposition known after Volkswagen and Mercedes struck an agreement to source EV raw materials from land mines in Canada. See 'Volkswagen, Mercedes-Benz team up with Canada in battery materials push' *Reuters* (23 August 2023) <<https://www.reuters.com/business/autos-transportation/volkswagen-teams-up-with-canada-battery-materials-push-2022-08-23/>>. France also opposes seabed mining. Renault, the French carmaker whose majority shareholder is the French government, signed deals to obtain EV battery minerals from mines in Finland and Morocco. See 'Terrafame and Renault Group agree on long-term supply of sustainable nickel sulphate' (*Terrafame*, 2 December 2022) <<https://www.terrafame.com/newsroom/news/terrafame-and-renault-group-agree-on-long-term-supply-of-sustainable-nickel-sulphate.html>>; 'Morocco's Managem to supply Renault with cobalt for EV batteries' *Reuters* (1 June 2022) <<https://www.reuters.com/article/morocco-autos-cobalt-idU5L1N2XO1SK>>.

<sup>194</sup> This is also true of another development that would foster sales by US and European EV makers, namely an increase in the share of the social capital allocated to workers. This measure, which would take the form of real wage rises, entails a decrease of the rate of profit, which explains why capitalism is driven in the opposite direction, as Luxemburg was keenly aware. See Bellofiore, 'Introduction' (n 24) 10–13. In any event, wage rises could accompany a drop in EV sale prices or intervene at a later moment, i.e. in a subsequent cycle of production and exchange. In this eventuality, it is possible that workers would devote part of their higher income to buying EVs, even if combustion-engine vehicles remained a viable option, and possibly a cheaper one. The EV industry would thus increase in size, but once again, and this is crucial, it would do so by way of a shift that is internal to the capitalist class. The same consideration applies to any other scenario favouring EVs vis-à-vis combustion-engine vehicles, for example the adoption of regulations banning further commercialisation of the latter. See eg German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, 'EU member states pave way for zero-emission cars from 2035' (28 March 2023) <<https://www.bmv.de/en/pressrelease/eu-member-states-pave-way-for-zero-emission-cars-from-2035>>).

<sup>195</sup> Obviously, if seabed mining gets underway, technological improvements could also play a part in lowering production costs for the actors who introduce them.

increasing industrial prowess.<sup>196</sup> It is at this juncture that the crux of the matter comes into view. Under current conditions of production, a major problem for the European and US economies is that any increase in EV sales partly contributes to feeding the Chinese growth trajectory. As was already noted, this is because China largely controls the electric battery supply chain, so that each EV made by European or US manufacturers and sold to European or US consumers entails a money transfer from either region to China. What is more, in a development that is not unrelated to such a supply-chain dominance,<sup>197</sup> Chinese companies have emerged as serious competitors in the production and sale of EVs, given their ability to offer cheaper prices than US and European carmakers.<sup>198</sup> Whatever the conditions that have enabled it may be,<sup>199</sup> such a challenge has prompted US and European regulators to impose weighty tariffs on the import of Chinese EVs.<sup>200</sup> It is in the context of this triangular dynamic that efforts such as those of TMC and the Norwegian government must be understood, intended as they are to bypass China by turning the ocean floor into a source of minerals for US and European EV makers. Any strategy that envisages seabed mining as a solution to stop the eastward monetary flow embedded in the EV market, however, is a temporary relief that falls short of addressing a deeper economic problem—that of the realisation, against money receipts, of the vehicles put on sale following subsequent production cycles. This is nothing but a mirror image of the question of European and US growth via the EV market. In the immediate future, European and US manufacturers may be content with the prospect of producing and selling cheap, but for the EV industry to become a source of enlarged reproduction at the level of the European or US total capitals, EVs will have to be sold to buyers whose money is *not* advanced by European or US capitalists in the form of wages, buyers whose money comes from some external source. The second aspect of accumulation theorised by Luxemburg—the one that is historically associated with imperialist ventures of various kinds—represents a response to precisely this kind of problem. How could any capitalist economy ever grow, she asks in *The Accumulation of Capital*, if no additional source of demand backed by money came into view that realised the surplus output from a given cycle, i.e. that bought the commodities produced with the surplus money transformed into capital at the end of the *previous* cycle? Her answer is that it could not. Only a source of demand located outside the economy in question could set growth in motion. Mindful of this insight, one must concede that a reaction chain linking seabed mining to an uptick in the EV markets of Europe and the US is by no means out of the question. Along this chain, a shift that is internal to European and US capitalism would unfold. Moreover, European and US companies could stop diverting money towards China to source critical minerals for electric batteries. To envisage growth along this reaction chain,

<sup>196</sup> See Wei Liang, 'Making Sense of the EU–China Relations: Partners and Rivals' in Bibek Chand and Lukas K Danner (eds), *New Challenges and Opportunities in European-Asian Relations: Navigating an Assertive China and a Retrenching U.S.* (Palgrave Macmillan 2021); Satoru Mori, 'US Technological Competition with China: The Military, Industrial and Digital Network Dimensions' (2019) 26 *Asia-Pacific Review* 77.

<sup>197</sup> See A Anantha Lakshmi et al, 'China's Plan to Sell Cheap EVs to the Rest of the World' *Financial Times* (5 June 2024) <<https://www.ft.com/content/c77fefa3-7f47-429b-8149-50aa60f39498>>.

<sup>198</sup> Bukowski (n 30).

<sup>199</sup> See eg International Council on Green Transportation, 'China's New Energy Vehicle Industrial Development Plan for 2021 to 2035' (2021) <<https://theicct.org/wp-content/uploads/2021/12/China-new-vehicle-industrial-dev-plan-jun2021.pdf>>.

<sup>200</sup> The Biden administration has gone so far as to increase the US tariff rate to 100 per cent. See The White House, 'Fact Sheet: President Biden Takes Action to Protect American Workers and Businesses from China's Unfair Trade Practices' (14 May 2024) <<https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/14/fact-sheet-president-biden-takes-action-to-protect-american-workers-and-businesses-from-chinas-unfair-trade-practices/>>. For EU tariffs, see Commission Implementing Regulation (EU) 2024/1866 of 3 July 2024 imposing a provisional countervailing duty on imports of new battery electric vehicles designed for the transport of persons originating in the People's Republic of China [2024] C/2024/4646.

however, one must envisage that more and more EVs continue being sold following a succession of ever larger production cycles. The ‘question loaded with dynamite’<sup>201</sup> posed by Luxemburg thus returns: *sold to whom?* Who will provide the monetary input for hundreds of millions of new EVs to be exchanged on the market—so that, at the end of each production cycle and overall, more money is returned to financial institutions than they advanced at the beginning of said cycle to increase commodity output? It seems intuitive that this scenario would require a country like China to represent not a competitive supply of cheaper EVs, but rather an enormous market for the US and European output. The same goes for highly populated countries like India, of course, but these speculations already take us too far. What matters is that a quandary has been exposed, for an international law that seems poised to allow extraction within and without the limits of national jurisdiction. If European and US capitalists lay their hands on seabed minerals thus driving down prices for critical minerals, what money will eventually back the demand that is needed to realise the ensuing explosion in the production of EVs? Asking this simple question makes us suspicious that the international law of the sea is missing the mark, in paving the way for seabed minerals to enter capitalist production in Europe and the US. For it is obviously true that the struggle to bring extraction in the ocean floor within the sphere of international legality is a struggle over free nature, as critical environmental scholarship à la Moore claims. And yet, tapping into the ocean floor’s deposits would postpone facing a central problem belied by the discourse of the green transition, which is to say, that of finding a source of effective demand backed by money that can absorb the spiralling commodity output which accompanies enlarged reproduction at the level of the total capital.

## CONCLUSION

Access to raw materials is a key component of industrial production, and the struggle over seabed mining, with all its legal implications, appears as a new frontier in which the ambitions of US and European capitalists confront one another and a mounting competition coming from China. Luxemburg’s oeuvre is too overarching in scope not to be relevant to such a dynamic. Read in conjunction with environmental Marxism, *The Accumulation of Capital* makes us envisage the ocean floor as a reservoir of cheap nature, which the international law of the sea makes (or could make) available to private corporations in an attempt to reboot capital accumulation, especially in Europe and the US. But a blind application of Luxemburg’s categories might prove misleading. If we adhere too strictly to the dichotomy between peaceful-legal production at home and unlawful violence on the international plane, for instance, we may start doubting that Luxemburg’s distinction has much epistemological relevance. Instead, a closer reading of her economic thinking points in another direction. Drawing on the *Anti-Critique* to clarify the problem Luxemburg was trying to solve, Bellofiore makes us appreciate that the second aspect of accumulation is a necessity that emerges out of the monetary nature of capitalism and its need to secure an ever-greater effective demand. For a capitalist economy to undertake a stable pattern of growth, an ever-increasing output in the production of commodities must be realised against money receipts. More: it must be realised against money that has not been advanced by the capitalist class at the beginning of the production cycle. This is why capital constantly seeks to conquer outer social strata: the second aspect of accumulation reaches outside the economy, allowing for the total capital (not just for single capitalists or sectors) to grow. It can use direct or structural violence, it can rest on legal or unlawful measures, *as long as it finds external sources of*

<sup>201</sup> Desai and Veneziani (n 162) 25.

demand backed by money that are capable of absorbing subsequent increases in production. This is what the imperialisms of old intended to achieve, after all: not only did they aim to secure access to cheap nature, as Moore would put it; they also sought realisation outlets for their growing commodity output.<sup>202</sup>

Using this lens, we can see that mining the ocean floor's deposits is not going to solve all the problems that affect the US and European EV markets. Admittedly, such a development could facilitate a set of transitions that are internal to US and European capitalism. In particular, it could allow US and European producers to lower production costs and therefore become more competitive vis-à-vis the fossil-fuel mobility industry. For the EV market to become an engine (or a battery) of growth in Europe and the US, however, buyers outside of those two economies are needed.<sup>203</sup> In other words, the crucial question remains of who will pay for the growing amount of EVs that would be produced with the minerals recovered from the bottom of the sea—and this is a query that the international law of the sea cannot answer. Accordingly, the seabed may be a frontier of extraction, technology, private profit and law. As a catalyst of the green transition, however, is it also a frontier of accumulation for the European and US total capitals? Perhaps unexpectedly, Luxemburg points at a much more cautious answer than some enthusiastic supporters of greening the economy would have it.<sup>204</sup>

### ACKNOWLEDGEMENTS

I would like to thank Christine Schwöbel-Patel, Serena Natile, Rosie Woodhouse, and the two anonymous reviewers for their comments and suggestions. I am also grateful to Latha Varadarajan, Lys Kulamadayil, and all the participants in the two workshops that the organisers of this special issue convened in 2022. This article could be published under an open-access licence thanks to the support of the Cluster of Excellence 'Contestations of the Liberal Script' (Project-ID: 390715649), funded by the German Research Foundation (DFG).

<sup>202</sup> See Luxemburg's analysis of Egypt's assimilation into European capitalism by way of international loans, which were repaid by way of more and more money being 'extorted from the peasants'. Luxemburg, *Accumulation* (n 17) 436.

<sup>203</sup> Reflecting on the possible applications of Luxemburg's thought to contemporary capitalism, Joseph Halevi has argued that the US is not concerned with realisation. See Joseph Halevi, 'Imperialism Today' in Riccardo Bellofiore (ed), *Rosa Luxemburg and the Critique of Political Economy* (Routledge 2009). Due to its ability to coerce other nations into diverting sizeable shares of their commercial gains towards the US financial system, claims Halevi, the US has become able to endure its status as 'a globally importing economy generating a systemic external deficit and with growing gaps in its own industrial base'. *ibid* 126. This view is certainly plausible, but it does not detract from the analysis developed in the article. The caveat which qualifies Halevi's argument—namely that, in the future, the crucial question for the US will be how to continue compelling other nations 'to come to the rescue without questioning US international [monetary] privilege' (*ibid* 127)—only adds a chronological element to Luxemburg's scheme. That the US can now resort to political and military means to evade an economic problem, in other words, 'only pushes the problem from this moment to the next', i.e. to when this situation will no longer last. Luxemburg, *Antikritik* (n 22) 57 quoted in Bellofiore, 'Monetary Circuit' (n 27) 58.

<sup>204</sup> See eg Ilya Epikhin et al, 'Seabed Mining: A \$20 Trillion Opportunity' (*Arthur D Little*, August 2024) <<https://www.adlittle.com/en/insights/viewpoints/seabed-mining-20-trillion-opportunity>>.

© The Author(s) 2025. Published by Oxford University Press.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact [reprints@oup.com](mailto:reprints@oup.com) for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact [journals.permissions@oup.com](mailto:journals.permissions@oup.com).

London Review of International Law, 2025, 13, 429–454

<https://doi.org/10.1093/lril/lraf020>

Article