

Industry, War and Stalin's Battle for Resources; The Arctic and the Environment, Lars Rowe, (2021) London: I. B. Tauris, 240 pp. Pbk \$39.95, Hdbk \$120, Ebook 35.95 ISBN: 978-1-78453-7951 (Hdbk).

This is a study about nickel and the political geography of the extractive commodities industry in the High North. Through the acute of the nickel industry in Pechenga/Petsamo Nickel/Kolosjoki Lowe explores a series of competing political geographies which defined the legitimacy of an Arctic space of ocean, mountain, tundra and of substrate space of nickel ore, of the built geographies of industrial node and network – of mine, refinery, production complex. Lowe explores overlapping claims of legitimacy on localised spaces and connects the extractive industry and political manoeuvring to international capital and the operating theatre of the global nickel market in the networked sense. The book explores an interesting series of inversions, a Finland geography granted but then coveted by Russia, a Canadian capital investment in a state then hostile to Allied powers, an opening to the ocean for Finland now closed. Each chapter opens and closes doors such that the essentially empty, constant geography of the Petsamo valley becomes a revolving door of inverted state, capital and material interests, constantly changing orientation and outcome while remaining anchored to the most immobile of human geographies, the mining of ore.

The prospect historically of Liinakhamari ice-free port giving Finland a genuine naval, maritime, mercantile access to the Arctic Ocean is the maritime geography underpinning all inland operations. This dependence opens a series of overlapping interests making this a section of the Arctic cartography which is wholly satisfying to no one state. Rowe navigates this complex geography of a northern circle mountain port betwixt contemporary Norway, Finland and Russia. Lowe explores a geographic utilitarianism of industry in the Arctic through Finnish exploration, Canadian investment, German appropriation and finally forced development under Stalinist Russia. Petsamo then conforms to that Soviet production trope of foreign capital, captured territory and foreign technology all undergirding the Soviet production system.

While iron and steel take the limelight in 20th Century industrial analyses, the role of nickel in the development of hardened steel and stainless steel is an unsung protagonist. In an era of supply-chain risk and semiconductor mineral risk, the nickel of the early 20th Century played an analogous role to rare earth minerals in the contemporary world. Lowe's work focuses on the differing ownership structures and corporate entities through which the built environment of the extractive industry was controlled. Here, we see the development of a form of physical geography, reshaping the natural geography around it, while the ebbs and permeations of human governance and ownership structures placed their own labels on the structure throughout differing era of its lifespan.


We follow the development of the industrial interest itself alongside the institutions which shaped it, first development by the International Nickel Company of Canada INCO, then exploring the corporate nature of the Canadian-British enterprise as an instrument of economic warfare. A 40-year exclusive rights deal to the mineral output disrupted by the Second World War and the various possible state actors claims on the resource German IG Farben then used the pretence of Finnish nationalisation of the complex through the war effort as a chance to expand into it as a corporate owner. Then the slow rot setting in of Sovietisation as *Gorno-metal-lurgicheskii kombinat Pechenganikel* was formed under *Glavnikelkobalt* with a power station built by Finnish Imatran Voima and transferred to *Kolenergo* a subsidiary of *Minelektrostantsii*. Ultimately the Soviet ministries of Metallurgical Industry and Non-Ferrous Metals presided over the final facility. There are shadows here of Norilsk and Nornikel, as the development of the formerly Finnish at Kolosjoki site served as a prototype for the in-demand metal through the Cold War and the form of production that the Soviet Union was to take in the extractive industries, reflected in other industrial sites across the Russian Arctic.

An excellent history of nickel in the High North, the reader though may not have picked up this book without seeing the word 'nickel' in the title. The book itself is short, but attends to its subject matter well, in good detail and with strong analytical and narrative form. The narrative does go a bit too quickly in places, rushing into the next segue before properly exploring the subject matter. Perhaps the commitment to the Soviet part of the history though left the author

less room to explore other spatialities which emerged from the text and which often yielded promising tangents never explored. Without the limitation on Soviet history, the study could have followed a path towards global commodities and international capital analyses of the metal and its Arctic surrounds. Mostly though this is a good exoneration of the expense in Nordic states to fund individual monograph projects and to constantly revisit history as an ongoing, reiterative process of refining understanding. The author's delving into archives here reveals new perspectives on a war-time industry that became a Cold War power play. Looking back on this period from the perspective of 21st Century environmentalism, of post-industrial European development and from the position of the constructivist European experiment on one side coexisting with the stubborn Russian immobility on the other demonstrates the persistent balancing act of the Nordics.

The dual-sovereign, quasi-state-capital nature of the built environment of the town of Nikel, like much of the actualities of economic life in the Arctic, demonstrates that the realities of interstate cooperation are often more realistic than the neat nationalist lines of cartographers in their respective capitals. Centring on the material nickel industry, we end up with a refractive quadrilateral structure of states competing over the narrative construction of legitimacy playing really a secondary spatial game underneath the physical resource and global commodity network-node relationship. The focus on spatiality of the physical mineral geography,

of both the metal material and of the space surrounding the metal give way to an odd history where the mineral is aligned with the company, the state aligns with the geography and the two then meet in an awkward quad embrace, segmented by the rivers and the ocean which ultimately made life and industry there possible. As the book concludes though, the physical geography is the reality, and the Soviet façade could never compete with reality.

Straddling geographical essentialism and geographic determinism in industrial resources and metallurgical commodities, the nickel valley coalesces states, institutions and competing histories, such that the nickel more controlled them than they controlled the nickel. There is much here to parallel with Arctic development and mining capital in the contemporary Arctic. The manner in which the materiality of the mined metal determines the social policy and built environment outcomes of those whose lives are directly impacted by the environment. There are also many parallels here with contemporary geopolitics and geoeconomics, the resources determining greater state, post-state and supra-state games, and with the persistence of Russia's 19th Century state institutionalism coexisting in the Arctic with the post-nationalist European economies of Finno-Scandiwegia. (Tristan Kenderdine  Hansa Press, Lviv, Ukraine (tristan@hansa.press))

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