

The Fishmeal Revolution: The Industrialization of the Humboldt Current Ecosystem. By Kristin A. Wintersteen. Oakland: University of California Press, 2021. 246 pp. Hardcover, \$95.00. ISBN: 978-0-520-37963-3.

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Reviewed by Jonathan R. Barton

Fishmeal may seem a tangential product when presented alongside more commented food products such as meat, dairy, soy and cereals, and even among fisheries products such as salmon, shrimp, tuna and cod. However, this is precisely the point, or the problem. By highlighting final products or specific crops or species, it is easy to lose a holistic perspective on the food chain or ecosystem. A systems perspective is necessary for histories of sustainability and environmental histories more generally, regardless of the particular product, place, or conflict that is presented as the central feature or issue. Kristin A. Wintersteen's *The Fishmeal Revolution* provides precisely this broader perspective of a product that is never the star of the show, but that has, at the same time, been almost omnipresent in the evolution of foodstuffs during the modern period.

In this short book, the author provides insights not only into the product itself, but, most importantly, how it ties into national and sectoral development, trade and commerce, urban development, and marine ecosystem dynamics alongside El Niño and La Niña climatic cycles. In this sense, there is a clear intent to mesh multiple dimensions of the sustainability of fishmeal as an intermediate product within global trade, as well as the role of its constituent fisheries in marine ecology and economic development; it presents a web of interacting socio-ecological and socio-economic dimensions that account for the economic histories and environmental histories of Peru and Chile since the mid-nineteenth century. The wealth of the sources (fifty pages of them, alongside the 125 pages of main text) that have been uncovered and are presented in the book is evident in the extensive notes that provide insights into the archives that have been consulted in Peru and Chile, as well as in the USA and Europe. In the following paragraphs, I have identified two main contributions, and a theme that might have been developed further since some seeds were sown along the way.

The sub-title of the book, *The Industrialization of the Humboldt Current Ecosystem*, is a clear reflection of the intentions of the text. It provides a systems approach to fishmeal, by connecting global commodity chains and the marine ecology of the Humboldt Current. By documenting the industrialization of the whole chain, from the temperature of surface waters for primary biomass production to fish

capture and processing and use in final products in the global north, there is careful management of the intricacies of these different, yet interconnected sub-systems. While it is easy to stress the importance of research on the sustainability of socio-ecological systems, which are in turn nested systems at multiple scales, the means for doing this are not simple or reductive. Stressing complexity, interconnectivity and the tipping points of ecosystems and political and economic systems requires both interdisciplinarity and a sensitive approach to multiple causalities. When a historical framework is also incorporated, the ability to navigate these turbulent currents requires attention to detail (verticality), linkages (horizontality), and shifts over time (historicity); the author achieves this with considerable skill. Gunderson and Holling's concept of panarchy comes to mind: interconnected systems that grow, consolidate, decline, and reconfigure through time, and in complex dynamics. 'Boom and bust' has been a feature of these fisheries as stocks are overfished, or as they move across territorial boundaries, whether beyond the Exclusive Economic Zone into international waters, or from one EEZ to another. It reveals the fundamental contradictions and resulting pressures from the organization of space according to nation-state geopolitics rather than ecosystem geographies.

Secondly, the historiography of Latin American commodities has focused principally on minerals and agricultural products; however, the role of fisheries products is also important to highlight. The history of Latin America's insertion into colonial, neocolonial, and post-colonial trading networks and value chains is also critical for understanding the development of political and social systems. In this regard, fishmeal provides a lesson on the role of this commodity in shaping the political economies of Chile and Peru, as the author makes the connections between economic growth, investment, and fisheries policies. Examples are also drawn from earlier experiences in the US East Coast menhaden and California sardine fisheries, revealing the 'boom and bust' cycles of climatic effects and overfishing. The book reveals the importance of fisheries for national development, with key state institutions, such as CORFO in Chile, playing critical roles in opening-up opportunities for foreign investors, for workers in coastal cities, and for basic sustenance programmes. These institutional histories of state promotion and strong relations with public firms (e.g. PescaPerú) and private firms (e.g. Compañía Pesquera Chilena), and later through privatization and the rise of larger conglomerates, provide a useful reminder of the predominance of state development strategies, driven by structuralist and neostructuralist logics. The local and translocal impacts are also well developed, through the case studies of Chimbote, Talcahuano and Iquique, where the stench of fish processing was equated with

opportunities and riches. For each commodity revolution, there are decaying urban landscapes – ‘sacrifice zones’ – left behind by the ebbs and flows of ecosystems.

Finally, a theme that might have been developed further. The role of aquaculture and its demand for fishmeal changed the destinations for production from the 1980s. This is touched upon but not developed further, despite the ‘boom’ of salmon production in Chile that changed the composition of fisheries production within two decades, from low-cost export of fishmeal to high value salmonids. There is also the more recent evolution in replacing fishmeal in salmon feed with soya and products – due to criticism of the poor protein conversion ratios involved – which is yet another blow for the fishmeal sector.

I am sure that there are also lessons to be drawn from the fishmeal revolution for other commodities, hence the connections between this detailed, interdisciplinary historical assessment and other commodities and sacrifice zones in the region. The ability to weave these economic, political, and ecological histories together as nested, panarchical, evolving systems is a skill that the author provides us with, as a case study in how similar research histories of sustainability might be crafted.

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*Selling the American People: Advertising, Optimization, and the Origins of Adtech. By Lee McGuigan. Cambridge, MA: MIT Press, 2023. 348 pp., 6 x 9 in, 9 b&w illus. Paperback, \$50.00. ISBN: 978-0-262-54544-0.*

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Reviewed by Cynthia B. Meyers

Too often, advertising is studied as a set of cultural artifacts—especially print ads—rather than as an industry intertwined with media content companies. Lee McGuigan usefully focuses on the distribution of advertising—that is, the selection and buying of ad space and time. Both the industry’s boosters and its fiercest critics have referred to this process as buying “eyeballs” or audience attention. Boosters celebrate the monetization of attention as promoting growth and profit—not just for advertisers, but also for media outlets, because ad revenues subsidize