JOURNAL OF WORLD-SYSTEMS RESEARCH

ISSN: 1076-156X | Vol. 22 Issue 2 Pages 583-589 |
DOI 10.5195/JWSR.2016.676 | jwsr.org

Review of *The Tragedy of the Commodity: Oceans, Fisheries and Aquaculture*

Stefano B. Longo, Rebecca Clausen, and Brett Clark. 2015. *The Tragedy of the Commodity: Oceans, Fisheries and Aquaculture*. New Brunswick, New Jersey and London: Rutgers University Press. 256 pages, ISBN 978-0-8135-6577-4 Paper ($24.95).

Stefano B. Longo, Rebecca Clausen, and Brett Clark provide a political economy of the commodification of the oceans through a set of case studies on fisheries and aquaculture. The result is a commendable work that weaves together theoretical and empirical insights on the impact of commodification of the seas on food supplies, human relations and the environment.

A central thesis is that the often articulated "too many fishers chasing too few fish" as the source of resource depletion by conventional economics is a misconception that ignores the social context of commodification. Instead of a tragedy of the commons, we have a tragedy of the commodity. Longo, Clausen and Clark contend that whether it is the shift to individual transferable quotas in industrial fisheries, the move from artisanal fisheries to ranching and farming for bluefin tuna in the Mediterranean, or the transition from salmon fisheries towards farming, the tragedy of the commodity endures. Privatization of fisheries and fish farming may internalize costs and promote efficiencies. It also promotes greater commodification, social inequality and environmental damage. Aquaculture segregates each stage of the life cycle of a salmon (e.g. hatcheries, smolt rearing facilities and grow-out sites) into separate production units. This modifies a species, and extends the carbon footprint by stretching production and trade over longer distances.

Longo, Clausen and Clark provide a socio-ecological account of the impact of commodification in Chapter 2. In critiquing the simplistic metaphor of the tragedy of the commons in conventional economic literature as an explanation for overfishing, they state "…[o]ur

framework emphasizes the growth imperative of capitalism and the role of commodification in producing institutional rules by which nature and, for example, the commons are governed. Ecological systems – whether deemed commons or any other label – are never altogether free of social institutions, in a free-for-all of so-called open access (31)." They articulate a well-known and ignored insight from social science accounts on the role of social institutions in regulating access to the commons. The problem is not the commons; it is commodification and the primacy of the economic. Longo, Clausen and Clark draw from the writings of Marx and Polanyi (1957) as they critique the primacy of the economic in capitalist societies. From Marx, they note the impact of commodification on human and ecological relations. Since commodities reflect use values and exchange values, the dominance of the latter over the former results in greater quantification of commodity production. The commodification of sea fisheries and aquaculture is part of the metabolic rift that ruptures cycles of birth, reproduction and death. Each crisis in accumulation is met with more of the same. The socio-ecological consequences are more inequality and environmental damage. Longo, Clausen and Clark also argue, following Polanyi, that the emergence of land, labour and capital as 'fictitious commodities' follows the separation of the economic from other social institutions and its primacy as the explanatory variable for market capitalism. The embedded nature of the economic in social relationships prior to capitalism is lost. In a progressive social framework, the economic must be re-embedded and serve the interests of the majority. These arguments shape their empirical insights in the remainder of the book.

In Chapter 3, Longo, Clausen and Clark critically examine the use of the tragedy of the commons metaphor as an explanation for over entry into fisheries and the subsequent dissipation of economic rent. It is taken as a truism. Inefficiencies and resource waste can only take place. Instead of this Hobbesian environment, a secure set of property rights in fishing limits entry to fewer participants. Here, quotas are set and traded amongst a group of quota holders for a given species. This is the basis for Individual Transferable Quotas (ITQs). These are used heavily in Australia, New Zealand, Iceland and Canada as well as in other countries. Longo, Clausen and Clark contend that while ITQs may (in some cases) prevent resource depletion, this is at the expense of increases to social inequality in coastal communities. They draw from a large body of work showing how restrictions to fisheries not only exclude community members, but also widens the gap amongst participants – dividing fishers into wage-workers and 'sea lords' as was the case for Iceland. Absentee owners from distant communities often emerge to take control over fishing interests. The logic behind ITQs is premised upon the rational actor in economics. As an economist colleague of mine once uttered: 'Fishermen are firms.' This ignores the heterogeneity of coastal communities where livelihood fisheries prevailed as the tragedy of the commons became ascendant at the policy level (see Davis 1996). The tragedy of the commons mantra ushered in

social exclusion and accumulation fisheries for those left in the fishery. In such fisheries, it becomes necessary to catch more fish in order to pay the costs of larger vessels.

In Chapter 4, Longo, Clausen and Clark focus upon the bluefin tuna in the Mediterranean. This fishery shifted in the 20th century from the artisanal trap fisheries connected to coastal communities to industrialized purse seine fisheries connected to ranching and farming. In the process, bluefin tuna moves through global commodity chains that produce sushi and sashimi for the Japanese and other long-distance markets. Added to this is a disconnection of the bluefin tuna from its ecological cycles. The study of bluefin tuna focuses on Sicily and Sardinia. In a fascinating historical sociology, the bluefin tuna fishery is traced from the Roman Empire to medieval Europe to industrial capitalism. While such a royal prerogative governed the bluefin tuna fishery, members of coastal communities guided the tuna fisheries through the *tonnara*, or trap fishery, since the 18th and 19th century when royal and church authorities sold or leased their rights to individual families. The trap fishery catches live tuna that may stay in traps for a several days or a week at a time. Longo, Clausen and Clark note that the tonnara also regulated effort and harvesting in accord with ecological cycles. The bluefin tuna is embedded in the patriarchal culture of coastal communities that restricts fishing to males. Bluefin tuna as food is important to livelihoods, and community members share the resource. This still exists in the 21st century, but after WWII the industrialization of the bluefin tuna fishery gradually eroded these practices. The transformation of tuna in export markets from 'cat food' to 'luxury food' coincided with industrial fisheries that became part of long-distance global food chains. Vessels using purse seines and long lines covered the Mediterranean in search of tuna. These accumulation fisheries ushered in increasing catches from the 1970s to the 1990s, followed by a decline ever since. Over the same time frame, the trap fisheries declined. The ensuing metabolic rift, though, is being met with more of the same. Tuna ranching and farming have emerged and receive inputs from commercial fleets such as purse seiners. Tuna are caught and placed in towing cages and sent to ocean ranches where they are fed until being slaughtered for the sushi and sashimi markets in Japan, and elsewhere. Longo, Clausen and Clark point to a tonnara (tuna fishing community) in Sardinia that has become part of this global food chain. "Global market conditions makes becoming one more link in the global commodity chain the most profitable – and therefore logical – decision for proprietors (96)." This entire chain threatens the ecology of the bluefin tuna and other species. More fish are required to feed ranched tuna. In addition, towing fish to fish pens adds to the carbon footprint. The shift from the tonnare to commercial fishing and ranching involves more 'technological fixes' to enhance accumulation. This practice only exacerbates inequalities and contributes to ecological problems.

In Chapter 5, Longo, Clausen and Clark focus upon the shift from salmon fisheries to salmon farms. The commodification of salmon through coastal farms dates back to Norway in the 1960s; moreover, Norwegian salmon eggs since the early 1990s have been used in salmon farming in

Ireland, Scotland and Chile (Phyne 1999), as well as in British Columbia. Early in this century, Atlantic farmed salmon exceeded production of Pacific species in Chile (four times the amount) (Phyne 2010), and British Columbia.

In their analysis of the shift from salmon fisheries to farming in British Columbia, Longo, Clausen and Clark demonstrate the impact of standardized salmon farming production on coastal communities and the resulting metabolic rift. Salmon fisheries, like the tuna fisheries, have undergone a transition from artisanal to industrial fisheries and attendant stock declines. Longo, Clausen and Clark discuss the role of First Nations in British Columbia and the sustainable usage of salmon fisheries for food, trade and ceremonial purposes that paid attention to the life cycle of the five Pacific salmon species. This underwent transformation with rural and urban capitalist industrialization in the 19th and 20th centuries. The development of hydroelectric dams on salmon rivers and salmon hatcheries had consequences for the biology and ecology of wild salmon (see Taylor 1999). Salmon became manufactured in hatcheries for unsustainable commercial fisheries resulting in decreased returns to salmon rivers. As fisheries commercialized, quotas for more capital-intensive vessels produced another tragedy of the commodity. A more enduring change is salmon farms. The life cycle of the salmon is, like chickens in factory farms, segregated into stages. Hatcheries produce eggs, grow-out sites in fresh water are in place for smolts, and sea cages are for adult salmon. The process can take up to two-years. The salmon farming industry argues that it is sustainable as farmers avoid the tragedy of the commons connected with fishing, internalize costs and connect production to consumer demand. Longo, Clausen and Clark counter that farmed salmon only contributes to social inequality and the metabolic rift. Farmed salmon consume antibiotics to control diseases, waste from salmon farms enters the marine environment, and traditional users of the resource (such as First Nations) are displaced. Nor does the recent advent of genetically modified salmon heal the metabolic rift. Salmon are genetically modified to enhance growth rates and lower feeding costs. Feeding costs have long been the highest input costs of production (Phyne 1999). Longo, Clausen and Clark show that genetically modified salmon may minimize economic costs, but add to environmental ones as salmon are hatched in Eastern North America and sent to land-based grow-out sites in Panama before entering global markets. Like ranched tuna, farmed salmon are part of long-distance global food chains that increase the carbon footprint.

Whether it is commercial fisheries or aquaculture, the commodification of the oceans increases social inequality and the metabolic rift. Longo, Clausen and Clark take up this point in Chapter 6. For them, the problem is not commodities. Political economists have argued since Marx's discussion of pre-capitalist modes of production that commodities exist in all human societies. The problem emerges when commodification dominates all other aspects of human relations. This leads to a rupture of the economic from other social relations and its elevation above

such relations – a point that Polanyi (1957) also emphasizes. The commodification of public resources such as fisheries is also concomitant with treating the wider ecology as a 'free resource'. Economists have historically excluded nature and other 'things' that cannot be quantified from wealth. This mantra combined with capital accumulation presents us with our current plight.

In Chapter 7, Longo, Clausen and Clark provide guidelines for healing the social and ecological rifts wrought by commodifying the seas. Commodification can only be addressed if economic relations are re-embedded with other social relations. Longo, Clausen and Clark point to decentralized commodity markets as a basis for promoting social and ecological justice. Re-embedding fisheries in community-supported institutions are one such basis for redistributing wealth and maintaining fisheries production in accord with ecological cycles. This is something that can be shared with other sectors such as agriculture and forestry. The promotion of livelihoods as opposed to accumulation points to a more sustainable socio-ecological future. This does not entail a return to a patriarchal past (as in the traditional tuna fisheries of Sardinia and Sicily), but it does mean that we can draw from such lessons as we move forward. Longo, Clausen and Clark state: "…we have much to learn from the ways in which the tonnara and indigenous salmon fishing systems operated. Both these examples highlight productive systems developed in relation to ecological systems and cycles. They were initially directed to meet human sustenance needs, rather than the accumulation of capital (199)." Science and technology can be mobilized for systems such as polyculture that combine different fish species (such as finfish and shellfish) in aquatic farms. In China, the integrated fish-rice culture dates back to the 12th century. The result is a mimicking of natural biodiversity. Longo, Clausen and Clark argue that also we need to farm species at lower trophic levels. Plant-eating finfish and filter-feeding species such as mussels entail lower use of marine resources than carnivores such as salmon. In the long-term, these must be part of a wider social change that subordinates the relentless pursuit of commodification to the production and distribution of food in a manner that promotes more social equity and environmental sustainability.

While being an excellent account of the impact of commodification of fisheries and aquaculture on human and ecological relations, the analysis by Longo, Clausen and Clark is by no means thorough. Due to my research background in fisheries, and the global political economy of salmon aquaculture, I focus upon those cases in order to illustrate this point.

First, while Longo, Clausen and Clark's analysis of increasing social inequality due to the rise of ITQ fisheries is well founded, the nuances of specific cases demand caution in assessing ITQs. Apostle, McCay and Mikalsen (2002) in their analysis of ITQs in Nova Scotia show that despite the rise of social inequality, pressures exist to keep ITQs within coastal communities and prevent their transfer to 'outsiders'. While there are regional concentrations in ITQs, nothing like a full-fledged market system has emerged such as is the case in the Mid-Atlantic coast of the United States. Of course, some of the participants in the study by Apostle et al. (2002) expressed

concern over future greater concentration of ITQs in fewer hands. In addition, the owner-operator principle in Canadian fisheries prevents non-fishers from holding quota. Despite this, in recent years, this principle has come under strain and the types of accumulation and metabolic rift discussed by Longo, Clausen and Clark may come to bear on this Canadian fishery.

Second, the work of Nathan Young and Ralph Matthews (2010) on salmon farming in British Columbia was published five years before Longo, Clausen and Clark's study. This work is surprisingly not referenced despite the fact that salmon farming in British Columbia looms large as one of their case studies. While emphasizing issues such as the attitudes of academic professionals and the general public towards the risks of salmon farming, Young and Matthews (2010) also critically examine the impact of commodification on First Nations and other residents of the coastal communities of British Columbia.

Finally, although the commodification of salmon has indeed followed the imperatives of global capitalism, the trajectory most likely differs depending on the political regime in question (Phyne 2010). Norway's salmon aquaculture emerged under a social democratic regime that provided dispersed and small-scale development along the coast; this did not promote the economies of scale, geographical concentration and subsequent ecological disaster that befell neo-liberal Chile in 2007 when infectious salmon anemia (ISA) eliminated over half of all salmonid production. To be sure, economies of scale and greater ecological risk have emerged in Norway in this century, and Norwegian capital bears much of the responsibility for risks in other jurisdictions. This should not detract us from the multiple paths towards salmon aquaculture industrialization that took place in the 1980s and 1990s. Economic globalization faces different political regimes in different countries and the metabolic rift that Longo, Clausen and Clark mentions, takes place at an *uneven* level. Since their analysis of salmon aquaculture centers largely on British Columbia, they could have focused upon the impact of the British Columbian (which have shifted from social democratic to neoliberal forms since the rise of the salmon aquaculture industry) and Canadian states upon the metabolic rift there.

Despite these points, this is a very well-researched and excellent piece of scholarship on the socio-ecological impact of global capitalism on commodification in fisheries and aquaculture. It is well argued and accessible for upper-level undergraduate and graduate students. This work is refreshing in the midst of both neoliberal and post-modern dismissals of political economy. It shows the continuing relevance of critical inquiry into the material foundations of human existence, our inextricable linkages to nature, and the need to forge a path for a more equitable and sustainable future.

References

Apostle, Richard, Bonnie McCay, and Knut H. Mikalsen. 2002. *Enclosing the Commons: Indivdiudal Transferable Quotas in the Nova Scotia Fishery*. St. John's: Institute of Social and Economic Research.

Davis, Anthony. 1996. "Barbed Wires and Band Wagons: A Comment on ITQ Fisheries Management." *Reviews in Fish Biology and Fisheries* 6(1): 97-107.

Phyne, John. 1999. *Disputed Waters: Rural Social Change and Conflicts Associated With the Irish Salmon Farming Industry, 1987-1999*. Aldershot: Ashgate.

Phyne, John. 2010. "A Comparative Political Economy of Rural Capitalism: Salmon Aquaculture in Norway, Chile and Ireland." *Acta Sociologica* 53(2): 160-180.

Polanyi, Karl. 1957. *The Great Transformation: The Political and Economic Origins of Our Time*. Boston: Beacon Press.

Taylor, Joseph E. III. 1999. *Making Salmon: An Environmental History of the Northwest Fisheries Crisis*. Seattle, WA: University of Washington Press.

Young, Nathan and Ralph Matthews. 2010. *The Aquaculture Controversy in Canada*: *Activism, Policy and Contested Science.* Vancouver: University of British Columbia Press.

John Phyne
Department of Sociology
St. Francis Xavier University
jphyne@stfx.ca
https://www.researchgate.net/profile/John_Phyne