



# Buying vitamins: Newfoundland cod liver oil and the real subsumption of nature, 1919–1939



Daniel Banoub

Department of Geography, Memorial University, 232 Elizabeth Ave., St. John's, NL A1B 3X9, Canada

## ARTICLE INFO

### Keywords:

Real subsumption  
Consumption  
Science  
Political economy  
Fisheries

## ABSTRACT

The discovery of new use-values in commodities by science and the creation of new needs in consumers by marketing is a capitalist imperative. Drawing on archival work that examines the effects of the scientific discovery of vitamins on Newfoundland's interwar cod liver oil industry, this paper locates these processes as a moment in an expanded conception of the real subsumption of nature under capital. I identify *intensive* and *extensive* logics of circulation that map onto the division between absolute and relative surplus-value, on the one hand, and the formal and real subsumption of nature, on the other. I conclude by arguing that understanding the full historical geography of real subsumption, by extending its scope beyond production and its periodization beyond the neoliberal era, is essential for reckoning and resisting the contemporary destruction of the world-ocean.

*“The exploration of the earth in all directions, to discover new things of use as well as new useful qualities of the old; such as new qualities of them as raw materials, etc.; the development, hence, of the natural sciences to their highest point; likewise the discovery, creation and satisfaction of new needs arising from society itself [...] is likewise a condition of production founded on capital.”*

Karl Marx, *Grundrisse* (1973: 409).

## 1. Introduction: from abomination to elixir

Over the course of the first two decades of twentieth century, scientific research into human nutrition and disease isolated the presence of a new class of substances in food that were essential to human growth and health: “vitamines,” “accessory food factors,” or, more familiarly, “vitamins.” Serving as a “catchword which meant something even to the uninitiated” (Maltz, 2013: 1018), vitamins reshaped the relationship between food and nutrition, which had a profound effect on cod liver oil consumption. Cod liver oil was an important and effective, but often detested, medicine. As Norwegian cod liver oil producer and chemist F.P. Møller noted, “cod-liver oil was not a desirable article of consumption; indeed to put the matter plainly, it was an abomination, and no one could have taken it willingly, even once, not to speak of day after day and month after month” (1895: lv). Prior to the discovery of vitamins, colour, taste, and smell were the primary

criteria used to define “first grade” medicinal cod liver oil (Davies, 1930; Macpherson, 1937).<sup>1</sup> During the interwar period, however, vitamin potency emerged as the primary source of value, which upset the traditional calculations of value and price. As Sir Walter Fletcher, Secretary of Britain's Medical Research Council, noted, “From a medical point of view it has been proved that the market price of cod liver oil has no relation to its value for the only purposes for which it is bought.”<sup>2</sup>

Using archival and secondary sources, this paper examines the material effects of the science of vitamins on Newfoundland's interwar cod liver oil industry. I locate this empirical narrative as a moment in an expanded conception of the real subsumption of nature under capital. First outlined by William Boyd, Rachel Schurman, and Scott Prudham in 2001, the real subsumption of nature refers to the intensification of biological productivity under a productive logic of cultivation. Building on Marx's understanding of absolute and relative surplus-value in *Grundrisse*, I identify *intensive* and *extensive* logics of circulation that map onto the conceptual division between the formal and real subsumption of nature. I argue for an expanded conception of real subsumption that pushes the scope of analysis beyond production and its periodization beyond the neoliberal era. Intensifying biological productivity through biotechnology is critically important, but it does not represent the only strategy pursued by capital in the relentless search for relative surplus-value.

E-mail address: [d.banoub@mun.ca](mailto:d.banoub@mun.ca).

<sup>1</sup> The Rooms Provincial Archives Division (TRPAD), MG 73, Box 9, File 7, W.A. Munn to W.B. Grieve, 2 August 1917; TRPAD, MG 73, Box 9, File 7, H.R. Brookes to Grieve, 3 August 1917; TRPAD, GN 34/2, Box 146, File: Cod Liver Oil, Munn to H.B.C. Lake, 12 November 1931.

<sup>2</sup> TRPAD, MG 73, Box 12, File 3, Walter Fletcher to Victor Gordon, 19 August 1921.

With this in mind, this paper is organized as follows. The first section introduces and critiques the subsumption of nature thesis, arguing for an expanded conception that recognizes circulation and the discovery of new needs and use-values. The second section traces the history of scientific research on human nutrition and vitamins, examining the discovery of vitamins in cod liver oil, the quantification of potency, and its eventual substitution by artificial sources. The third section examines the effects of this research on the economic geography of cod liver oil production in Newfoundland between 1919 and 1939. I conclude my argument by thinking through what my empirical narrative contributes to the understanding of the contemporary destruction of the world-ocean in the Capitalocene.

## 2. Rethinking real subsumption

In 2001, Boyd, Schurman, and Prudham made the singular contribution of introducing the dual concepts of the formal and real subsumption of nature under capital to geographical political economy. Drawing on Marx's (1976) distinction between the formal and real subsumption of labour, and the attendant concepts of absolute and relative surplus-value, Boyd et al. (2001) introduce the concepts of the "formal" and "real subsumption of nature" to begin unpacking the industrial dynamics of resource industries (Table 1). The formal subsumption of nature, which operates under the logic of extraction, is when firms "confront the biophysical world as an exogenous set of stocks or flows, biophysical processes, and material characteristics" (Boyd et al., 2001). Unable to transform or "override" (Weis, 2013) these obstacles, firms must adapt their accumulation strategies to the already-existing biogeophysical characteristics of specific resources. The real subsumption of nature, in contrast, is premised on a logic of cultivation and refers to "systematic increases in or intensification of biological productivity" (2001: 562). Capital, in other words, circulates *through* nature, reshaping biological processes to accelerate the pace of accumulation.

In the decade and a half since its original publication, the real subsumption of nature has been operationalized primarily by two literatures. First, it has been cited by critical resource geographers as useful heuristic for discussing how the materiality of resources constrains and enables capital accumulation (Bakker and Bridge, 2006; Bumpus, 2011; Ekers, 2015; Huber, 2013; Kaup, 2008; Labban, 2014; Prudham, 2005, 2007; Sneddon, 2007). Second, it has been taken up by the neoliberal natures literature as a helpful concept to describe biotechnological interventions aimed at increasing biological productivity since the 1970s (Bakker, 2010; Birch et al., 2010; Castree, 2008; Mansfield, 2004; Pellizzoni, 2011; Robertson, 2012). More recently, diverse debates around the Anthropocene (Moore, 2016), the bioeconomy (Goldstein and Johnson, 2015), planetary urbanization (Wilson and Bayón, 2017), and capital as subject (Arboleda and Banoub, 2016; Starosta and Fitzsimons, 2017) have reinvigorated interest in the real subsumption, of both labour and nature, as a theoretically-robust way to interpret the dynamics of capitalist value relations over space and time (see, for example, the special issue in *Society & Natural Resources* edited by Carton et al. (2017), and the article forum in *Dialogues in Human Geography* responding to Kenney-Lazar and Kay, 2017).

Despite being mobilized by a variety of scholars, Boyd et al.'s

framework has been consistently critiqued for overemphasizing the distinction between biological and nonbiological resources and the corresponding productive logics of cultivation and extraction (Boyd and Prudham, 2017; 879-80; Smith, 2007: 15-6). As demonstrated by the analysis of diverse resources, from freshwater fish (Sneddon, 2007) to biomining (Labban, 2014) to solar salts (Delgado, 2017), these distinctions are often hard to mobilize during the empirical analysis of the subsumption of nature under capital. For example, Labban has argued that biomining, or the use of microbes in the extraction of metals from mineral ores, completely upsets the distinction between biology and nonbiology, extraction and manufacturing, waste and resources (2014: 561). This critique is a profound challenge to Boyd et al.'s framework. Indeed, as the Anthropocene literature has shown, geological processes are in fact subject to human manipulation (Castree, 2014; Yusoff, 2013), and the conscious manipulation of geophysical processes by geoengineering might constitute the latest frontier in the real subsumption of nature.

Challenging the biology-geology distinction in Boyd et al.'s framework is important, but I argue that it risks unintentionally reproducing a different problem with their framework. Boyd et al., along with many of their critics, locate real subsumption too narrowly in production. This reading is centered on the concepts of relative and absolute surplus-value (1976: 432) and the formal and real subsumption of labour (1976: 645) as developed in Volume 1 of *Capital*. In that volume, Marx focuses on production, discussing realization and distribution "only in so far as this was necessary for the understanding of the second stage, the capitalist production process" (Marx, 1978: 109). As David Harvey (2013) has shown, Marx shifts gears in his other work to examine circulation and realization, offering a new – and critically important – perspective on his theory of capital. In *Grundrisse*, for example, Marx offers a more expansive development of absolute and relative surplus-value that are correlated to extensive and intensive logics of *circulation*. This has profound implications for our understanding of formal and real subsumption, which contributes to the earlier critiques and might help push the analysis in new directions (Table 2).

The creation of *absolute* surplus-value by capital, Marx argues in *Grundrisse*, is conditional on "an expansion, specifically a constant expansion, in the sphere of circulation" (1973: 407). Without the realization of surplus-value congealed in commodities through exchange, the engine of capital stalls. Therefore, the creation of surplus-value at one point requires the creation of surplus-value at another in order to enable exchange. This, in part, explains capital's relentlessly expansionary dynamic. "The tendency to create the *world market*," he concludes, "is directly given in the concept of capital itself" (1973: 408). Capital expands through the reinvestment of surplus-value in production. The absolute expansion in the nodes of consumption, by incorporating ever-more distant lands and peoples into the circuits of capitalist production, is therefore an important accumulation strategy. The production of absolute surplus-value, in other words, is premised on an *extensive* logic of circulation.

The production of *relative* surplus-value, in contrast, is dependent upon an *intensive* expansion of circulation. Rather than expanding absolutely in terms of space, the production of relative surplus-value requires the creation of new consumption *within the already existing sphere of circulation*. In *Grundrisse*, Marx gives three methods: "Firstly quantitative expansion of existing consumption; secondly: creation of new needs propagating existing ones in a wide circle; *thirdly*: production of *new* needs and the discovery and creation of new use values" (Marx, 1973: 408). The discovery and creation of new qualities or use-values within already existing commodities through colonial exploration and the development of science is therefore a "condition of production founded on capital" (Marx, 1973). The production of new needs or the discovery of new qualities, therefore, opens new realms over which capitalists can compete to extract relative surplus-value. The intensification of *circulation* described above, I argue, must be placed alongside the biotechnological intensification of *productivity* in the

**Table 1**  
Boyd et al.'s (2001) subsumption of nature framework.

Subsumption of nature	Productive logic	Biophysical properties	Accumulation strategies
Formal	Extraction	Nonbiological	Exploration, substitutionism, rent seeking
Real	Cultivation	Biological	Intensification of biological productivity

Download English Version:

<https://daneshyari.com/en/article/7353448>

Download Persian Version:

<https://daneshyari.com/article/7353448>

[Daneshyari.com](https://daneshyari.com)