On Exceptionalism

Chile saltpetre— locally known as Chilean caliche and, in scientific terms, sodium nitrate— has accumulated on the Atacama Desert probably since the Miocene, through marine-fog precipitation and sea-spray oxidation/desiccation, followed by gravitational settling of airborne NaNO3, in the hot-dry desert atmosphere[1]. The cycles of torrential rain and extreme aridity of the El Niño and La Niña streams have favored its accumulation over the centuries, producing extensive deposits in the desert pampas.

This chemical compound has been extracted since the imperializing 19th century to be used as fertilizer and for the production of explosives, especially in England, Germany and later in the United States. Symbol of an extractive industry, it was approximately between 1830 and 1920 the main source of income in Chile and object of international territorial disputes. Saltpetre was the resource for the production of two-thirds of all fertilizer on the planet, in response to the growing population in the Northern Hemisphere, as a result of industrial revolutions. Its use as raw material for making explosives was then added, during the growing military demands due to increased independence wars until the eve of the First World War, in the 20th century.

Chilean saltpetre was mainly exported to Europe and USA through long voyages crossing the Pacific and Atlantic oceans, thus also being part of a rich maritime history in the 19th and 20th centuries. Its commercial peak was historically linked to the last chapter of the evolution of sailing merchant vessels. Perseverance, uncertainty and willingness to take risks were elements of this maritime navigation that were present in the transport of this crystal between America and Europe, with all the consequences that this brought with it.

The development of transoceanic trade and colonialism proliferated at the mercy of the trade winds until the beginning of the 20th century, when German chemists Fritz Haber and Carl Bosch invented what is now called the *Haber Process*: a procedure to synthetically fabricate saltpetre by producing ammonia from the atmosphere on an industrial scale. This was probably the most important industrial procedure ever developed during the 20th century. Consequently, the Chilean saltpetre industry was doomed and decayed into what are now dozens of deposits and desolate *oficinas*, or centres for the saltpetre industry lying on the great Atacama plain; some of them declared Patrimony of the Humanity by the UNESCO.

Probably the extraction of this nitrate will never be as prosperous as in those times. However, saltpetre is undergoing a current boom due to the high price of iodine (derived from saltpetre) and the emergence of biofuels, in addition to the demand for nitrogen-based fertilizers in growing populations, such as China and India. Wind power, for its part, is already considered as a key resource to achieve clean and renewable energy.

Life and death are intertwined in the chemistry of this crystalline salt and the physics of air currents, from the drought of Atacama, through Cape Horn towards the Northern Hemisphere. The sacrificing human intervention that ventured the extraction and transport of this nitrate through daring sea voyages meant one of the most important economic progresses Chile has had in its short history.

This is just one of so many examples of North-South hegemonic order.

In April 2016, the Chilean island of Chiloé and its surroundings suffered one of the worst social and environmental crises, due to the dumping of 9.000 tons of rotting salmon to the sea[2]. Chile is a major aquaculture producer of Atlantic Salmon after Norway, but there are no native anadromous salmon stocks there[3]. What makes major multinational-based companies (some of

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[1] Arias, Jaime, "On the Origin of Saltpeter, Northern Chile coast", paper No. 6-9, Geological Society of America, 2003

[2] Some sources:
https://news.mongabay.com/2016/10/the-salmon-crisis-in-chiles-chiloe-island/
https://www.theguardian.com/world/2016/may/17/chile-red-tide-salmon-farming-neurotoxin
http://www.telegraph.co.uk/news/2016/05/16/salmon-prices-to-leap-as-worldwide-stocks-face-perfect-storm-of/

[3] See *Genetical Engineered Salmon*, by Harold F. Lupton & Tadlock Cowan, 2015, Congressional Research Service. https://fas.org/sgp/crs/misc/R43518.pdf and

them Norwegians) to develop salmon-farming business in Chile is, besides their similar geographical conditions, the permissive farming policies towards a maximum profit. The use of antibiotics and vaccines in Chilean salmon farms is unworldly, compared with other countries[4].

As the ice shrinks in the Northeast Passage opening new political games, new associations need to be re-thought around current geopolitical circumstances, scientific knowledge, protection of maritime biosphere and the speculation of natural resources as commodities, in order to stop serving the constant cycle of binary division between nature and society, and our consequent "enslavement to Progress", as Donna Haraway well coined[5]. How (and for how long) do we want to keep our journey through the inevitable cosmological entropy we find ourselves? Either as an arrogant cancerous tumour in the Gaian cybernetic system, or as part of every, equal important multispecies player, awakening from the positivism of the hegemonic scientific knowledge towards a conscious decoding of the inclusive metabolic integrity that the energies of Earth require—and will unquestionably regulate, with or without human exceptionalism.

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Keller, Peter, *Making Sense of the Chilean Salmon Industry: Economic boom or Environmental Doom?*, ICWA, 2002, http://www.icwa.org/wp-content/uploads/2015/10/PK-21.pdf

[4] Some sources:
http://oceana.org/blog/record-antibiotic-use-concerns-mount-chile's-salmon-farms-are-brewing-superbugs
https://thefishsite.com/articles/chilean-salmon-farms-reveal-2015-antibiotics-usage
http://globalriskinsights.com/2017/04/saving-chiles-contaminated-fish-farming-industry/

[5] Haraway, Donna, Tentacular Thinking: Anthropocene, Capitalocene, Chthulucene, E-Flux Journal #75, September 2016