When The Western World Ran on Guano

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Hawaiian seabirds exult in their power over the economy

A new natural fuel is discovered. It's so efficient, the initial science is unbelievable; so powerful, it revolutionizes an entire industry. Deposit-holding countries get rich. Businessmen and speculators get richer. Laborers muscle it right out of the ground, and ships carry it around the world, where it helps to power every life, every day.

Soon, demand far outstrips supply. As reserves dwindle, world powers grab at the last of the stuff. decisions are made.

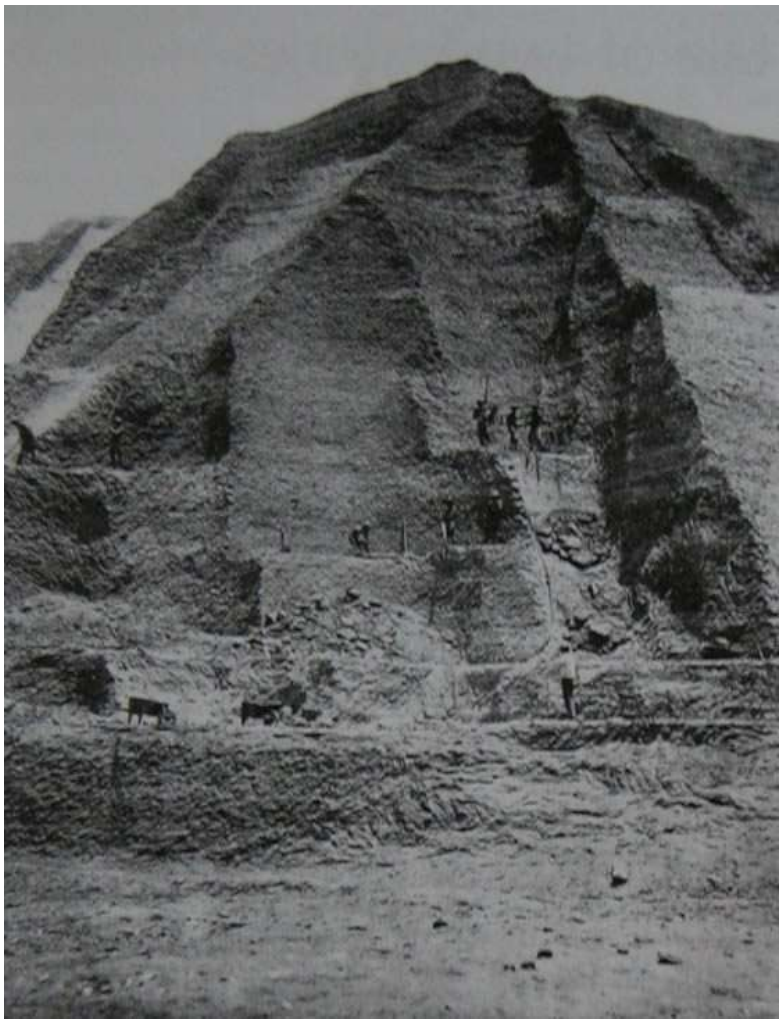
Unprecedented legislation is passed; questionable diplomatic. Remote locations host power struggles. Whole countries go to war. And then what?

If this story sounds familiar, it's because it's all happened before. For the second half of the 19th century, the Western world pretty much ran on a game-changing, nation-making, super-powerful substance—bird poop.

Guanay cormorants, top-notch guano producers, hanging out in Peru

At first glance (or, fine, maybe second), guano is an ideal fertilizer. Made almost entirely of nitrogen, phosphate and potassium, it's basically a splat of straight-up energy for plants. Plus, thanks to the social habits of the birds that produce it, it tends to be available in huge, concentrated, perpetually regenerating heaps.

Before Europeans “discovered” guano, the Inca took advantage of these properties for hundreds of years. Seventeenth-century seacoast Peruvians, Garcilaso del la Vega reported in 1609, used “no other manure but the dung of sea birds,” which was available in such abundance that “from a distance the heaps of it look like the snowy crests of a range of mountains.” He went on to describe how even earlier, “in the times of the Inca kings,” each town was assigned its own island, and each household a share of that island, according to need. Anyone who messed with this system, harmed a seabird, or so much as landed on a guano island during breeding season was subject to execution. In this way, said kings took the resource out of the hands of privatizing guano lords, and ensured a sustainable harvest.



A guano mine on Peru’s Chincha Islands, circa 1860

For centuries, European explorers and colonizers, blinded by shinier commodities, did not bother to look into guano. The first to do so was Prussian geographer Alexander von Humboldt, who could not ignore it.

Humboldt had traveled to Peru in order to focus on some celestial observations that would help him to pinpoint the location of Lima, and he liked to spendthe days between his nocturnal experiments wandering the docks. The constant shipments of the ammonia-rich guano made him sneeze, and eventually he asked after it. Though he doubted his hosts’

insistence that it was made by seabirds (there was just too much of it), its fertilizing power spoke for itself. When Humboldt went back to Europe in 1804, he brought back some samples and turned them over to “the best analytic chemists of the day.”

As Gregory T. Cushman wrote in *Guano and the Opening of the Pacific World*, thus began "the world's guano age."

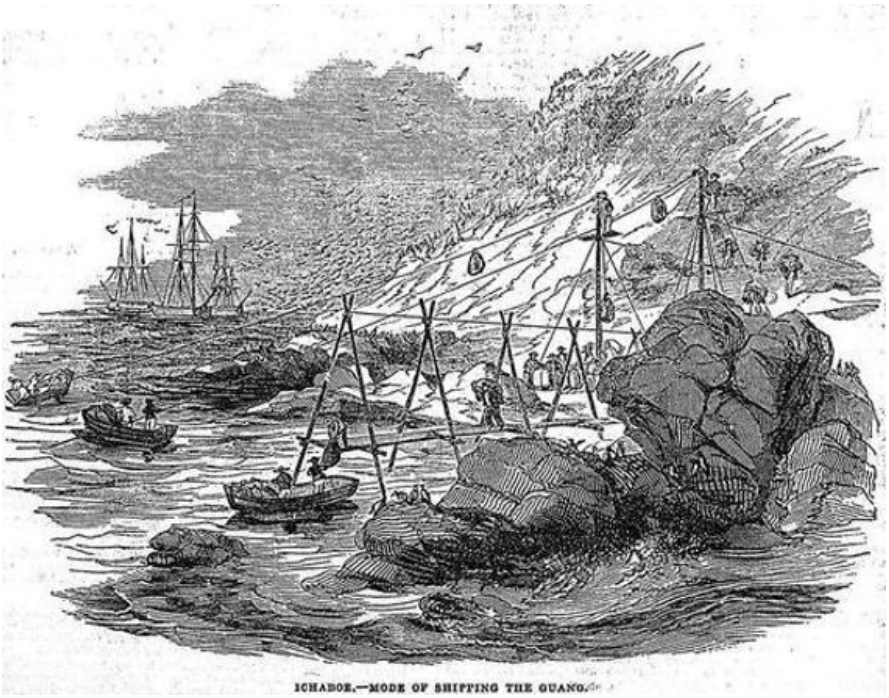
The chemists immediately recognized that they were dealing with powerful stuff. After millennia of agriculture, European farmers were beginning to worry about their depleted soil's ability to feed a growing population (and, ever the upstarts, Americans had tapped out much of their topsoil, too). Fertilizer-themed journals sprung up worldwide, recommending everything from sawdust to human urine to ground-up cow horns. None of these were as chemically promising as guano, which is not only chock full of nitrogen, the MVP of plant nutrients, but is packed with phosphate and potassium, too. This, finally, could be the triple-punch that fed the world.

This late 19th century ad for "Orchilla Guano A.A." emphasizes the tail end of the fertilizing process

But the early 1800s were a different kind of shitshow. After a two-decade interruption by the Napoleonic Wars—which ended with widespread independence for Latin America, as well as even more European crop devastation—two businessmen who had caught wind of guano's properties finally shipped a couple of barrels to Britain, where they were distributed as free samples to various farmers. The fertilizer worked so well that some feared "the enormous crops realized under its stimulus might exhaust the land of its productive elements," the American Geological and Statistical Society wrote. Predictably, this fear was not strong enough to be bad for business. Over the next decade and a half, the UK imported over two million tons of guano.

It was boom time. A guano industry quickly sprung up, complete with new infrastructure, overnight millionaires, and widespread worker exploitation. Guano harvesting took the same physical toll as mining, and had the kind of horrific health effects you'd expect from a profession that requires breathing in feces all day. Peruvian, British, and American companies ended up virtually enslaving Chinese, Polynesian and Easter Islanders to dig guano.

The Peruvian government took advantage of its good position and drove up prices; in return, Britain cut an exclusive trade deal with them. Guano became valuable enough that nefarious dealers would sometimes cut it with "umber, powdered stones, various earths, partially decomposed sawdust, and other substances," according to a 19th-century encyclopedia, and bulk purchasers often had a chemist on hand to make sure incoming shipments were, so to speak, clean.



An 1844 illustration shows shipping methods at Ichaboe Island

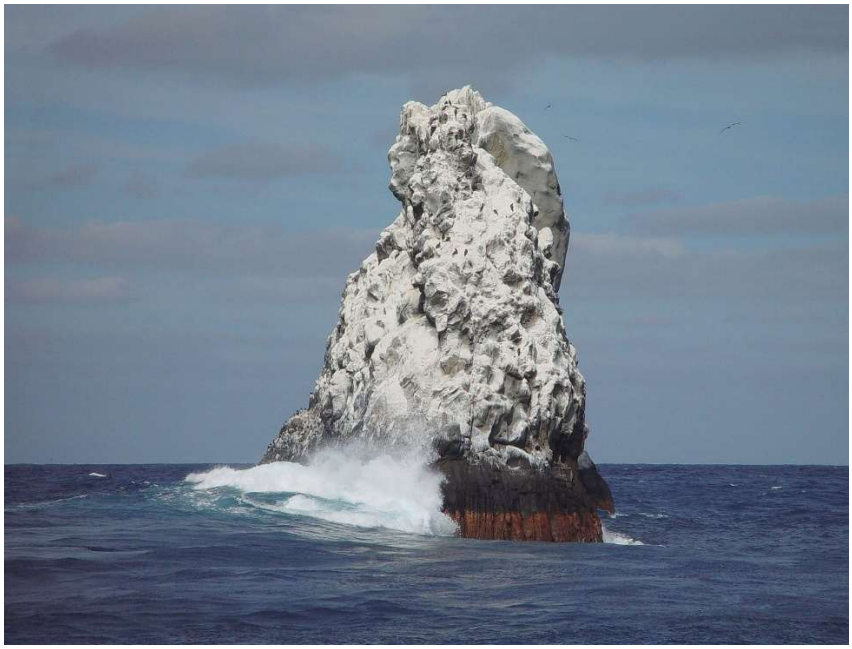
Entrepreneurs who wanted real shit at bargain prices looked for the "white gold" elsewhere. Like a different kind of bird entirely, these speculators would find islands, scrape them bare, and then move on. In one representative instance, a Liverpool businessman set up a guano mine on Ichaboe Island, off the coast of Namibia, in March of 1843 ("agriculturists… may look forward with pleasure to a certain supply of *genuine guano* early next spring," promised a contemporaneous brochure). By 1844, Ichaboe was supplying a parade of 450 ships; by May of the next year, the island, now a full 25 feet shorter, was deserted.

The Britain-Peru alliance was particularly troublesome for the United States, who now had to get secondhand guano from across the pond at great cost. In 1850, President Millard Fillmore dedicated several lines of his first State of the Union address to the promise of a fairer price for guano, which was, at that point, $76 per pound. Soon after, William H. Seward—who would later gain fame for convincing the Senate to buy Alaska—proposed the Guano Islands Act, which allowed for any American citizen who found guano on an unclaimed, uninhabited island to claim it and its resources for the U.S., and then abandon it when it was no longer needed. Fillmore's successor, Franklin Pierce, signed the Act into law in 1856. It is now considered America's first imperialist experiment.

Modern-day guano miners in Peru. Guano is on the upswing again, this time as a natural alternative to artificial fertilizer

The guano boom, like most booms, led to a guano bust. As more and more islands were leveled and left behind, people worried less about how much guano cost and more about getting it at all. Peru went to war to solidify its alliance with droppings-rich Bolivia. European agricultural societies convened to fret and brainstorm. "When people have gradually accustomed themselves to the matter-of-course use of anything, the unexpected want of it must be very severely felt," *The Farmer's Magazine* mourned in an 1857 article entitled "The Guano Crisis." "Now… it is too late."

Luckily, another savior was on the horizon. By the early 20th century, new chemical fertilizers could take nitrogen out of the air and deliver it straight to the soil, *sans* bird intermediary. They had other charms, too (easier to obtain, more customizable, slightly less smelly), and they worked like gangbusters—it's thought that artificial fertilizers now feed about half the world. The market wasn't big enough for the both of them, and guano's star descended as it had risen, dragging the Peruvian economy down with it.



Mexico's Isla Roca Partida, a guano island in all its glory

Thus, the sticky Guano Age came to an end. Some of its less digestible bits remain with us today, including 10 of the 70-odd islands Americans claimed through the Guano Islands Act. But parts of its legacy are more subtle. In the Post-Guano Age, the emergence of any new fuel should force even a hungry populace to ask—does it pass the smell test?