—03/02.05

The Raw and the Refined

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Niger Delta
crude oil
refinery
petromodernity
ecological damage
guerrilla chemistry
delta petro dollar

Although brightly lit 24/7, refineries are invisible. They subvert visual perception on several levels. For one thing, what goes on in their tube systems is far too small to be seen with the human eye. It involves the dissolving and connecting of hydrocarbon molecules, which play out on spatial scales of 10-10 meters. On a temporal scale, these elementary chemical acts occur in tiny periods of 10-12 to 10-15 seconds. At the other end of the scale, the kilometers-long process landscapes are far too large and complex to be grasped at a glance. But what truly escapes the senses, is the role of the refinery as the central transition point of petromodernity. It is here, where a more or less natural, pre-human, fossilized raw material is transformed into artificial materiality, technically designed down to the smallest molecular detail—"science-fashioned molecules," as a 1946 advertisement once put it.[1]

So, to try to gain any meaningful understanding, one would have to follow oil's entire route into the refinery, from reservoir rocks underground via drilling technologies, transportation, tankers, and pipelines, as well as every route out of the

 https://doi.org/10.1515/9783689240462-021

George Osodi
Illegal Oil Refinery, 2013

refinery, including all means of mobility, plastics production, pharmaceuticals, cosmetics, fertilizers—and thus into the bodies of animals and human beings.

From there, one has to deal with all kinds of causal relationships in the biosphere and the technosphere in order to make sense of the refinery as a core component in this journey. The fullest possible understanding of the refinery as a key element of actual "planetary technology" would include the fullest possible understanding of the planet. However, it is in fact only possible to interpret small parts of the entire route and certain exemplary geographies.[2]

The technology of the refinery shows that it is not black, natural crude oil that "makes history," but a set of chemically refined hydrocarbons that, in the range between kerosene, explosives, mascara, and superglue, drive a complex historical chain reaction with many feedbacks and resonances.[3] Indeed, the ecological impact of the globe's refinery-controlled manufactured products is much more drastic on a planetary level than any oil spill, no matter how severe.

Humans can collectively establish and describe these routes technically. But they are visible only in exemplary sections. These sensual obstacles seem all the more remarkable considering that, on many levels, “visibility” and “recognizability” cannot abstract in any way from the products that result from refineries. Currently, every science and media technology we have is simply inconceivable without the output of refineries. Neither the satellites, computers, and data networks of global communication, nor, at the other end of the technical scale, the simplest dyes that humans use for semiotic technology and optical systems of technology, would exist without refineries. Given the role of pharmacy and cosmetics, and that of individual transport, in producing the self-image of petromodern humans, in a broader sense, it would seem that “sensual activity” itself is connected to petrochemistry.

The fact that such gigantic process landscapes are clearly necessary, at least indirectly, for making fossilized “nature” available to the field of technology, and thus the history of mankind, gives an indication of the scale of what is being processed there. What is encountered at the refinery is indirectly, and beyond all immediate human standards of perception, an “aesthetics of the sublime”—the “industrial sublime,” but which precisely in this conveys the “natural sublime” of the fossilized raw material and its planetary effect in an exemplary manner.

In contrast, the illegal refineries that George Osodi has photographed in the Niger Delta have a very visible, very tangible, frighteningly sensuous direct effect: we see brachial apparatuses made up of tanks and pipes, racks of wood, condensation lines, and barrels for raw materials and other goods erected in a clearing in the bush. The ground is black from crude oil. Here, sticky raw material is converted by distillation into marketable and motorable products. Although no molecule chains are chemically cracked—these types of plant are not suitable for that—a natural substance is also being transformed into a technical product. The presence of oil and its refining could not be more sensual.

But here, too, central parts of what happens undermine the level of the sensual—in terms of horror as well as in terms of empowerment and emancipation. The backdrop to these drastic bush refineries is not only the immediate, ecological horror of the Niger Delta, but also the economic-technical misery of a country plagued by colonial, but also national, corruption. One of the richest countries in Africa is only able to domestically refine and market a mere one percent of the oil it produces in official chemical refineries. Self-made bush refiners eagerly fill this gap. Bizarrely, in addition to causing further ecological damage to the delta, they also generate considerable wealth. What they also give rise to, in the midst of ecological horror in an exemplary sense, is a surprisingly self-determined coupling of the otherwise technically, geographically, and culturally separate realms of “upstream” and “downstream.”

What shapes the global regimes of extractivism and exploitation is a more or less strict geographic separation of extraction, refining, and consumption. A separation that is somehow united in this type of guerrilla chemistry.

"Wrong life cannot be lived rightly," so says Theodor W. Adorno's famous dictum from *Minima Moralia*.[4] But as a form of coping with a "damaged planet"[5]—to quote the famous book title by Anna Tsing and others—the guerrilla chemistry that is carried out by the young people of the Niger Delta is exemplary and points in a promising direction. In physics, measuring the difference between two values—for example, "delta T" or "ΔT" for time—can be used to extrapolate further values, as long as a well-known dynamics allows for this extrapolation. In other disciplines, such as in historiography, extrapolation from a measured delta is less promising—at least if one expects an exact prognosis. Still, the production of guerrilla fuels in an extraction country operates with a very specific difference: it touches upon the crucial tension and difference between extraction and refining. In this sense, the bush refineries of the Niger Delta decisively truncate a structural factor, what we might call and measure as "Δ$" (delta petrodollar). This techno-economic difference-operator could not only serve to measure neutral economic differences, but also the tension between the horrors of extraction and the anonymous value creation of refining and consumption. The creation of maximal wealth by maximal horror would approximate Δ$ to zero.

To catch up with the so-called Global North, using this type of guerrilla appropriation of petrochemistry and petrocapital, would mean that acts of respective appropriation would have to follow. These might include guerrilla mines and guerrilla spills in the midst of the glittering and alienated centers of the West, in order to drastically bring extractivism, which invisibly powers Western life, into the full view of the West.

1 *The Inside Story of Modern Gasoline: Science-Fashioned Molecules For Top Performance*, a "Leadership Through Science" film presented by the Standard Oil Company of Indiana (Jerry Fairbanks Productions Inc., 1946), https://archive.org/details/0320_Inside_Story_of_Modern_Gasoline_The_21_01_00_00.

2 See, as one exemplary analysis, Benjamin Steininger, "Ammonia synthesis on the banks of the Mississippi: A molecular-planetary technology," in *The Anthropocene Review* 8, no. 3 (2021), 262–279. See, as a collection, Benjamin Steininger and Alexander Klose, *Erdöl: Ein Atlas der Petromoderne* (Berlin: Matthes & Seitz Verlag, 2020). English translation by Ayça Türkoğlu: *Crude: Atlas of Petromodernity* (Santa Barbara: Punctum Books, 2023).

3 See, as an interpretation of the history of the technology of catalysis in the context of the refinery, Benjamin Steininger, "Refinery and Catalysis," in *Textures of the Anthropocene: Grain/Vapor/Ray*, ed. Kathrin Klingan et al. (Boston: MIT Press, 2014), 105–118.

4 Theodor W. Adorno, *Minima Moralia: Reflections from Damaged Life*, trans. Edmund F.N. Jephcott (London, England; New York: Verso, 2006), 39. (Original work published in 1951).

5 Anna Lowenhaupt Tsing et al., eds., *Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene* (Minneapolis: University of Minnesota Press, 2017).