

DARYL MEADOR –

Becoming Oil Incarnate in Houston's Weiss Energy Hall

Visitors entering the Weiss Energy Hall, within the Houston Museum of Natural Science, are immediately enveloped in the warm and stimulating embrace of petro-architecture—that breed of space designed to advance the ideals of oil-fueled modernity at the level of form and sensory experience. The twenty-five-thousand-square-foot exhibition hall is both sprawling and meticulously planned. A corporatized museum-space, its walls are unabashedly adorned with the names of major hydrocarbon corporations. An overhead sign demarcating the “Drilling & Development” section of the Hall—where different types of drill bits protrude from display structures—contains the line “generously supported by Halliburton Foundation” beneath it. Other sections and screens are supported by ExxonMobil, Chevron, Shell, and ConocoPhillips.

Visitors are guided, perhaps even propelled, through the Hall's carefully planned lights, shifting ambient soundscapes, and smooth, plastic fabrications. Plastic itself, a petrochemical synthetic, takes on an irreducible appearance as a chemically manufactured solid substance. It appears to claim its own constitutive basis, visually effacing its earthly origin. [1] In their technologically complex and synthetic forms of fabrication, the plastic displays and artifacts in the Weiss Energy Hall celebrate their own opaque materiality over any intimation of the broader petrochemical relations that produced them.

Within the “Drilling and Development” section, larger-than-life drill bits circulate overhead, perpetually boring a hole in a wall crafted to look like

Citation: Daryl Meador, “Becoming Oil Incarnate in Houston's Weiss Energy Hall,” in the *Avery Review* 40 (May 2019), <http://averyreview.com/issues/40/becoming-oil-incarnate>.

[1] Amanda Boetzkes and Andrew Pendakis, “Visions of Eternity: Plastic and the Ontology of Oil,” *e-flux* (September 2013), [link](#).



Giant drill bits spin overhead in the “Drilling and Development” exhibit. All photographs by the author.

subterranean rock. Below them, touch screens offer information on drilling technologies. Within the “Geophysics of Hydrocarbons” section, floor-to-ceiling screens cascade colorful designs representing 3D seismographic data. In the “Extreme Drilling” exhibit, multiple interactive video screens allow visitors to experience the simulated operation of an offshore oil rig. In “Transportation and Refinement,” pipes emerge out of and enter walls, snaking above many touch-screens containing information and games. One touch screen simulates a slot machine called the “Wildcatter’s Gusher Gamble” on which you can test your luck striking “Texas Tea.” The “Geovator” sits centrally in the hall, an enclosed mock elevator that simulates descending into the earth and traveling back in time to the Cretaceous Period, where visitors witness a dinosaur attack and learn how hydrocarbons form.

The Hall contains a sizable gallery labeled “The Unconventional Hydrocarbon Revolution” that highlights the process of hydraulic fracturing from subterranean shale. This exhibit features an interactive computer game called “Can You Frack It?” Touch screens are embedded in a fluctuating, smooth, stony gray surface that extends to the ceiling, imitating the microscopic enclosures within subterranean shale that contain oil and natural gas. In this gallery, visitors are engulfed within this undulating enclosure, positioned as natural gas waiting to be fracked. Petro-architecture formally materializes the long-standing discursive association between male virility and the oil industry, placing spectators within the crevices of its penetrative logics. [2]

The smooth surfaces that guide viewers through the exhibit likewise invoke what American studies scholar Mark Simpson calls the aesthetics and ideology of “lubricity,” a texture and mood essential to neoliberal petroculture. Lubricity “offers smoothness as cultural common sense, promoting the fantasy of a frictionless world contingent on the continued, intensifying use of petrocarbons from underexploited reserves in North America.” [3] Lubricity idealizes fluid exchangeability of objects and capital through a fetishized aestheticization of such plasticity. In the Weiss Energy Hall’s immersive exhibits, the didacticism of its informational displays is reinforced by the affective knowledge gained through its immersive architecture. Visitors inhabit the texture and mood of lubricity, a mobile experience that feels nearly laborless as the Hall itself subtly propels you through carefully crafted spaces. Such an embodied experience

[2] Aside from the sexually laden vocabulary of the oil industry (i.e., the celebration of oil “gushers” and lamentations of “dry holes”), the narrative association between male sexual virility and oil-industry success goes as far back as the lore of early twentieth-century boomtowns, chaotic spaces of amorality and fast money, up to the lascivious men of the TV show *Dallas*.

[3] Mark Simpson, “Lubricity: Smooth Oil’s Political Frictions,” in *Petrocultures: Oil, Politics, Culture*, ed. Sheena Wilson, Adam Carlson, and Imre Szeman (Montreal: McGill-Queen’s University Press, 2017), 289.



The “Unconventional Hydrocarbon Revolution” exhibit, fabricated to imitate the interstices of subterranean shale.

echoes the cultural mythologies of oil as a substance that affords life and luxuries without labor itself.

Here, as in other Texas sites, oil and its infrastructures are hyper-visible and spectacularly celebrated. Nevertheless, the ideologies embedded in the Hall's smooth and automated design spill out into the Texan landscape that surrounds it, permeating culture in less perceptible ways. The editors of the anthology *Petrocultures* describe how "oil and its outcomes—speed, plastics, and the luxuries of capitalism, to name a few—have lubricated our relationship to one another and the environment for the duration of the twentieth century."

[4] This is especially true in Texas, where the skies are bigger but so are the highways. Houston defines itself by lubricious logics, naming itself the "city without limits." The city's affinity for deregulated, free-market urban expansion has allowed a sprawl of "impermeable developed surfaces" that likely magnified flood volumes following catastrophic amounts of rainfall during Hurricane Harvey in 2017. [5]

The Energy Hall's adornments and façades are aglow with embedded lights. An ambient soundscape composed of hums and mechanical sounds evokes the efficiency of oil refineries. Refineries themselves are closed-system spaces that loom with complexity and grandeur in the Gulf region's landscape but are rarely accessible to the public. Often ablaze with otherworldly lights and controlled flames, oil refineries appear not only illegible in their complexity but terrifying to the passerby. The Weiss Energy Hall offers the opportunity to not just learn about but physically inhabit such unseen and out-of-reach spaces of extraction, transport, and refinement.

If the interactive "Extreme Drilling" exhibit allows the visitor to simulate the control of an offshore oil rig, the Hall's architecture more often places the visitor in the position of the nonhuman substance these systems are meant to extract, contain, transport, refine. Visitors may enter a giant pipeline, its interior lined with enveloping screens where colorful stratified designs ebb and flow. The designs mimic seismic data visualizations, translating subterranean stratifications and reservoirs into brightly color-coded models. [6] Inside the pipeline, the designs constantly ripple and shift, accompanied by a soft soundscape that elicits a feeling of sensorial wonder. Informational displays within the exhibit describe the construction, componentry, and sprawl of the

[4] Graeme Macdonald, "Containing Oil: The Pipeline in Petroculture," in *Petrocultures*, 38.

[5] Shawn Boburg and Beth Reinhard, "Houston's 'Wild West' Growth," the *Washington Post*, August 29, 2017, [link](#).

[6] A touch screen in the pipeline attributes the data visualization to Pretel, a software platform used in the exploration and production sector of the petroleum industry.



An immersive oil pipeline lined with screens displaying moving seismic data visualizations.

2.5 million miles of hydrocarbon pipelines that traverse the subterranean U.S., “enough to circle the earth more than 100 times.”

In her book *Living Oil: Petroleum Culture in the American Century*, Stephanie LeMenager comments upon a different virtual pipeline display within the Energy Museum of the nearby town of Beaumont. The Energy Museum transforms a room into a virtual pipeline through a circular projection, transporting the viewer through it as if they were droplets of oil. LeMenager describes the sensory pleasure of the experience as “comforting, womb-like.”

[7] The pipeline at Weiss offers an even more multisensorial and interactive experience of *being oil*, allowing the visitor to linger within the constant flow of colors cascading down its interior screens. Pleasure is again engendered in embodying oil, assured by the pipeline’s seemingly impermeable embrace and reminded of its impressive trajectory through the informational displays. The ostensible safety of enclosure is satisfying. Janine Macleod writes, however, that, “the belief in perfect containment is itself dangerous,” implying a pretense of control that pretends as if pipelines don’t break; that infrastructure doesn’t fail. [8] The danger of aesthetics that idealize containment is acutely evident in Houston and its surrounding region, dubbed the “Golden Triangle.” Billy F. Gibbons of the band ZZ Top, born in Houston, once joked that the name Golden Triangle was chosen “because it sounds much more romantic than ‘Petro-Chemical Wasteland.’” [9]

Looming large in the “Unconventional Hydrocarbon Revolution” exhibit is a 4D theater crafted to look like a ship with huge jet engines called the Eagle Ford Shale Experience—a.k.a. the EFX-3000. The EFX-3000 offers visitors the most stimulating and process-driven experience of embodying oil. Visitors are beckoned to enter into a hatch with the word “caution” above it that seals behind them. The spaceship-like interior features forty-two seats that are surrounded in front and on all sides by panels crafted to look like windows of the ship. The entire theater structure itself mechanically moves in order to simulate flight and movement (a museum attendant warns of motion sickness before the ride begins). Surrounding the theater’s exoskeleton is an enclosing screen that projects an immersive virtual environment. Spectators are miniaturized and propelled into the depths of an oil-site drill hole where they experience fracking from the inside of the earth.

A wily computer named Darcy is affixed to the front of the theater and narrates the trip in a thick Texan accent. Darcy’s voice is masculine, and his intonations evoke the figure of the wildcatter, the oil businessman of Texas lore unafraid to gamble in drilling exploratory oil wells. Two screens on either side of Darcy show the trajectory of the journey, which begins as the ship flies out of the museum, soaring over a Texan landscape of homes and fields, to a nearby drilling site that Darcy describes as “revitalized”—abandoned after its oil reserves dried up, it has now been retro-fitted for hydro-fracking.

A friendly female scientist named Dr. Karogen appears on the screens and monitors the trip remotely. When the EFX-3000 undergoes an unexplained event of system failure, the doctor is able to repair it with ease. She often banters with Darcy while overseeing his apparent mechanical unpredictability. Dr. Karogen humanizes the increasing automation of extraction, embodying a mitigation of the potential risk that follows the hydrocarbon industry like a dark shadow given its history of cataclysmic accidents.

[7] Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (Oxford: Oxford University Press, 2014), 171.

[8] Janine MacLeod, “Holding Water in Times of Hydrophobia,” in *Petrocultures*, 278.

[9] Quote is from the documentary film *Antone’s: Home of the Blues*, dir. Dan Karlok, 2004.



Inside the EFX-3000, navigating a micro-fracture of subterranean shale, surrounded by microscopic proppants before being fracked.

The EFX-3000 shrinks to the size of a grain of salt, and after a burst of light, spectators are suddenly staring into the eyes of a giant fire ant. The ship then dives into the depths of the drill hole, its rough interior passing by on all sides. Reaching the bottom of the original vertical well, Darcy exclaims, “Whoa there, Betsy, ain’t nothing down here but broken drill bits and disappointment. The vertical well was depleted decades ago, plugged and abandoned.” The EFX-3000 then begins a horizontal trajectory into the Eagle Ford Shale that lies beneath the original reservoir, a new site of resource extraction. “Until the right technology came along,” Darcy tells us, “in the form of horizontal drilling and hydraulic fracturing, the shale was just another layer of impermeable tombstone.”

Dr. Karogen tells riders to “prepare for turbulence” as the vertical drill-hole is encased with steel before it is perforated with electrical currents: the ship shakes as holes are exploded into the newly smooth drill-hole. The EFX-3000 then enters a perforation and begins to explore a micro-fracture of the shale. The shale is an uncanny environment to inhabit, a maze of rough and stony passageways, its interstices only briefly explored before the process of fracking begins.

Dr. Karogen vaguely describes how a specialized fluid blend and “chemical additives” are pumped into the well at a specific rate and pressure. At this point the ship becomes surrounded by “proppants”—fine-grain sands that match the size of the EFX-3000 itself and serve to pry open the micro-fractures and “allow hydrocarbons trapped in the shale to escape.”

The fluids involved in fracking are, in fact, highly complex and toxic chemical compounds, the makeup of which the oil industry has fought aggressively to keep undisclosed to the public. Engineering a substance that would remain fluid throughout the 2,500 degrees Fahrenheit, highly pressurized subsurface process resulted in a highly toxic blend of chemicals that research has tied to contaminated drinking and groundwater. [10] Fracking also generates toxic wastewater, called “flowback,” that is often stored in open-air pits after a job. Unbothered by these untold details, Darcy is excited to inform spectators that a few dozen more wells will soon be drilled in the virtual shale that the EFX-3000 navigates.

[10] Sara Ann Wylie, *Frackivism: Corporate Bodies and Chemical Bonds* (Durham, NC: Duke University Press, 2018), 23.

The EFX-3000 portrays the actual act of fracking the shale as a relatively smooth and quiet process, offering little indication of the incredible amounts of pressure required to break crevices into sedimented stone, what Sara Ann Wylie describes as a “mini-seismic event.” [11] After fracking the shale, EFX-3000 spectators witness oil seeping from the perforated holes and filling the cylindrical space of the drillhole ahead of them. Darcy disappears from his affixed post inside the ship and pops up in front of the ship, swimming ecstatically in the oil with little mechanical flippers and exclaiming, “Nothing like Texas Tea, straight from the source!”

[11] Wylie, *Fracktivism*, xii.

The ride hyperbolically narrates shifting energy regimes. Darcy admits, “Truth be told, our energy situation was looking pretty dim not too long ago, but now with these new reserves, we have developed new ways of harvesting that can keep up with these energy-dense, power-packed hydrocarbons... yee-haw!”

Darcy embodies the “carbon-heavy masculinities” described by English scholar Stacy Alaimo that pervade the US. In Texas, Alaimo observes these hypermasculine displays exemplified in increasingly large, military-style vehicles, sometimes altered to be less fuel efficient and more pollutive and occasionally displaying synthetic testicles that hang from their trailer hitch. [12] Darcy’s techno-utopian discourse is imbued with a gendered and racialized ideal of Texan identity and ingenuity that has long defined the state’s hydrocarbon industry. Darcy represents the demographic that is expected to profit from these processes of extraction while material exposure to their resultant toxicities will remain largely drawn along lines of race.

[12] Stacy Alaimo, *Exposed: Environmental Politics and Pleasures in Posthuman Times* (Minneapolis: University of Minnesota Press, 2016), 96.

The ride, like the immersive pipeline, promotes idealized aesthetics of containment that, Janine Macleod argues, share a particular affinity with petrochemicals at the level of their incredibly stable molecular structures. Petrochemical synthetics such as plastic exhibit an “uncanny immortality” in their resistance to dissolution. [13] The material properties of hydrocarbons, she argues, articulate existential anxieties at the core of the Enlightenment project that seeks “the perfectly atomized body—unitary, smooth, discrete, and invulnerable.” [14] Petrochemicals invite us to feel protected and disembodied, inhibiting our ability to realize shared worlds. The fracking ride embodies such values, inviting spectators to feel safe within the impermeable embrace of the hermetically-sealed space and the infrastructure it expertly navigates. The slickness and ease through which it narrates the process of extraction through fracking promotes a techno-utopian view of the future that subsists on a seemingly endless surplus of hydrocarbons.

[13] MacLeod, “Holding Water in Times of Hydrophobia,” 267.

[14] MacLeod, “Holding Water in Times of Hydrophobia,” 277.

Neeraj Bhatia writes that cultures of extraction are intrinsically tied to cultures of consumption, given capitalism’s need for endless growth. This growth requires the creation of new frontiers for resource extraction, locating landscapes that become operationalized for the purpose of accumulation. [15] The EFX-3000 indicates subterranean Texas as an ongoing contemporary frontier that, like any frontier, requires certain logics of display and representation to justify expansion and extraction. The EFX-3000 renders the shale static and amenable to the progressive drive necessary for the project of extraction, and extractivism as a broader ideology, which representationally maps and organizes the nonhuman world into a matrix for capture.

[15] Neeraj Bhatia, “The Cheap Frontier: Operationalizing New Natures in the Central Valley,” *Scenario Journal*, no. 5, “Extraction” (2015), [link](#).

The totalizing claim to mineral ownership enacted by the EFX-3000, matched by its hyperreal technological prowess, makes evident the subterranean politics of late capitalism in which power is increasingly enacted along the geologic substratum and its enclosing—and increasingly inaccessible—reserves of fossil fuels. In the era of the Anthropocene, Kathryn Yusoff notes, social formations are frequently “subtended by geology.” [16] In Texas, landownership is stratified along surface ownership and mineral ownership, a policy recently pushed into public view as controversial drill sites creep closer and closer to urban centers. Paths to knowledge of mineral ownership remain unclear and elusive, as does knowledge of who owns Texas minerals. A 2015 article in *Environmental Economics* determined that most of the mineral owners in Denton, Texas, were absentees: “the single largest beneficiary is a retirement community developer in Arizona.” [17]

Extraction relies on a notion of surplus—of indefinite or even limitless quantities of resources to be harvested into energy. Likewise, Imre Szeman has decried contemporary culture and literature for failing to reckon with the “fiction of surplus” that subsists petro-cultural imaginaries. The fiction of surplus “shapes not only the belief that there will always be plenty of energy to go around but also the complementary idea that easy access to energy plays (at best) a secondary role in history by comparison with human intellect and the adventure of progress.” [18]

As conventional oil reserves continue to dry up, the EFX-3000 perpetuates this fiction past its ostensible endgame. Its techno-utopian narrative asserts that progress can always catch up to the energy crisis. Yet, as is often the case in Texas, the ride’s hyperbole begins to overwhelm its intent. Texas is infamous for advertising its own ostentation, having built an identity around its self-proclaimed tendency toward enormity (everything, as they say, is bigger in Texas). Hyperbole, however, is easy to read, allowing spaces like this to become, perhaps, pedagogical spaces on petroculture at large. The EFX-3000 offers insight into the white, male identity that petroculture idealizes, as well as its investments in a deregulated, individualist, and lubricated relationship to work and profit without physical labor.

The ride’s hyperbole also helpfully illuminates the enormously high stakes of the current moment, as well as the subterranean politics of the Anthropocene. The intensity of the EFX-3000’s hyper-mediated experience matches the increasingly intensive practices of extraction as resources grow harder and harder to reach. The ride’s narrative of risk mitigation and streamlined extraction also effaces the violence of fracking. Fracking indicates a near endgame of capitalist expansion, described by Brett Neilson as a material and symbolic signal of “extraction beyond exhaustion.” [19] If we might call this endgame the Anthropocene, the fracking ride is an index of the Anthropocene’s symbology, a hyper-mediated spectatorial space of excessive stimulation required to legitimize and efface its desperate, earth-shattering processes.

If all museums are statements about the future, then the future that these spaces propose subsists entirely on fiction. This “fevered post-oil dream” extends beyond the walls of the museum and into the daily life of the US. [20] Perhaps the encompassing false premises of these permeating imaginaries can be realized more fully when they are hyper-mediated via a virtual fracking ride in Texas. More dangerously, however, perhaps spectators are made far more

[16] Kathryn Yusoff, “Geosocial Strata,” *Theory, Culture, & Society*, vol. 34, no. 2–3 (2017): 105–127.

[17] Matthew Fry and Christian Brannstrom, “Emergent Patterns and Processes in Urban Hydrocarbon Governance,” *Energy Policy* 111 (December 1, 2017): 383–393, [link](#).

[18] Imre Szeman, “Literature and Energy Futures,” *PMLA: Publications of the Modern Language Association of America*, vol. 126, no. 2 (March 2011): 323–325.

[19] Brett Neilson, “Fracking,” in *Depletion Design*, ed. Carolin Wiedmann and Soenke Zehle (Amsterdam: Institute of Network Cultures and xm:lab, 2012).

[20] LeMenager, *Living Oil*, 167.

susceptible to these frictionless fantasies of endless energy futures when they are physically identified with hydrocarbons and propelled along the intractable flow of petrochemical infrastructures through stimulating and scale-shifting spectatorial experiences.

Yusoff, writing on the long history of geology as a relation of power, argues that politics today often emerge along infrastructures—mines, pipelines, coal fields—where exposure to toxic legacies is largely drawn along lines of race. Racialized geographies of exposure to toxicity are evident in Houston and its surrounding areas. The group [t.e.j.a.s.](#) (Texas Environmental Justice Advocacy Services) has mapped the many superfund sites that surround Houston and offers “Toxic Tours” of the many plants and refineries that surround East End neighborhoods populated by majority people of color. In the nearby coastal town of Port Arthur, countless enormous refineries are relegated to the west side of the city in close proximity to public housing developments. West Port Arthur’s refineries have emitted benzene (a carcinogen) and other pollutants into neighboring areas for decades, and the effects of these emissions have been experienced disproportionately by African Americans. A 2013 [YouTube video](#) posted by Hilton Kelley, a local environmental activist, shows eight refinery towers looming over the roofs of homes as they billow flames and smoke into the air. [21] Local perspectives such as this provide an impressive counter-visualization to corporate celebrations of the petroleum industry. Notably, Port Arthur is the final destination of the Dakota Access Pipeline that spurred the monumental indigenous-led resistance movement at Standing Rock. If, as Yusoff argues, “it is through the violent infrastructures of geology that new forms of politics are emerging,” there may be possibilities for emerging political alliances along these toxic infrastructures. [22]

[21] Kelley is the founder of the local environmental advocacy group CIDA (Community In-Power and Development Association), [link](#).

[22] Kathryn Yusoff, “Epochal Aesthetics: Affectual Infrastructures of the Anthropocene,” *e-flux* (March 2017), [link](#).