EXTRACTION
ART ON THE EDGE OF THE ABYSS
Preview of a Glorious Ruckus

MICHAEL TRAYNOR
EARTH DAY APRIL 22, 2021
“Tap ‘er light.”

Dedicated to the memory of Edwin Dobb.

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A compilation of references selected from the growing literature accompanies this preview.

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INTRODUCTION

At this critical time of climate disruption and unsustainable extraction of natural resources, Peter Koch,¹ a printer, publisher and fine artist, has conceived of Extraction: Art on the Edge of the Abyss (www.extractionart.org).² He, and the late Edwin Dobb,³ a writer and teacher of environmental stories, and a growing group of allies, launched this inspiring project in 2018. They created “a multi-layered, cross-institutional, trans-border multimedia ruckus over the single most urgent planetary concern of our time—the social, cultural, and environmental costs of unbridled globalized extractive industry, including the negative effects of climate change; the deterioration of land, water, and air; the devastation and displacement of poor, minority, and indigenous communities; and much else.”⁴

Leaders of the Extraction Art project and natives of Montana, Peter came from Missoula and Edwin from Butte. While living in California, they maintained strong Montana ties, as Peter still does. They set the stage for a constellation of events in 2021 and enrolled confirmed participants from numerous and diverse museums and galleries, curators, artists, photographers, writers, libraries and rare book departments, organizations and publishers, and a team of
advisers. I learned of the project from Malcolm Margolin, author of the classic, The Ohlone Way, leader of the California Institute for Community, Art and Nature, and founder and president for forty years of Heyday, a nonprofit publisher on whose board I served. The project has published WORDS on the Edge, a portfolio of poems and lyrical texts addressing themes of nature and its irresponsible destruction, as well as a major compilation of contributions from artists and writers—the “MEGAZINE”—and will continue to publish periodic newsletters, documents/manifestos/images heralding a series of artistic, musical, and dramatic events and exhibitions. It is also completing arrangements for those events. Jane Hirshfield, poet, author, and participant, is preparing a forthcoming poetry reading at the San Francisco public library.

It is human nature and a necessity to consume resources to survive. It is a human frailty and not a necessity to do so unsustainably. The extraction problem is not confined to mining fossil fuels or minerals from land and the deep sea. Unsustainable extraction occurs in many forms, for example, clear-cutting forests; overfishing oceans, rivers, and lakes; and over-drafting groundwater from aquifers. Unsustainable extraction in any form is attended by greed, lawlessness, treatment of the earth and its marvelously varied inhabitants as an externality, and a disregard for present and future generations.

In Butte, unsustainable extraction created the mammoth open pit known as the Berkeley Pit, a mile wide, mile-and-a-half long, and third of a mile deep abyss where thousands of snow geese have perished after landing on its toxic lake. It is a hellish legacy of the Anaconda copper mine. Ed Dobb told its story in his article, “Pennies from Hell.” That toxic abyss also symbolizes the deep hole that we and the fellow inhabitants of our planet will all be in if we don’t act now, with the crucial help of the arts. Instead of plunging into the abyss, the arts can help us step away from the edge and begin moving in a different direction.

In her book, Undermining: A Wild Ride Through Land Use, Politics, And Art in the Changing West, Lucy Lippard, author, curator, and project participant, writes: “Of course art cannot change the world alone, but it is a working ally to those challenging power with unconventional solutions.” In their article, “Arts, Sciences and Climate Change: Practices and Politics at the Threshold,” scholars Jennifer Gabrys and Kathryn Yusoff, write that “Between sciences and arts, there are correspondences and passages to be detected, which may even come about through a shared attention to issues and events—like the breaking up of the actual North-Passage. Previously impassable or difficult terrain opens up—not to reveal a space of simple agreement, but instead to suggest new spaces of exploration, imagination and concern. Climate change reveals such a passage, a space of environmental shifts and cultural complexity, of scientific study and political conflict.” In addition to the focus of the Extraction Project, varied recent exhibitions, programs, and commentaries demonstrate that art can help save the planet.

Combining their talents, vision, and aesthetic and ethical senses, artists can imaginatively and resolutely explore new spaces and forge alliances—when fitting and feasible—with scientists, lawyers, and other individuals and organizations concerned about our planet and inspiring as well as inspired by emerging young leaders. Together, they can cross “the line where the pressure of duty leaves off and the challenge of excellence begins,” in the words of legal philosopher Lon Fuller.

Ten years ago, in Note to the Next Generation, I said, “Apocalyptic words were not effective to cause people preoccupied with various stresses to pay attention to climate change and may have even fostered alienation, denial, and hostility.” As Elke Weber has recently written: “1) climate change does not elicit sufficient fear or dread; 2) motivating climate action through fear or guilt is a bad idea even
though it might sound like an effective approach; and 3) we need to help people recognize their personal experience of the concrete impacts of climate change on their lives, though this is easier said than done and may not work for everyone.”¹⁴ Incremental progress is hard enough to achieve on any front and is inadequate to meet the challenge of climate disruption. Despite advances on some fronts, for example, in California and with the Paris Agreement, there have been retrograde and hostile maneuvers on others, for example, the former Trump Administration’s emphasis on unsustainable extraction, attacks on protection of endangered species, disregard for environmental laws, withdrawal of the U.S. from the Paris Agreement, rejection of science, denial of climate change, and appeal to base, negative partisanship and petromasculinity.¹⁵ There is plenty of damage to repair and plenty of cause to sound the alarm. We also need to find and use improved ways of communication that will engage people at a personal level and move them to act positively.

The Extraction Project holds the promise of fostering breakthrough changes in public opinion and public policy, including wider recognition of an enforceable human right to a healthful environment.¹⁶ It is a singular component of a multi-pronged strategy of action that involves various disciplines. It augments significantly the historic and contemporary contributions of the arts to the environment and to meeting the challenges of climate change.

**WHY ARE THE ARTS NEEDED?**

Professional disciplines such as science, engineering, law, economics, public policy, and journalism are necessary but not sufficient to counter unsustainable extraction, environmental injustice, greed, and ignorance. They are not adequate alone to overcome the harm caused by “merchants of doubt,” “truth decay,” and insidious advertising.¹⁷ “The failure of widely accessible, compelling science to quiet persistent cultural controversy over the basic facts of climate change is the most spectacular science communication failure of our day,” as Dan Kahan, founder of the Yale Cultural Cognition Project, has critically observed.¹⁸

Science and the arts are closely related and can inspire each other. Indeed, the term “scientist” is a hybrid of “artist” and the Latin “scientia.”¹⁹ Both disciplines require creativity, imagination, perseverance, and passion.²⁰ Physicist and Nobel Laureate Chen Ning Yang compared reducing “complicated phenomena to a few equations” to poetry as a “condensation of thought.”²¹

Leonardo da Vinci was an artist and inventor. Alexander von Humboldt “influenced many of the greatest thinkers, artists and scientists of his day” through his discoveries, ideas, and drawings. John James Audubon was a naturalist and artist. Samuel F. B. Morse was an inventor and painter. George Washington Carver was an artist before he became a peanut scientist. Alan Bean was an astronaut and painter. Hedy Lamarr was an actress and inventor. Alexander Fleming’s artistic eye and painting of bacteria, along with serendipity and genius, helped him discover penicillin, benefit humanity, and earn the Nobel Prize. Rosalind Franklin’s and Raymond Gosling’s famous Photo 51 led to the discovery of the DNA double helix. Hope Jahren’s “Lab Girl” reflects what Vladimir Nabokov described as essential for a writer: “the precision of a poet and the inspiration of a scientist.” George Seurat’s paintings were influenced by the science of color. David Hockney’s views of art history are influenced by physics. Santiago Ramón y Cajal, a Nobel Prize winner and the reputed “father of modern neuroscience,” also produced more than twenty-nine hundred drawings that reveal the nervous system, many of which are reproduced in the recent book, The Beautiful Brain.

Although not based on scientific fact, ancient myths can convey a modern message relevant to climate disruption. Phaethon, for example, drove his father Helios’ sun chariot across the sky causing havoc in the sky and earth and was sent hurling to earth by a lightning bolt from Zeus.

Evolving neuroscience is revealing the power of art to induce changes in human behavior, facilitate discovery, and inspire invention. Stories and other forms of art have the power to inspire empathy, motivate action, and release the brain’s oxytocin (OXY), a neuropeptide that stimulates emotions and may induce altruism. One recent experiment concludes that “a more accurate understanding
of altruism and its underlying regulatory mechanisms, including OXY [...]” may “motivate more individuals and groups to sacrifice money for ecological sustainability, which may help improve climate change prevention and the preservation of biodiversity.”

In the last three lines of her poem, “The Weighing,” Jane Hirshfield writes:

The world asks of us
only the strength we have and we give it,
Then it asks more, and we give it.

Perhaps altruism and a consequent sense of fairness and justice for our environment may also foster a sense of fairness and justice for each other.

While recognizing the positive potential of emotions and the arts and the insights of neuroscience, we must also recognize their negative potential for manipulation and misuse such as the propaganda reflected in Nazi and Soviet posters, films, and music. This danger is even more ominous in the digital age than it was in the “Age of Mechanical Reproduction” when Walter Benjamin warned that “The logical result of Fascism is the introduction of aesthetics into political life,” and Clement Greenberg wrote that although it was “too difficult to inject effective propaganda into” avant-garde art and literature, “kitsch is more pliable to this end” and “keeps a dictator in closer contact with the ‘soul’ of the people.”

Communicating science through art is essential. As Bill McKibben, founder of 350.org, has written, “science alone can’t make change, because it appeals only to the hemisphere of the brain that values logic and reason.” Reason and meaning on the one hand and emotion and feeling on the other are mutually reinforcing as well as occasionally in tension. The arts help link experience and emotion. As Elaine Scarry has written about beauty and justice and their mutual relationship with symmetry, “matters that are with difficulty kept legible in one sphere can be assisted by their counterpart in the other.”

As Alice Jardine has written, letters, syllables, words, and “the sonorities of language,” have the power “to creatively shape all invention, to evoke mystery unrecoverable by logic or syntax, to profoundly change any status quo.” Biomedical engineer and science communicator Paige Jarreau states that art “gives scientific ideas shape and imagination.” The American Academy of Arts & Sciences recently initiated the “Accelerating Climate Action” project involving “social scientists, artists, and humanities.” Confronting climate change without engaging both sides of our brains is like confronting a bully with one hand tied behind one’s back.

It took me some time to appreciate the crucial and important role the arts have played and must play. After writing about climate change and scientific uncertainty and participating in workshops with scientists, journalists, and lawyers, I realized that science and reason, although critical, are not getting through to enough people. This essay about the Extraction Project’s “glorious ruckus” is written with the intention of sharing with those friends, colleagues, and potential supporters who might not already have considered it, my appreciation for the vital voices of artists.
HOW CAN ARTISTS HELP?

Artists such as painters, musicians, dancers, poets, storytellers, dramatists and theater artists, photographers, filmmakers, fine-art printers, cartoonists, and climate data visualization artists—who must also have environmental authenticity and credibility—are needed to bring their talents, creativity, spirit, and emotional sensibilities to the challenge of protecting and reclaiming our environment. Many are doing so now, individually and through organizations such as Artists & Climate Change (an initiative of the Arctic Cycle), the Climate Reality Project, Extinction Rebellion, and others, and their numbers are increasing. They bring issues into the realm of emotions, affecting people on a sensory, spiritual, and visceral level in a way that scientific reports, statistics, graphs, and reason do not. They engage us. As artist and philosopher Enrique Martinez Celaya says, “Since it exists only as an experience, art is brought forth not only by the artist but also by its observer.”

Artists remind us of our humanity and renew our determination to care for our earth and our descendants. They evoke the environmental intimacy reflected in cave paintings by ancient humans and Neanderthals and in contemporary artworks such as Storm King Wavefield by Maya Lin and Storm King Wall by Andy Goldsworthy. They help us restore lost intimacy and renew our reverence for nature, as Henry David Thoreau did in 1854 with Walden, and as my friend and Earthjustice colleague, Edwin Matthews, does today in Litchfield Country Journal: Notes on Wildness Around Us. They move us from despair about a Silent Spring to the hopefulness of the hymn, “How Can I Keep from Singing.” Like the Lorax, they speak for the trees who have no tongues, and, like the fox who spoke to the Little Prince, they remind us that “You become responsible, forever, for what you have tamed.” Poet John Daniel, in Descendants of the Nuclear Age, reinforces our sense of responsibility to unborn descendants and fellow creatures who lack human voice and power: “only in us can they speak at all, they speak if we speak for them.” Artists spark a child’s sense of wonder, simplicity, and good-heartedness and rekindle those spirits in adults. They inspire action while rejuvenating our inner wilderness.

Artists of all ilk restate our deepest and evolving values in a language accessible to the times (whether fine arts, music, or literature). They reinforce the compassion that must attend the law and guide science, which without values and compassion are capable of monstrous undertakings. Their function, as Kenneth Rexroth said, “is the revelation of reality in process, permanence in change, the place of value in a world of facts.” They act as our conscience, as Picasso’s Guernica demonstrates so vividly. They help us cope with and sometimes even survive the direst conditions as they did for some prisoners in Nazi concentration camps and, under harsh but less dire conditions, for some Japanese Americans segregated and incarcerated in U.S. camps and centers during World War II. Art helps migrant children in detention camps find their voices. “Art is here to prove, and to help one bear, the fact that all safety is an illusion,” said James Baldwin in his talk, “The Artist’s Struggle for Integrity.”

Artists have lasting influence. They address the widespread hunger for community, spirituality, and fairness that Pope Francis, for example, in his encyclical, Laudato Si, and other leaders are addressing. They evoke our ability to empathize...
with victims of environmental injustice, cope with uncertainty, appreciate new
frames of reference, identify with others, address the ethical challenges of geoengineering and as-
isted evolution of species (perhaps someday our own?),⁵⁹ and build morale such as the song “We Shall Overcome” does in the ongoing struggle for civil rights. They transcend language barriers as well as national, political, and cultural boundaries. They dramatize earth wounds like acid mine drainage (AMD) as well as reclamation. T. Allan Comp, a former historian for the National Park Ser-
vice and a historic preservationist, has spurred community effort in Appalachia through his AMD&Art project to reclaim toxic former coal mines using design, sculpture, and history, as well as science.⁶⁰

Rachel Carson’s Silent Spring combined science and imagery to help ignite the environmental movement. She also said, “I believe quite sincerely that in these difficult times, we need more than ever to keep alive those arts from which [we] derive inspiration and courage and consolation—in a word, strength of spirit.”⁶¹ Upton Sinclair’s The Jungle exposed the meatpacking industry and led to the Pure Food and Drugs Act of 1906; Sinclair famously said “I aimed at the public’s heart and by accident I hit it in the stomach.”⁶² Likewise, the Abu Ghraib photographs and Fernando Botero’s paintings bring home the evils of torture and lawlessness, and Sebastião Salgado’s photographs illustrate the bravery and beauty of workers while the fruits of their toil are being extracted under often grim conditions.⁶³

ADDITIONAL EXAMPLES OF ENVIRONMENTAL CONTRIBUTIONS BY ARTISTS

POEMS

Poems such as “On the Fifth Day” by Jane Hirshfield, “Erosion” by Terry Tempest Williams, “Extinction” by Elizabeth Herron, “Poem of the One World” by Mary Oliver, “The Problem of Describing Trees” by Robert Hass, “Watershed” by Tracy K. Smith, “For the Children” by Gary Snyder, “The Peace of Wild Things” by Wendell Berry, and “Waging Beauty As the Polar Bear Dreams of Ice” by Daniela Gioseffi, help us imagine a better world, comprehend the despoliation we have caused, listen to new voices such as “the cellists” in Jane Hirshfield’s poem, and enchant as well as sometimes disenchant us.⁶⁴ “Poems pull water from air we thought was dry,” says poet Kristin George Bagdanov, author of Fossils in the Making.⁶⁵ “Poets are the unacknowledged legislators of the world,” wrote Percy Bysshe Shelley.⁶⁶
**SONGS**

Songs such as “This Land is Your Land” by Woody Guthrie, “Big Yellow Taxi” by Joni Mitchell (“they paved paradise and put up a parking lot”), “What Have They Done to the Rain” by Malvina Reynolds, “Rejoice in the Sun” by Joan Baez, “Don’t Go Near the Water” by Johnny Cash, “Save Our Planet Earth” by Jimmy Cliff, and “Sailing Up My Dirty Stream” by Pete Seeger, which contributed to the enactment of the Clean Water Act of 1972, are just a few among many examples of the intersection between music and the environment.⁷⁷ The Climate Music Project makes climate change personal through music. We can strive to make it possible to sing “America the Beautiful” with conviction that the title is still true.⁶⁸

Not all forms of extraction are inherently destructive or inherently Earth-based. As a counterpoint, images extracted from space telescopes are now being turned into tunes.⁶⁹ And humans are not the only musical species. As Paul Johnsgard has written in “Crane Music,” as just one example, “Cranes are the stuff of magic, whose voices penetrate the atmosphere of the world’s wilderness areas” and “have served as models for human tribal dances in places as remote as the Aegean, Australia, and Siberia.”⁷⁰

**DANCES**

Environmental dance is evolving as a way of expressing our connection to the earth. Dancing on the banks of the Cannonball River in North Dakota, the Standing Rock Sioux, joined by representatives of over 250 indigenous tribes from around the world, sought to save the sacred earth and stop the Dakota Access Pipeline.⁷¹ Dances such as GLACIER: A Climate Change Ballet, choreographed by Diana Movius, which imagines dancers as melting polar icecaps; On the Nature of Things, a collaboration by Karole Armitage and Paul Ehrlich; and Bringing the Arctic Home, choreographed by Jody Sperling, create an emotional experience and movement that may lead to action.⁷² Destiny Arts, in Jewels, features teenagers who venture underground to find the “Book of Secrets” to help save Planet Earth and learn that they hold the secrets within themselves and have the power to make necessary change.⁷³ As Barbara Ehrenreich writes in Dancing in the Streets: A History of Collective Joy, “festivity generates inclusiveness.”⁷⁴

With transformative progress and good-will in all quarters, we and our descendants should be able to avoid what Kim Stanley Robinson describes as “extreme pathological responses to biosphere collapse,” reminiscent of the sadistic excesses of Prospero and his privileged guests in Edgar Allan Poe’s “The Masque of the Red Death,” or Camille Saint-Saëns’ “Danse Macabre.”⁷⁵

**PHOTOGRAPHS AND PAINTINGS**

Photographs such as those by David Maisel, Robert Glenn Ketchum, Michael Light, Garth Lenz, and Mandy Barker depict the beauty of the earth as well as the despoliation that humans have caused by extraction.⁷⁶ Christmas Eve 2018 marked the 50th anniversary of Earthrise, Apollo 8 Astronaut Bill Anders’ photograph that depicted the beauty and fragility of Earth, which the late Galen Rowell described as “The most influential environmental photograph ever taken.”⁷⁷ Photographs are sometimes shocking, but can be deployed with intelligence and sensitivity to help prevent or mitigate image fatigue, foster a wariness of photoshopping and “deep fakes,” and comment on the seductiveness of the beauty depicted despite the horror or cruelty also revealed.⁷⁸

Photographs and paintings contribute to legislation and public policy.⁷⁹ William Henry Jackson’s photographs and Thomas Moran’s paintings led to the creation of Yellowstone National Park.⁸⁰ The photograph of President Teddy Roo-
ARCHITECTURE AND DESIGN

Denis Hayes, a national organizer of Earth Day and President of the Bullitt Foundation, led the initiative to establish the Bullitt Center in Seattle as a “deep green building.” In his words, “Deep green buildings are a necessary component of resilient cities, and resilient cities are a strategic necessity if the current generation is to pass on a diverse, habitable planet to the next.” In 2020, the Environmental Law Institute honored Denis Hayes with its Environmental Achievement Award. The Center for Resilient Cities and Landscapes at Columbia University “uses planning and design to help communities and ecosystems adapt to the pressures of urbanization, inequality, and climate change.”

LOOKING AHEAD WITH THE EXTRACTION PROJECT

The Extraction Art Project has a big vision and a simple message that concentrates on the arts and the environment: It hopes to educate, provoke, inspire, and reinforce others—educators, activists, academics, journalists, scientists, policy and opinion makers, and concerned individuals—while maintaining its independence as an art project. It has enlisted topnotch artists and art venues while respecting their boundaries and helping non-artist groups and individuals call attention to the social and environmental consequences of industrialized natural resource extraction.

Peter and the project’s allies are continuing to seek additional fruitful liaisons and funding. They are continuing to build publishing and advertising media opportunities and sponsorship for exhibitions, especially in regrettably underfunded small art museums and non-profit galleries around the West and in potential musical venues. They are countering the nefarious forces that have targeted federal and state legislative and regulatory programs and engaged in a propaganda blitz promoting their anti-environmental policies. Now is an ideal time for philanthropists to support excellent projects to communicate science through art and reach people on an emotional level. “Climate philanthropy has failed” and needs to help environmentalists “learn how to speak from the heart as well as the head,” as Mark Gunther reports in the Chronicle of Philanthropy.

Films and Plays

Al Gore’s documentaries, An Inconvenient Truth and An Inconvenient Sequel: Truth to Power, are pioneering and iconic works. Important new films are addressing climate change, for example, Joe Gantz’ documentary, The Race to Save the World, released on Earth Day 2021. Playwrights are addressing climate change in new theatre works, for example, those sponsored by The Arctic Cycle and Climate Change Theatre Action.

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Chuck Forsman, Berkeley Pit, Butte, MT, 2019, photograph


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tickets, and sales of items donated by artistic supporters. It has also received and continues to seek nonmonetary contributions such as paintings, poems, musical compositions, broadsides, photographs, printings, gallery space, and the help of volunteers.

The Extraction Art Project continues to reach out to various environmental, tribal, and pertinent nonprofit organizations that are addressing the challenges of unsustainable extraction and climate change. It affords an opportunity to build a movement that will help our planet, the innumerable varieties of life it sustains, our families, children and grandchildren, and untold generations to come if we act for them now. Come join the glorious ruckus.*

*The CODEX Foundation, a nonprofit tax-exempt 501(c)(3) organization that Peter founded, will continue to receive and administer charitable donations and project funds through a separate designated account (2203 4th Street, Berkeley, CA 94710-2214; tax id. no. 11-3763607).

ENDNOTES AND COMPILATION OF SELECTED REFERENCES


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Ed would sometimes end a conversation or message with “Take it easy, my friend,” or the equivalent Butte phrase, “Tap ‘er light,” (meaning more literally in mining days to take care to avoid cave-ins or prematurely detonating explosions). For a local obituary, see, e.g., Susan Dunlap, Butte Literary son Edwin Dobb is Dead, MONTANA STANDARD (Jul. 19, 2019).


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28. Peter Bradshaw, Bombshell: The Hedy Lamarr Story, the startling life of the film star/inventor, THE GUARDIAN (Mar. 9, 2018); see: https://www.invent.org/inductees/hedy-lamarr (National Inventors Hall of Fame); in 1997, she received the Pioneer Award from the Electronic Frontier Foundation, see: https://www.eff.org/deeplinks/2012/10/celebrating-pioneer-award-winning-women-ada-lovelace-day.


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Examples of other photographs that have influenced public opinion and public policy include Migrant Mother by Dorothea Lange, which helped address issues of migrant labor during the Great Depression, and Napalm Girl by Nick Ut, which contributed to ending the Vietnam War.


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Andrew Simms, Why climate action needs the arts, THE GUARDIAN (Jun. 3, 2015) (“For some, perhaps, art may be a hammer with which to shape reality, for others it’s a window opening on a world in a compellingly new way”), https://www.theguardian.com/environment/2015/jun/03/why-climate-action-needs-the-arts?CMP=share_btn_link.

COMMUNICATIONS AND COLLECTIVE ACTION PROJECTS

Yale Climate Communications project, http://www.climatecommunication.yale.edu.
Redmap (“Range Extension Database and Mapping Project”), an interactive project that enables and invites Australians to share sightings of marine species that are uncommon to their local seas, http://www.imas.utas.edu.au/community/citizen-science/citizen-science-lbs/citizen-science/redmap.
Maine Center for Coastal Fisheries, which seeks to protect and sustain ocean resources through collaboration of fishermen and their communities, https://coastalfisheries.org.
Center for Climate Change Communication, https://www.climatechangecommunication.org/.

PHILANTHROPY

Kresge Foundation, see https://kresge.org.
See also the list of funders of the Nevada Center for Art + Environment, http://www.nevadaart.org/ae/.

ENVIRONMENTAL ORGANIZATIONS

For a synopsis of the work done by Earthjustice in its Northern Rockies Office, which includes important and effective litigation involving mines and lawless extraction, see https://earthjustice.org/about/offices/northern-rockies.
Tim Preso, a brilliant lawyer and former reporter, is the managing attorney for that office. See https://earthjustice.org/about/staff/timothy-preso.
The Earthjustice Council is an advisory group separate from the Board, see https://earthjustice.org/about/earthjustice-council. Tom Turner tells the story of the vital work and history of Earthjustice and its predecessor, the Sierra Club Legal Defense Fund, in TOM TURNER, WILD BY LAW: THE SIERRA CLUB LEGAL DEFENSE FUND AND THE PLACES IT HAS SAVED (1990); JUSTICE ON EARTH: EARTHJUSTICE AND THE PEOPLE IT HAS SERVED (2002); and ROADLESS RULES: THE STRUGGLE FOR THE LAST WILD FORESTS (2009).
Environmental Law Institute, https://www.eli.org. With funding from the National Science Foundation, the Environmental Law Institute organized three recent workshops for about fifty scientists, journalists, and lawyers. After participating in those workshops as well as writing Note to the Next Generation, 28 ENVIRONMENTAL FORUM (Nov./ Dec. 2011), and Communicating Scientific Uncertainty: A Lawyers Perspective, 45 ENVIRONMENTAL LAW REPORTER 10159 (2015), I am convinced that imaginative projects such as EXTRACTION: Art on the Edge of the Abyss are necessary to raise the glorious ruckus the project envisions.
Earthworks, https://earthworks.org
American Tribes: “Conversations with the Earth: Indigenous Voices on Climate Change”
REFERENCES REGARDING FELIX TRAYNOR, 1871–1924

Baptized: November 10, 1871, Clonduff Parish, County Down, son of Roger Traynor and Ellen McConville.

Marriage to Elizabeth O’Hagan: Salt Lake City Herald, Apr. 30, 1899.

Admission to U.S. Citizenship: Salt Lake City Herald, Jun. 7, 1900.

Dray wagon advertisement: The Park Record, Aug. 2, 1918.

Obituary: The Park Record, May 30, 1924.

Life expectancy of a man according to a statistical source: 39.41 years in 1870, 58.16 years in 1925, and 78.81 years in 2020. See https://www.statista.com/statistics/1040079/life-expectancy-united-states-all-time/.


Daly West mine, https://parkcityhistory.org/mining/daly-west-mine/.


In 1977, Congress enacted the Federal Mine Safety and Health Act of 1977 (MSHA). The Act and the penalty system are administered by the Department of Labor, see https://www.ecfr.gov/cgi-bin/text-idx?SID=f563151d4c4e003f464fc78296bc3a8&amp;amp;node=p3yo1.100&amp;amp;g=div5. At the hearing on March 31, 1977, before the Subcommittee on Labor of the Committee on Human Resources, U.S. Senate, 95th Congress, First Session, on S. 717 (pp. 178-2225, Gordon M. Miner, Vice President of Hecla Mining Co.; Laurence Casteel, Division Manager, St. Joe Minerals Corp.; Langan Swent, Vice President-Engineering, Homestake Mining Co.; and Edward A. McCabe, Hamel, Park, McCabe & Saunderson, accompanied by Robert W. Long, Deputy General Counsel, American Mining Congress presented opposition testimony and a section-by-section analysis of the bill. These interests opposed being combined with the coal mining industry among other grounds, including, e.g., “The American Mining Congress is opposed to the imposition of any mandatory penalties” (p. 210), and concern expressed by Mr. Swent about the provisions relating to inspections and investigations and how best to conduct “well-organized and successful mine evacuations” (p. 218).


For the story of Congresswoman Jeannette Rankin’s Fight to Make Mines Safe for Democracy and speech in Butte, Montana, on August 18, 1917 criticizing the safety and labor practices of the Anaconda Copper Mining Company, after a disaster in which 168 miners died and the surviving miners went on strike, see: https://history.house.gov/Blog/2017/October/10-18-Rankin-Mines/.

Miners’ Hospital: https://www.visitparkcity.com/listing/miners-hospital/16092/.

Ben Cater, Grassroots Healing: The Park City Miners’ Hospital, 78 Utah Historical Quarterly 304, 307, 322 (2010).

In 1963, when he gave the Baccalaureate Address at the University of Utah on June 9, 1963, entitled, “Many Worlds Times You,” my father recalled his childhood days in Park City: “It was a lively town, where the news of the day spread quickly, though hardly a telephone had yet intruded to improve its circulation. It resounded by day with the rumble of wagons laden with ore from the great mines and met evening with candlelight and coal oil lamps and here and there an electric light. It was not freer than any other place from provincialism and prejudice and sudden gusts of crowd hysteria, but it managed to accommodate the heterogeneous speech and ways of beliefs of people who had come from all over the world to call it home. I heard English in many accents, eloquent phrases and coarse bits of speech, when I left Rossi Hill in the morning and climbed down to school from Mill Road to Swede Alley, over the China Creek bridge, and then across Main Street, with many a detour along the way.” THE TRAYNOR READER 11, 12 (1987) (collection of essays by Roger J. Traynor published by The Hastings Law Journal)
Felix Traynor, 1871–1924

Like many Irish immigrants who came to mining towns such as Butte, Montana, and Park City, Utah, my paternal grandfather, Felix Traynor, left Hilltown, County Down as a young man and came to Park City. In 1899, he married my grandmother (Elizabeth “Lizzie” O’Hagan), also from County Down. In 1900, he became a U.S. citizen, and their first child was born, my father Roger Traynor.

Felix Traynor was a hard rock silver miner. After his health deteriorated from tuberculosis (“miners’ consumption”) contracted in the mine, he ran a horsesrawn dray wagon with help from my teen-aged father. Park City’s newspaper, the Park Record, carried his brief advertisement, “It’s Your Move: Felix Traynor, the expert drayman, is specially equipped for moving pianos to any part of the city and also packing them for shipment. If you are moving back to town or contemplating going away, see Felix Traynor, Phone 188x. All kinds of transferring done on short notice. Prices reasonable and satisfaction guaranteed.”

Felix Traynor died at age 52, a decade before I was born, in San Diego where he and my grandmother had moved briefly to be in a warmer climate. His obituary remarked on his honesty and straightforwardness. Fortunately, I did get to know my grandmother who recited Irish poetry from memory, spoke with an Irish accent, cooked dumplings, and was a devout Catholic throughout her long life.

George Hearst had purchased the local Ontario Mine for $27,000 and extracted over $50,000,000 in silver ore from it. The Hearst fortune included interests in other mines such as the Anaconda Copper Mine near Butte, Montana, the Homestake Gold Mine in Lead, South Dakota, and the Comstock Silver Mine near Virginia City, Nevada. On a visit to the Park City Museum, I saw the Hearst family silver service on display, and imagined that my grandfather or miners like him helped mine that silver.

Miners worked long shifts in cold, damp, and unsafe conditions. In July 1902, 34 miners were killed in an explosion in the Daly West and Ontario Mines in Park City. According to a local history, “Mine owners forced miners to work long hours under dangerous working conditions, which precipitated serious or fatal accidents and illnesses.” The former Miners’ Hospital in Park City was erected in 1904 and by 1911 was treating more than one-thousand patients annually. It is now a community center in what became a famous ski resort.

Extraction is not limited to mining fossil fuels and minerals, overdrafting aquifers, overfishing, clearcutting, and otherwise harming our physical environment. It includes extraction of labor from human beings under conditions that cause illness, injury, and early death.