UNIVERSITY OF CALIFORNIA, SAN DIEGO

Decolonizing Cartographies: Sovereignty, Territoriality, and Maps of Meaning in the Uranium Landscape

A dissertation submitted in partial satisfaction of the requirements for the degree

of

Doctor of Philosophy

in

Ethnic Studies

by

Traci Brynne Voyles

Committee in charge:

Professor Ross Frank, Chair
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Professor David Naguib Pellow
Professor Lisa Yoneyama

2010

The dissertation of Traci Brynne Voyles is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Co-Chair

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Chair

University of California, San Diego

2010

DEDICATION

In 2009 I received a teaching award that I was to accept at an awards ceremony in front of UCSD's chancellor. In my acceptance speech, against my father's mild objections that this was not the moment for "political statements," I called on the chancellor to respond to the demands of the Literature Department that they be moved from a building that was suspected to be causing a cancer cluster.

In my mind, the decision to give voice to the demand was simple: either boycott the awards ceremony, say something to the chancellor personally, or use the platform I was given in order to redirect the conversation about teaching in academia back to a case of environmental injustice occurring on our very campus. Since I had received the award for teaching a course on environmental injustice, I couldn't very well let the opportunity slip by.

It is in this same spirit—that of using the platforms you are given, when you are given them—that I offer a demand rather than a dedication:

UCSD, repatriate the remains.

TABLE OF CONTENTS

LIST OF FIGURES

ACKNOWLEDGMENTS

Given the extraordinary amount of time and labor that goes into a doctoral dissertation, the word "acknowledgement" seems too weak a word for the process of giving thanks and recognition to those people who built the scaffolding of the final dissertation. My first thanks must go out to all the folks in New Mexico who spend their days working to promote environmental justice in the uranium landscape, and who took time out of that work to talk with me: Michael Jensen of Amigos Bravos, and Chris Shuey and Paul Robinson of the Southwest Research and Information Center were indispensable resources. The archival research for the project was funded by the New Mexico Office of the State Historian Research Fellows Program, and this fellowship gave me more than a research opportunity: it gave me an opportunity to present my work at a public lecture and to meet interesting, committed activists and scholars in New Mexico. My time as a fellow with OSH was absolutely critical to the development of this project as a whole. Dennis Trujillo and Estevan Rael-Galvez acted as mentors during that time, and I owe them a deep gratitude for their support and the potential they saw in my work.

During the writing phase of the research, I was lucky to be able to attend the Transnational Feminism and Justice Dissertation Writing Workshop in 2009, with its theme of "Transnationalizing Justice." During one eye-opening weekend in northern California, Professors Gina Dent and Roshanak Keshti took a handful of dissertators from universities across California and gave us the opportunity to share our work. Certainly few graduate students get such an opportunity. This workshop provided intellectual and professional support that guided me through the dissertation-writing phase, and I will take the skills and knowledge I gained during that weekend wherever my career leads.

My fellow graduate students in the Ethnic Studies Department have provided years of support, encouragement, and friendship as we walked this challenging path to our respective degrees. I would like to thank Angela Morrill, Maile Arvin, Ma Vang, Maria Teresa Cesena, Kit Myers, Long Bui, Angela Kong, Thea Quiray Tagle, and Cathi Kozen, many of whom have read drafts of these chapters, participated in writing groups with me, and generally offered their support and advice. Thuy Vo Dang, Theresa Cenidoza Suarez and Julietta Hua have been friends and mentors. Together, as we babysat, got pedicures, and met for late night cocktails or afternoon margaritas, we talked about work, life, and professionalization; in the end, these women taught me more about myself and my work than I ever could have learned on my own. Jose Fuste and Theofanis Verinakis were the best friends I could have asked for in graduate school. These are friendships born of long nights of studying, talking, writing, and talking some more—they will always be part of my life and part of this work.

The last few years of graduate work should prepare a young scholar for the rigors of assistant professorship, and in the Ethnic Studies Department at UCSD I was fortunate to develop relationships with a number of our assistant professors who were willing to help me on that path from student to professor. It is no exaggeration to credit Kalindi Vora and K. Wayne Yang with teaching me how to teach—and in Professor Yang's case, teaching me that students should always be expected, at some point in the quarter, to sing. Roshanak Keshti, Kirstie Dorr, and Sarah Clarke Kaplan all made time to talk with me about professionalization, dissertating, and the job market. Their advice was always sound, sympathetic, and deeply appreciated. Finally, the skills I learned as Adria Imada's

research assistant were indispensable to the archival work I conducted for this dissertation, proving yet again that no skills you learn as an academic ever go to waste.

It is impossible to thank a doctoral committee enough for the work they do on your behalf. For over four years, Lisa Yoneyama has given me the confidence, through her tough questions and unwavering faith in my ability to answer them, to continue in academia. I have been honored to have her be a part of this work.

Yen Le Espiritu saw me through my gawkish first years as a graduate student, through the trials of my master's thesis, and through, in the end, my dissertation defense. In all of those seven years, she has supported me and given me an example to aspire to; as I told many, many graduate students in our program, "Yen makes everything clear." A trip to her office could more often than not untangle an otherwise hopeless knot of ideas. In addition to all the other work of being a committee member, Yen wrote letters of recommendation on my behalf whenever I needed them—and, as any graduate student knows, these letters are an indispensable part of our professional work.

I can pinpoint the moment I transitioned from being a graduate student to a doctoral candidate. It was not during my qualifying exams, but rather sitting in the office of David Naguib Pellow in the months leading up to the exam. Those meetings were some of the most intellectually stimulating I have ever had, and as we talked through the problems of environmental racism and how to write about it and teach it, I grew, quite suddenly, into the academic I had always wanted to be. Without David's mentorship in the field of environmental justice studies, without his keen eye and encyclopedic knowledge, I would not have been able to qualify, let alone write a dissertation. In the ten years I have known David, he has been a mentor and a friend. His hand is in this work in

more than just the obvious ways, and when I am casting about for inspiration and confidence, it is often his voice in my head that gets me going again.

Without Lisa Sun-Hee Park I would, *literally*, not be here writing these acknowledgements. Ten years ago, Lisa hired an awkward eighteen-year-old undergraduate to be her research assistant at the University of Colorado, Boulder. She has been my mentor, teacher, editor and friend ever since. Everything I know about starting a research project (in 2000 she said simply: "you just have to jump in the deep end. Learn by doing.") and finishing a writing project (for ten years she has told me, "just get it done. Write, write, write. And then keep writing.") I owe to Lisa Park. When I moved to San Diego, a confused kid in a tough grad program, Lisa, David, and JP were my family. They brought me into their home, made me meals, and made me laugh. Lisa was always there for me. I cannot thank her enough. Years and years to come of telling stories and sharing meals will have to suffice—hopefully in Albuquerque.

Ross Frank, my dissertation chair, has picked me up and dusted me off more times than I can count. In the last two years of graduate school, he was always available for a meeting, to read a draft, or to write a letter of recommendation. More than that, Ross is the kind of mentor who understands instinctually the bizarre liminality of being an doctoral candidate—not quite of the student world, but not quite of the professor world either. He has always been kind, professional, respectful, and more than generous. More than anything else, I learned from him that this kind of work can be deeply personal and deeply professional at the same time; these two qualities, as evidenced by Ross's example, need not be in conflict. Ross commits himself to his work and to his students

with a consistency and vigor I have never seen before, and I am blessed to have been able to work with him.

To Juan Carlos Marante, the greatest and most wonderful surprise of my life: you made things smooth when they were rough; you made me sweet and calm in the face of chaos; and you made me belly-laugh every single night. These things, as much as literature reviews and bibliographies, are the ingredients that make the soufflé of doctoral work. Thank you, thank you, thank you.

Finally, nothing in my life is possible—ever—without the love and support of my family. To Doctor Marvelyn Joy Browne, Doctor Wyatt Frank Voyles, and Doctor Jamie Lynne Voyles, I will simply say: I love you and I am proud to be one of you.

I can't wait to see where we all will go from here.

VITA

Areas of Interest Environmental justice studies; comparative ethnic studies; indigenous studies; transnational feminist theory; indigenous feminist theory; cultural geography; space theory; southwest studies; environmental history.

Education

2010 University of California San Diego Ethnic Studies Department
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2008 University of California San Diego Ethnic Studies Department
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2005 University of California San Diego Ethnic Studies Department
Master of Arts in Ethnic Studies, June 2005
MA Thesis title: "Home Birth: Race, Reproduction, and Patriarchy in San Diego, California"

2003 University of California San Diego Ethnic Studies Department
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2002 La Universidad Iberoamericana Santa Fe Mexico City, Mexico
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2003 University of Colorado Boulder
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Teaching Positions

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[in progress]	"Stop the Rape of Mount Taylor!: Environmental Degradation, Sexual and Gender Violence, and the Re-mapping of the Uranium Landscape"
[in progress]	"Women Who Ride Away: the Racial and Gender Politics of Escape in the Southwest."
2009	"Environmental Racism" Syllabus," printed in "Teaching and Learning Guide for: Environmental Justice," Julie Sze, Sociology *Compass*, July 2009.

Awards and Honors

2010	UCSD Panhellenic Council Outstanding Professor Award
2009	Institute for Advanced Feminist Research "Transnationalism, Feminism, and Justice" Residential Dissertation Workshop
2009	Barbara J. and Paul D. Saltman Excellent Teaching Award $500
2008	Office of the State Historian Scholars Program Fellowship $2000
2008	Ethnic Studies Outstanding Teaching Assistant Award $100
2004	Eva Johnson Southwest Health and Gender Grant $800

Public Lectures and Presentations (selected)

February 2010	Ethnic Studies 189 "Indigenous Cosmologies" *Guest Lecturer* "Stop the Rape of Mount Taylor: Indigenous Cosmologies and Movements for Environmental Justice"
October 2009	Western Historical Association

Panel Participant
"Queer Ecologies: The Soil Conservation Project and Navajo Stock Reduction of the 1930s"

May 2009 — Indigenous Studies Engages Ethnic Studies Symposium
Panel Participant
"Queer Ecologies: Intimate Cartographies of the Navajo Nation, 1928-1943"

December 2008 — Ethnic Studies 1A "Population Histories in the US"
Guest Lecturer
"Environmental Racism and Environmental Justice"

October 2008 — American Studies Association Annual Meeting
Panel Participant
"At Home on the Front End: The Gender and Sexual Politics of Militarized Environmental Racism"

October 2008 — University of New Mexico, Albuquerque
Public Lecturer for the New Mexico Office of the State Historian
"At Home on the Front End: Intimate Cartographies and Military Industry on the Navajo Nation"

June 2008 — National Women's Studies Association Annual Meeting
Panel Participant
"The Militarization of Uranium and the Gender and Sexual Politics of Environmental Racism"

March 2008 — Ethnic Studies 1C "Race Relations in the US"
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"Environmental Racism and Environmental Justice"

February 2008 — Ethnic Studies Winter Colloquium Series
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Department Service and Volunteer Work

2009 — Surfrider Foundation, San Diego Chapter
Policy Group Coordinator

2008 — UCSD Ethnic Studies Search Committee
Graduate Student Representative

2007 — UCSD Ethnic Studies Search Committee

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2005-2006 License to Freedom Domestic Violence Prevention Program
Volunteer Researcher

Research Experience

Summer 2008 New Mexico Office of the State Historian
Research Fellow
160 research hours conducted at the Center for Southwest Research (Albuquerque) and the New Mexico State Records Center and Archive (Santa Fe).

Summer 2006 University of California San Diego Ethnic Studies Department
Research Assistant, Professor Adria Imada
This research entailed content analysis of early 20th century newspapers and their accounts of ethnic performers at regional World Fairs.

Summer 2005 University of California San Diego Ethnic Studies Department
Research Assistant, Professor Lisa Sun-Hee Park
Research explored domestic violence resources available to refugee women in San Diego area, including background information on refugee populations, interviews with service providers, and interview transcriptions.

Summer 2004 University of California San Diego Ethnic Studies Department
Research Assistant, Professor David Naguib Pellow
Research conducted for the book *Resisting Global Toxics: Transnational Movements for Environmental Justice*, published by MIT Press, 2007.

2001 – 2002 University of Colorado Boulder Department of Women's Studies
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ABSTRACT OF THE DISSERTATION

Decolonizing Cartographies: Sovereignty, Territoriality, and Maps of Meaning in the Uranium Landscape

by

Traci Brynne Voyles

Doctor of Philosophy in Ethnic Studies

University of California, San Diego, 2010

Professor Ross Frank, Chair
Professor Lisa Sun-Hee Park, Co-Chair

This dissertation explores the development of the uranium industry on Native land in the southwest, with a particular emphasis on how Navajo land came to be host over 1,100 uranium mine and mill sites. The disproportionate location of uranium sites on Navajo land, and the fact that these sites have not been cleaned up to protect human and environmental health from the dangers of radiation, certainly makes this an urgent case of environmental racism. My study links the growing literature of environmental justice studies to ethnic and indigenous studies in order to explore the conditions of coloniality that have constructed both Navajo lands and bodies as violable for the purposes of both national security (by the Atomic Energy Commission) and industrial development (by both the Bureau of Indian Affairs and the uranium industry).

This project uses interdisciplinary method and theory to approach what I call the "uranium landscape" from two angles. The first argues that the disproportionate focus of

uranium prospectors and miners in the 1950s relied on constructions in federal cartography and agronomic discourse of Navajo land as "worthless" for agriculture- and grazing-based economies. The second argues that resistance to the uranium industry has taken a distinctively cartographic form, in the sense of protecting parts of the uranium landscape by extending Native claims to that land. Both of these angles explore the ways in which environmental harm and subsequent social movements for environmental justice are shaped by the intersections of racialization, gender, sexuality, and hegemonic ideas about "nature" and political economy.

Preface

Welcome to Mine Country

On the 4th of July 2008, I pulled into the town of Kayenta, in the northernmost part of the Navajo Nation, on an empty gas tank. I was less than thirty miles away from where I had stopped on the side of the road to gape open-mouthed at the two hundred-yard section of the coal slurry I could see from Highway 160. The slurry stretched forebodingly across the highway, angling up to a leering tower on the east. To the west, it cut into the face of Black Mesa, stretching to the mesa's horizon in the oddly linear negative space of cleared trees. Four miles to the west, at the intersections of Indian Route 41, Peabody Coal Company Access Road, and Haulage Road, was the Black Mesa headquarters of the coal mining operation—which I could not see, but knew was there from the crinkled topographic map spread out on my passenger seat. Making a sudden turn up a dirt road that sent my dog lurching onto the floorboards in the back of my truck, I wasted most of the ¼ tank of gas I had left seeking a better angle from which to view this coal mining monolith.

Figure 1 The view of the Peabody Coal slurry from Highway 160

Thirty miles later, I coasted into Kayenta on gas fumes to fill up my tank at the dusty 7-Eleven that presides over the town's single major intersection. Filling a tank with gas, during this particular summer, was an even more politically charged activity than usual—especially in the Navajo Nation, where people regularly drive large pickups fifty miles or more to fill water tanks, get groceries, or attend to livestock located in remote parts of the country. During the summer months of 2008, the price for a tank of gas shot up to almost five dollars a gallon; oil companies raked in record profits; and a barrel of oil cost an unprecedented one hundred and forty-five dollars. Global political-economic forces of resource extraction and transnational corporate capitalism occupied an elephantine presence in every gas station in the continental US, and this particular 7-Eleven was no exception. That summer the weekly Navajo newspaper was full of articles

and editorials that had a central, driving focus: the incapacitating effects of gas prices on Navajos.

Kayenta is not just home to the Peabody Coal mine, but also to a handful of the Navajo Nation's over 1,100 uranium mine sites, which were abandoned after the climax of the uranium boom and left unreclaimed, with the radioactive guts of the mines exposed nakedly to the surrounding air, earth, water, animals, and human population. Kayenta's only other major economy, besides resource-extraction industries, comes from its proximity to Monument Valley and the tourists who pass through to see its breathtaking geologic formations on their way to or from the Grand Canyon.

The next day, I had an entirely different experience driving into the former uranium boomtown of Moab, Utah. Here, the gas was just as expensive, but the sheen of a thriving, well-developed tourist destination in the height of the summer season posed a stark contrast to Kayenta, despite the fact that both towns sit in equally gorgeous landscapes and each has intimate history with the mining industry. I drove through town and nearly careened off the road when I passed by the Uranium Bike Shop, with racks of high-end mountain bikes out front and a three-foot tall graffiti tag of its name on its outside wall. Later, as I walked my dog up Main Street, dodging tourists and looking for an affordable place to eat dinner, I passed under an antique-looking sign on an office building that read matter-of-factly "Uranium Offices, 11 N. Main." Perplexed, I looked for a uranium company on the list of occupants, but found out later that "Uranium Offices" was simply the name of the building—named thusly during the height of the uranium frenzy and left unchanged, presumably, out of nostalgia for those boomtown days.

Figure 2 Uranium Bike Shop, Moab, Utah;

Figure 3 The Uranium Offices, Moab, Utah

These two experiences of two very different towns, so closely juxtaposed, would eventually come to frame my own personal take on mine country, and how uranium in

particular was inscribed on landscapes and came to acquire very curious meanings. In Kayenta, and in the Navajo Nation in general, uranium is just one of litany of metals and minerals that have been extracted from the land to a devastating extent, leaving behind scarred earth and people alike. In Moab, and former uranium boomtowns like it such as Durango, Colorado, mining has assumed an oddly nostalgic affect, a history that lends local flavor to ski areas, camping hot spots, and mountain biking destinations. In and around the Navajo Nation, mining is a very contemporary site of struggle over land, jobs, and sovereignty; in other parts of mine country, it is a colorful narrative of national history, its museums offering tourists an alternative activity on rainy days. This difference is to a large extent the very unnatural evolution of very different political-economic treatments of mining in different places by mining corporations and federal and state governments: in some places mining messes are cleaned up; in others they are not, leaving behind ravaged ecologies that pose a danger to human and nonhuman health alike.

These are just some of the ways in which resource extraction industries remain inscribed on the land, reflecting a deep and abiding presence of the past and of federal cartographic intimacies in the very geography and built environment of the Navajo Nation. Its history beats out from the social landscape in what Mary Pat Brady calls "the imbrication of the temporal within the spatial."[1] The social, political, and economic geographies of the southwest continue to perform *through* the intimacies of federal colonial cartographic projects, producing new politics, maps, and cartographies in a complex, haunted present.

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[1] Brady, 2002, p. 5.

Introduction

The Uranium Landscape

Navajo country is haunted by the uranium industry. Uranium mining and milling have wreaked havoc on environmental and human health in the four corners region, and Navajo land now hosts upwards of 1,100 abandoned mines and mill sites.[2] Radioactive tailings piles litter the Navajo landscape, leaching radon gas into the air and scattering radioactive debris throughout the ecosystem.[3] Rates of cancer and respiratory disease have skyrocketed for a population described as recently as the 1950s by public health experts as being "immune" to lung cancer.[4] Navajo children are diagnosed with bone cancer at a rate five times the national average, and experience rates of ovarian and testicular cancer at rate fifteen times the national average.[5] In recognition of devastating toll the uranium industry has wrought on Native land throughout the southwest, the Department of Energy began describing this region as a "national sacrifice zone" as early as 1974,[6] yet did little to redress the problem and clean up the abandoned mines, mills, and tailings piles.[7] Despite the passage of the Radiation Exposure Compensation Act in 1990, and a ban on uranium industry activity on Navajo land enacted by the Navajo Tribal Council in 2005, the toxic legacy of the uranium industry remains on Navajo land, and thus constitutes an understudied and deeply urgent site of ongoing environmental injustice.

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[2] Brugge, et al, 2006.
[3] Brugge, et al, 2006.
[4] Salsbury, 1956.
[5] Goldtooth, 1994.
[6] Kuletz, 1998.
[7] Brugge, et al, 2006.

Uranium procurement was a central feature of the development of domestic nuclear weapons and energy programs. In 1946, when the US Atomic Energy Commission (AEC) was created, the search for domestic supplies of uranium was considered an imperative matter of national security. The AEC established a Raw Materials Division operating out of an office in Grand Junction, Colorado. From this office, the AEC orchestrated a massive uranium boom on the Colorado Plateau (a geological feature that maps closely onto the Navajo Nation) that "rival[ed] the most colorful days of the early West."[8] The southwest region as a whole came to host a range of military projects and industries, ranging from uranium mining to weapons manufacturing and testing, the installation of military bases and training facilities, and the disposal of radioactive and toxic wastes used in weapons development.

In order to understand the now-common sense notion that the southwest is a "natural" home for environmentally destructive (often militarized) industries like uranium mining, this dissertation traces various *cartographic* constructions of geographic areas and landmarks in and around the "uranium landscape" of the southwest. Drawing from environmental justice studies, geography, feminist theory, and indigenous studies, I argue that representations of the southwest as a peripheral region in the US, as both "desert" and "deserted," were sedimented over time through the experiences of federal cartographers and geographers with the landscape and its peoples, recorded and sent east

[8] From a speech by Phillip W. Simmons, of the AEC Grand Junction Operating Office, in New York City, February 1954, Rocky Mountain National Archives, NRG 434-99-125, Box 1.

to be consumed by federal policymakers, potential settlers and industrialists, and the American public as a whole.[9]

A basic premise of this dissertation is that this overwrought construction of the southwest as a "natural" home for the military industry, seen as "natural" because the southwest is constructed as both empty of humans and ecologically barren, both desert and deserted, erases and elides the realities of life here and indigenous presence. Through what Valerie Kuletz calls the "wasteland discourse," the southwest was, has been, and is mapped as the natural receiver of bomb blasts, radioactive waste, and nuclear experimentation. In this dissertation, I explore the particularities of how this process of "wastelanding" took place in the 1930s, the decade leading up to the "atomic age," and during the first uranium boom (1950-1958). I then turn to the acts of mapping indigenous life and value back into the land, in the form of resistance to the uranium industry. This remapping became an antinuclear, anticolonial project of creating productive dissonance with hegemonic and colonial narratives of destruction, violation, and erasure.

This project uses methodology and theory from comparative ethnic studies, indigenous studies, cultural geography, feminist theory, and environmental justice studies to approach what I call the "uranium landscape" from two angles. The first argues that the "wasteland discourse" in the 1950s relied on constructions in federal cartographic and policy discourses that constructed Navajo land as "worthless" for agriculture- and grazing-based economies, and Navajo social and political life as deviant, unproductive, and irrational. The second angle views resistance to the uranium industry as a

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[9] My focus on cartography as a powerful technology for bringing "peripheral" landscape into the control of the metropole is informed by Raymond Craib's work on cartographic projects in Mexico, 2004.

distinctively cartographic, in the sense of protecting parts of the Navajo landscape from the uranium industry by extending and reaffirming Native claims to that land. Both of these angles explore the ways in which environmental harm and subsequent social movements for environmental justice are shaped by the intersections of racialization, gender, sexuality, and hegemonic ideas about "nature," space, and politics.

To do this, I focus on four key geographic areas within the "uranium landscape," exploring archival sources in order to understand how these areas were experienced, mapped, and perceived by both federal cartographers and the uranium industry, but also by Navajo activists working against federal policies and the uranium industry. The geographic areas of focus, as they correspond with the dissertation chapters, are:

Chapter 1: The Navajo Nation, as mapped by the federal government according to the Treaty of 1868 and subsequent expansions;

Chapter 2: The Grants Uranium Belt, which hosted the majority of uranium industry activity in the area from 1950 to the present, and also overlapped the Navajo Nation;

Chapter 3: Mount Taylor, home to the world's deepest uranium mine shaft and considered a sacred site to the Navajo as well as to the Hopi, Acoma, Laguna, and Zuni Pueblos; and

Chapter 4: The "checkerboard region" southeast of the Navajo Nation, where intensive uranium mining has been stalled in recent years due to jurisdictional battles over whether this land should be considered "Indian Country" or federal public domain.

This dissertation does not offer a comprehensive overview of uranium industry operations in the four corners region, nor does it go into exhaustive detail about the

specific human and environmental health problems entailed in the mining and production of uranium ore. There are a number of books and articles that do both of these things quite well enough already,[10] and reproduction of their work here would be counterproductive to my larger project. In fact, my discussion of specific problems involved in the uranium industry, as well as overviews of the historical timeline of the industry, are limited to discussion in each of the four body chapters, and brief contextualizing essays at the outset of each of those chapters.

What this dissertation *does* attempt is to "map" the problem of environmental injustice, and particularly this case of the uranium industry, in relationship to the ongoing practice of US colonialism,[11] to the degradation of environmental and bodily health of indigenous peoples, and to struggles for indigenous sovereignty and decolonization. I do this primarily by attending to the ways in which federal cartographic technologies, and other forms of colonial knowledge production about space, land, and bodies, have produced and maintained colonial relationships to the Navajo and the land of the "frontier."

Mapping the Uranium Landscape

Throughout the dissertation, I use the phrase "uranium landscape" to refer to a particular formulation (or construction; or *map*) of land as always already given over to industrialism, resource extraction, and the erasure of indigenous bodies and lives. Within

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[10] Brugge, et al, 1996; Eichstaedt, 1994; Kuletz, 1998; Shuey, 2007.

[11] I use "colonialism" throughout the dissertation to name the relationship between indigenous peoples and the United States. Whereas historians tend to use "colonialism" to refer to the "colonial period" of the history of the Americas, I use it to mark the nature of domination, racialization, deterritorialization, and resource extraction that characterizes the US treatment of indigenous communities and lands throughout US history and continuing in the present.

the uranium landscape, sovereignty—of *any* nation, including indigenous nations and the US—must prostrate itself to the demands of industrialism, and industrialism's patriarch: colonial capitalism. Thus the *land* of the uranium landscape is always already wasted, traumatized, toxic, and radioactive. It is always already nationally sacrificed, given over to (military) industrialism. The land is "scaped" or visually rendered, in a way that implicates "both seer and scene,"[12] in the omniscient style of the presumably objective science of geology; the seer of this landscape is the objective eye of geologic science, and the scene is that wasted land meant only to yield profit in the form of resources—in this case, uranium ore. Thus the uranium landscape looks like this:

[12] Quoted by Moore, et al, 2003, to describe "landscape."

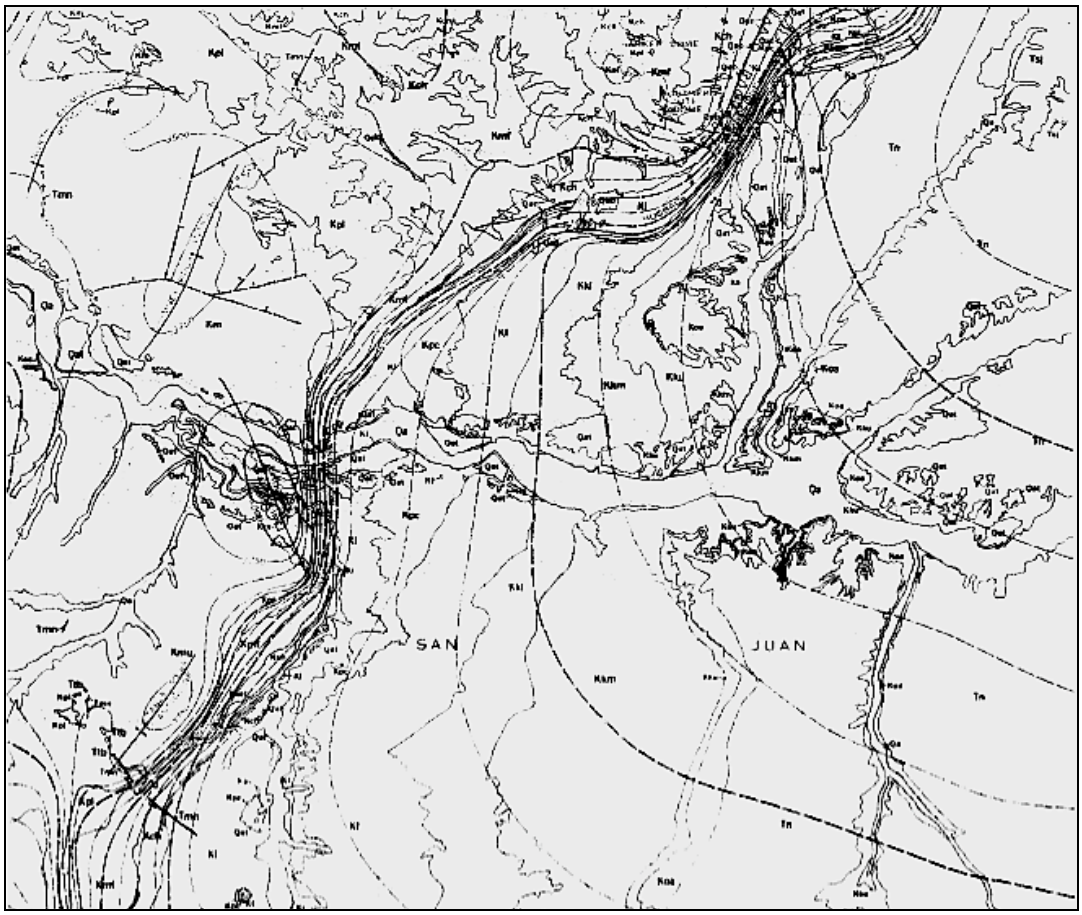

Figure 4 The Uranium Landscape[13]

and it is narratively rendered like this:

> [T]he sedimentary rocks of the Colorado Plateau provide most of [US] uranium production. This area, which lies in the drainage basin of the Colorado and San Juan Rivers and extends over a vast area of some 130,000 square miles in Colorado, Utah, Arizona, and New Mexico, contains our largest potential resources as we know them now…Under the…stimulus of the [Atomic Energy] Commission's post-war purchase policy and exploration program, the geologic areas and the stratiographic horizons favorable to uranium production, have been greatly expanded. Today we consider the favorable area to be the entire Colorado

[13] Map of the Geological Features and Uranium Deposits in the Shiprock quadrangle, New Mexico and Arizona, 1958. Accessed at the Maps and Geologic Information Center, University of New Mexico, Albuquerque.

> Plateau…the sedimentary rocks of the Colorado Plateau may be thought of as comprising a great uranium province.[14]

In both of these renderings of the uranium landscape, the complex ecological, political, and social life of this region is placed under erasure; preference is instead given to signifiers of various metals and minerals floating over topographic markings, or to "stratiographic horizons favorable to uranium production." In this way, the uranium landscape is emptied of human life and (other than economic) value. As a result, the primary importance of the land is mapped according to geologic and cartographic knowledge of metal and mineral deposits and access *to* those deposits.

The uranium landscape is in constant juxtaposition to material and human realities, needs, desires, and lives in the land erased and elided by maps such as these. In protest to the uranium industry and the ways in which maps of the uranium landscape obliterate human life and presence (as well as nonhuman, particularly animal, life and presence) Native activists create maps in ways that recognize the complex realities of life in the uranium landscape, and the realities of living in an unjustly polluted environment. Figure 5, used in the 1970s by the National Indian Youth Council to illustrate the proximity of toxic industry to Native land, shows the same area as that referred to in Figure 4 and the above quote, but reveals quite a different "scaping" of this land:

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[14] Speech given by Dr. Phillip L. Merritt, Assistant Director of the Division of Raw Materials, US AEC, to the American Association of Petroleum Geologists, "Uranium and the Petroleum Industry," April 26, 1951. New Mexico State Records Center and Archives, Anthony Albert Papers, Box 8, Folder 54.

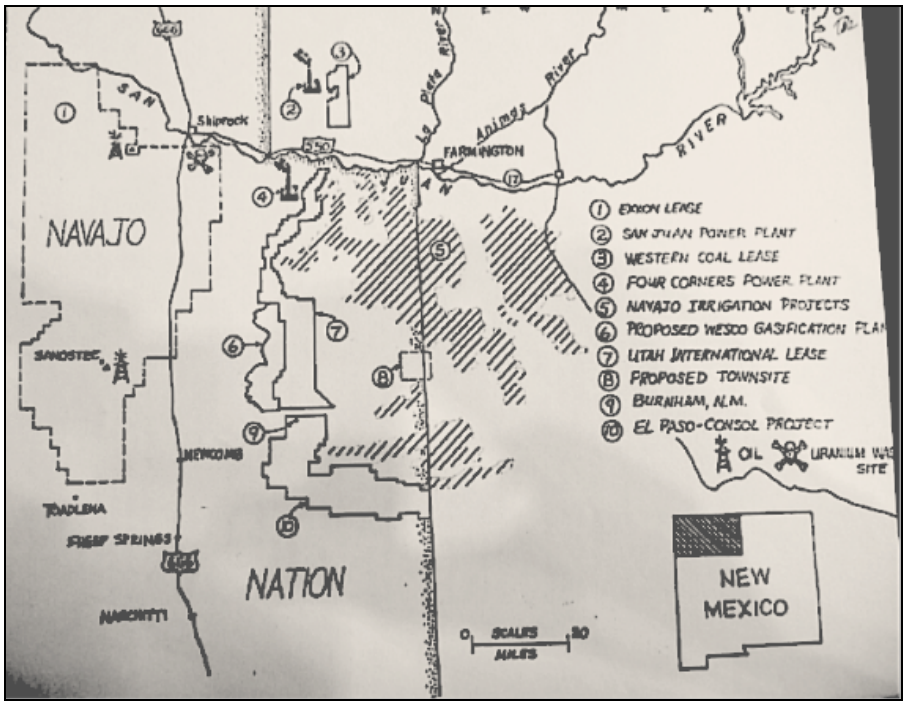

Figure 5 National Indian Youth Council map of the uranium landscape[15]

In this map, uranium waste sites and other resource extraction industries are marked alongside and overlapping the natural and human exigencies of the Navajo Nation. Rivers run through the uranium landscape, and highly radioactive and toxic uranium waste sites are marked with skull and crossbones. Notably, the map not only recognizes the complex present of life in the uranium landscape, but also charts possible futures, including both a "proposed…gasification" site" and a "proposed townsite." I return to this issue of mapping possible futures in my theoretical framework. First, however, I turn to an outline of the dissertation's structure and the purpose, methods, and data sources for each chapter.

Dissertation Plan and Chapter Outline

[15] Center for Southwest Research, John Redhouse Papers, Box 1, Folder 2.

This dissertation falls organically into two primary parts. The first explores colonial apparatuses of environmental and social coercion on the Navajo reservation, exploring the ways in which federal discourses shaped the process of developing a uranium industry on this land. Rather than being "about" the Navajo, or purporting to represent Navajo peoples or their worldviews, these chapters direct their methodological and analytic gaze at colonial discourses and worldviews, and particularly at the ways in which the federal government in the mid 20th century relied on scientific discourses, including cartography and agronomy, as a means of rationally representing and cultivating both indigenous peoples and their lands. The environmental justice question of these two chapters revolves around *how* and *why* the environmentally racist case of uranium mining unfolded as it did. This requires a historically grounded investigation of federal, state, Navajo, and environmental politics in the decades leading up to the first uranium boom.

The second part of the dissertation takes a somewhat different angle on the case of uranium mining, looking to Native counter-cartographies, or cartographies of resistance as I call them in Chapter 3, of the land and politics of uranium mining that come from indigenous political claims to sovereignty, and alliance-based environmental justice activism. This second section therefore falls under the framework of what has been done to remap, contest, and subvert colonial cartographies of environment and politics in this region, with both indigenous and environmental justice frames. This requires an engagement with discourses of environmental justice resistance, land claims, and struggles for sovereignty that have been made (and are being made) around the case of uranium mining.

Chapters 1 and 2: Charting the Course of Environmental Racism and Resource Sovereignty

Most historical accounts of uranium mining in the southwest begin either in the 1940s, when the Manhattan Project used uranium found in waste piles left over from vanadium mining in its secret atomic weapons development program, or in the 1950s, when the uranium boom began in earnest. In these accounts of uranium mining, whatever discussion there is of the 1940s and 1950s is mere preface to the much more involved accounts of the uranium mining industry, and resistance to it, from the 1960s through the early 1990s. My study deviates from this approach, beginning decades earlier in order to provide a map, so to speak, of how knowledge was produced about this land and its peoples well before uranium became an in-demand commodity, and then during the early years of the first uranium boom. Rather than providing a play-by-play account of how the uranium industry developed during those decades when it was at its height, I focus on the rather more under-researched historical scaffolding of how this particular industry came to take hold on and near Navajo land.

In Chapter 1, I argue that the military industrialization of the Navajo Nation during World War II and the Cold War was facilitated by the intimacies of federal cartographic projects on the reservation during the 1930s and 1940s, sparked by federal near-hysteria about the "Navajo problem" and Navajo economic and ecological practices. This chapter explores the period of Navajo stock reduction and soil erosion control, arguing that these federal policies of highly "scientific" cultivation of Navajo people, land, and ecologies were steeped in racial, sexual, and gender discourses of white eugenic heteronormativity. Thus, it was not just an economic and ecological cultivation that the

Indian Service had undertaken, but also a systematized condemnation and attempted assimilation of Navajo reproductive, economic, and ecological practices. The racial logic[16] that guided these policies placed the Navajo firmly in the sphere of "irrational" ecological actors, whose "misguided" (according to federal discourses) relationships to their livestock, their land, and each other had led them near to the brink of total ruin. On the other hand, the modern sciences wielded by the US government—agronomy, conservationism, anthropology, sociology—could alone resolve the Navajo problem and bring these people into the fold of American economic progress and industriousness. Therefore the Indian Service and the Soil Conservation Service proceeded to subject the Navajo people and land to intense scrutiny; they were raked over by cartographers, geologists, demographers, and sociologists, and mined for data that would constitute endless charts and graphs that all demanded more reform of Navajo life.

Chapter 2 explores the course of uranium prospecting during the initial uranium boom period in New Mexico, 1950-1958, when the heteromasculine figure of the "prospector" and assertions of colonial sovereignty over land and its resources were deployed by the Atomic Energy Commission in the name of national defense, solidifying both the "proper" gender of frontier economies and ecologies and the "proper" ownership of the land and its resources. During this period of intense uranium prospecting and uranium mine development, federal versus Native relationships to the land were mapped

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[16] As defined by the Ethnic Studies Department at the University of California San Diego, "racial logic functions so that an entire people are made to embody the antinorm: deviance, primitiveness, irrationality, violence, etc. Constructed as both outside of and threatening to the presumed ideals of modernity and interests of 'civilization' and 'humanity,' these populations are thus rendered 'disposable.'" "Addendum to the 'Statement on Racial Violence in the Gaza Strip,'" http://ethnicstudies.ucsd.wordpress.com, accessed on October 10, 2009.

according to the requirements of US national defense and military industrialization. The meaning and "usefulness" of the land for economic development (particularly on the Navajo Nation) morphed as a result of uranium claims and petitions to federal officials to extend what I call "resource sovereignty" to uranium deposits located on Native land.

Both of these chapters use sources from archival collections in New Mexico, and Chapter 2 also includes analysis from the Grants *Beacon*, the town newspaper of Grants, New Mexico, the self-proclaimed "uranium capital of the world," as well as articles published in national media. In conducting the research for these chapters, my primary research questions revolved around constructions of the space of the southwest in federal cartographic discourses. Chapter 1 in particular required an engagement with questions about the assumed objectivity of cartography, as opposed to the reality of cartographic practice as deeply material, social, subjective, and localized. Whereas the products of cartographic knowledge production (maps) renders space flat, mute, and easily accessible, the act of that production requires labor that disciplines the messiness of everyday life and the complexities of land, territory, soil, and human worlds. As I approached the archives, then, my questions revolved around interrogating these acts of production on Navajo land during the early years of uranium prospecting, which is now the subject matter of Chapter 2. Very quickly, however, my questions about how and when maps of Navajo land were produced, and what that production entailed, led me to the 1930s, when stock reduction and soil conservation projects constituted the largest federal incursion in Navajo life and land since their return from the Bosque Redondo concentration camp in 1868. This interrogation of the 1930s as a critical moment in the

development and solidification of what Valerie Kuletz calls the "wasteland discourse" makes up the bulk of Chapter 1.

Chapters 3 and 4: Redrawing the Maps of Sovereignty and "Indian Country"

The two chapters that make up Part 2 of this dissertation explore the ways in which the uranium industry has been contested and challenged on Native land in the southwest, and how assertions of indigenous sovereignty have been (and can be) articulated through *cartography* in the face of extreme environmental racism. While the chapters in Part 1 are occupied with colonial mappings of indigenous land and bodies, the chapters in Part 2 explore the ways in which cartography can be a technology of resistance to an environmentally destructive industry. As human and environmental health problems from uranium mining became all-too-apparent in the wake of the first uranium boom of the 1950s, Native activists sought ways to resist the industry and appeal to the federal government to take responsibility for the devastation uranium mining had incurred. At stake were not only workers' health, but also that of their families, their livestock, the land itself, and their future generations. Part 2 explores two place-based movements to protect Native land and bodies that both, in different ways, involved assertions of indigenous sovereignty and counter-cartographies of the uranium landscape.

Chapter 3 is tethered to the geography of Mount Taylor, the mountain that marks the southern boundary of the Navajo homeland, and is sacred to the Laguna Pueblo, the Acoma Pueblo, the Zuni Pueblo, and the Hopi Pueblo. Mount Taylor is also the site of one of the world's deepest uranium mines. In 1979, Mount Taylor was selected as the focal point of one of the first, and most visible, anti-uranium mining activist movements. This movement culminated in an action called "Stop the Rape of Mount Taylor" during

which protesters occupied part of the mountain for three days, hosting teach-ins, rallies, dances, and issuing action plans and demands to both the federal government and the uranium industry. Almost thirty years later, in 2008, the Laguna, Acoma, Zuni, and Hopi Pueblos joined with the Navajo Nation to add Mount Taylor to the state of New Mexico's list of protected Cultural Properties, thereby extending some protection to the mountain against further uranium mining. In this chapter, I argue that these struggles over Mount Taylor are efforts to re-map the environmental degradation of uranium mining as sexual violence, as well as the re-map the mountain as sovereign indigenous land. These efforts, I argue, extend our understandings of what "indigenous sovereignty" can mean, particularly in response to environmental injustices.

Chapter 4 is situated in the checkerboard region of the Navajo Nation, where land status is parceled out between Navajo, federal, state, and private ownership as a result of 19th century federal land and railroad policy. The inconsistencies of land status were and are a boon to the uranium industry; mines and mills have been located in this area to such a large extent that it has been dubbed "Grant's Uranium Belt." In the area just north of Church Rock, New Mexico, an area long occupied by Navajo families but outside the official boundaries of the Navajo Nation itself, uranium companies continue to go forward with in-situ leach mining plans despite a 2005 Navajo Tribal Council ban of uranium mining in "Navajo Country." Church Rock Navajos and the Tribal Council argue that this area can and should be considered "Navajo land" according to centuries of land-use and occupancy. The end result has been a legal battle fought, largely, over what land can be mapped as "Indian country," a battle over technologies of mapping, over cartographies of space and of who can claim the land. This chapter explores larger

questions of how sovereignty, and particularly how re-mapping indigenous landscapes, can shape the politics of environmental justice for indigenous peoples.

Chapters 3 and 4 derive from a variety of sources, including newspaper articles, blogs and other internet postings, legal documents and briefs, and personal correspondence with activists in New Mexico (many of whom work for or in affiliation with the Multicultural Alliance for a Safe Environment (MASE)). Many of the sources used in these chapters come from the archives of the Southwest Research and Information Center (SRIC) in Albuquerque, where the staff of activists, researchers, and public health professionals have been working on cases of environmental and social injustice in the southwest, especially uranium mining, since the 1970s; consequently, SRIC has extensive archives of the various legal cases and research projects revolving around the uranium industry.

Together, these four chapters present distinct but intimately related perspectives on the problem of uranium mining on Native land. Both view this case of environmental racism as emerging from and reliant on histories of mapping the landscape and the peoples indigenous to it. In the case of uranium mining, as in so many cases of environmental injustice, the power inhered in *mapping* has been the power of articulating sovereignty over land, peoples, and resources. As Part 1 argues, the lines drawn on maps—or, just as importantly, who draws those lines and why—shape the course of resource exploitation and environmental and human health degradation. As Part 2 argues, perhaps these questions of lines and maps can also be productive for suggesting new iterations of indigenous sovereignty and decolonization in the wake of the environmentally racist uranium mining industry.

Towards a Methodological Division of Labor, and a Note on the Politics of Naming

There are methodological considerations at play in this work that revolve around the politics of subjectivity—specifically, my *own* subjectivity. Part of this dissertation's larger purpose is to argue that Navajo moves toward a territorially grounded sovereignty can be served by environmental justice politics, and vice versa. The activist movements against uranium mining I explore in Chapters 3 and 4 are simultaneously movements to assert indigenous sovereignty over terrain that is not mapped by the federal government as within the bounds of "indigenous" land. The trajectory of my work to this end is necessarily limited by a few very simple facts: I am not Navajo; I do not live nor have I ever lived on or near Navajo land or in Navajo communities; and my geographic constraints living and working in San Diego have prevented me from being present in the activist world of New Mexico. I am quite clearly an outsider to these politics of territoriality and sovereignty, and thus my insights into Navajo conceptualizations of sovereignty are limited to what I can read about and discuss with Navajo authors and activists. The rich epistemologies from whence indigenous sovereignties emerge are not the same as my own as a white woman academic living in Southern California.

This is not to say, however, that white researchers like myself have no place in the discussion of facilitating indigenous sovereignty, just that our contributions are of a certain kind, and that epistemological limitations shape the depth of our engagement and ability (and desire) to "represent" Native politics in our academic work. Knowledge production about indigenous peoples, by governments, industry, and academia alike, has long been a key way in which colonialism has functioned and prospered. Thus indigenous scholars and activists have been occupied with dismantling racist depictions of

themselves and their peoples before moving on to do the work of articulating new ways of producing indigenous sovereignty, whether or not those ways are shared with the rest of academia.

Non-Native scholars can and should take up the labor involved in the former project: interrogating colonial knowledge production about indigenous peoples, and confronting the racist legacy of academic inquiry, wherein non-Native scholars have "observed and recorded [Native] cultural practices with the belief that the [Natives] would disappear and that they were salvaging what was left of a dying culture."[17] My dissertation attempts to take on some of this labor. Chapters 1 and 2 in particular offer a sustained critique of colonial/federal discourses about Navajo land and bodies that construct the "Navajo" in ways that facilitate environmental racism. This kind of work redirects the *desire* academics have inherited, particularly from anthropology, to gaze upon indigeneity as a primitive and colonized object. Instead, in comparative ethnic studies and indigenous studies, the object becomes the construction itself, or even the desire itself, and the intent is to discern its character, trajectory, and implications. In this dissertation, I focus on the process of mapping and cartography as part of this construction.

To even make this point seems simplistic, as really *all* academic representations of "real" or "authentic" difference are at bottom representations of *constructions* of difference rather than of difference itself. But what I want to emphasize in this point is that there is a *Dine*[18] worldview and epistemology that subverts and elides colonial views

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[17] Lee, 2006, p. 79.
[18] "*Dine*" means "people" or "the people" in the Navajo/*Dine* language.

and representations of the land and its people. This point transforms hegemonic hierarchical assumptions about what is "top down" or whom is being "looked down upon." If a people emerge from worlds below up into the land, as they do in *Dine* epistemology, being "looked down upon" yields the colonizing gaze no real knowledge of land or people. Thus the colonizing gaze, from a *Dine* perspective, is rendered impotent—as it should be, and any "knowledge" produced by colonizers is rightly about something called the "Navajo," a colonial misnomer borrowed from the Spanish, rather than about *Dine*. For this reason, in this dissertation I refer to the subjects of this colonial knowledge as "Navajo" rather than "*Dine*." It is a distinction that serves the end of signifying the difference between the indigenous peoples who call themselves *Dine* and the subjects of colonial knowledge who are marked with the Spanish name "Navajo." Often enough, the category "Navajo" has as little to do with the people who call themselves *Dine* as maps have to do with the texture of the soil or the bend of a river that the maps are meant to represent.

Theoretical Framework

In the three sections that follow, I provide discussion of the three major interventions that make up the theoretical framework of this study. Each of these sections describes a central premise of my dissertation, and answers important methodological and theoretical questions about *how* I research, analyze, and write about the problem of uranium mining in the southwest. Respectively, these questions are:

-*why cartography and mapping?*

-*how can cartographies and indigenous territoriality be decolonized?* and

-*what now?*

In the first section, "Cartographic Violence," I argue that maps are a central technology of colonial power and colonial control. This has been particularly salient in the US southwest region, where bringing this "frontier" territory under federal control has been a confounding project to the federal government since its acquisition of these lands in 1848. There is a direct line connecting early hegemonic construction of the "frontier" as irrational, unruly, and unfit for civilized cultivation to the proliferation of the uranium industry and other forms of militarization and military industrialization in the southwest since World War II.[19]

The second section, "Decolonizing Cartographies," addresses ongoing debates over indigeneity, cartography, sovereignty, and decolonization. Resistance to uranium mining on Navajo land directly engages critiques of colonization and modernity as the enabling modalities from which environmentally racist cases like uranium mining emerge. Resistance also involves explorations of what justice, sovereignty, and decolonization might look like. In this section, I argue that cartography has become a central terrain on which these critiques and explorations are carried out, in part because of the centrality of maps and mapping to the colonial project. I outline the dissertation's take on the question of indigenous territoriality and land rights, which "differs from what we traditionally understand as property rights."[20]

The third section, "The 90%," problematizes the ways in which the field of environmental justice studies has tended to approach problems of environmental racism from a distributive model of justice. This distributive model premises that environmental

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[19] Kuletz, 1998; Davis, 2002.
[20] Jaimes Guerrero, 1997, p. 101.

racism is produced when distributive injustice can be proven and justice achieved when that distribution is reallocated. This distributive model, I argue, has limited capacity for exposing the deeply entrenched structures and ideologies built into what George Lipsitz calls "the racialization of space and the spatialization of race"—that is, the notion that *distribution* of environmental contamination is merely a toe on the foot of the much larger monster of colonialism, racism, and industrialized resource extraction. Simply put, the disproportionate distribution of environmental "bads" in and near communities of color does not account for the ways in which racial colonialism in all its forms (forced migration, forced displacement, rape and forced reproduction, degraded labor conditions, unsustainable resource extraction—whether that resource is "natural" or the resource of human labor—, forced exposure to illness and toxics, etc.) has always been conducted on and through the degradation of human environs and human health, particularly that of women and bodies of color.

This theoretical framework derives from the scholarly fields that most strongly inform my work: feminist theory, indigenous studies, environmental justice studies, and cultural geography. Throughout the dissertation, I engage feminist theory in a way that reflects my training in comparative ethnic studies and environmental justice studies, but most closely cleaves to indigenous and transnational theories of feminism, both of which recognize, in different ways, that modern nation-states are formed through the practices of racist colonialism and "premised within normative parameters of masculinity and heterosexuality."[21] These forms of feminism are germane to anti- and postcolonial theory, deeply critical of universalized white feminist theory (what Audre Lorde famously called

[21] Alexander and Mohanty, 1997, p. xiv.

"the theory behind racist feminism"[22]), and recognize the *situatedness* and intersectionality of women's experiences of patriarchy, racism, colonialism, and violence. Both inhere an understanding that "not only is colonialism a gendered process, but so is decolonization."[23]

The false universalization of modern colonial knowledge production, power relations, and spatial politics (particularly those that regard land as "property" and scientific knowledge of land and bodies as unimpeachable objectivity—"the god trick of seeing everything from nowhere"[24]) runs counter to what feminists, inspired by Donna Haraway's 1988 article coining the term, call situated knowledge. "Situated knowledge" suggests that epistemologies are embodied, perspectival, and decidedly *not* universal; situated knowledge has temporal, geographic, and experiential specificity, unlike knowledge that purports to "see[] everything from nowhere." This notion of situatedness informs my theoretical framework and my methodology throughout the dissertation chapters. It informs, for example, how I read maps and cartographies of both land and bodies. How do maps represent land and bodies? What kind of epistemologies and spatial knowledge does this reveal? How can maps, like those of the uranium landscape, reveal a situated modern colonial knowledge of land and politics *even as* they profess to represent objective reality? How does this modern colonial knowledge rely upon intersectional constructions of subjectivity, making "colonialism a gendered process" as much as a racial and capitalist one? It is with these kinds of questions and these theoretical concepts

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[22] Lorde, 1984, p. 123.
[23] Smith and Kauanui, 2008, p. 241.
[24] Haraway, 1988, p. 581.

in mind, derived from feminist theory and comparative race theory, that I approach the project's larger theoretical framework.

Cartographic Violence

> The process [of conquest of the West] had two stages: the initial drawing of the lines (which we have usually called the frontier stage) and the subsequent giving of meaning and power to those lines, which is still under way.[25]

The violence of US Western history is typically associated with the *tools* of domination: guns, knives, arrows, flint and steel. Frontier mythology is replete with shootouts, standoffs, stabbings, scalpings, and other bloody conflicts, many over property or property's human corollaries—women, servants, and slaves. But any scholar taking a critical look at US frontier history will admit (if only to herself) that often the most violent tools shaping the frontier were not guns or knives, they were the mundane intricacies of bureaucracy, the tools of zoning boards and annexations, of treaties and surveys, of maps and the borders drawn upon them. As Patricia Limerick notes in *The Legacies of Conquest*, the drawing of lines on maps in the history of the US frontier is usually the first stage of a deeply violent process of land theft, racial violence, and resource exploitation. I start, then, with the notion that cartographic violence in US history has often been comparably destructive to, and undertaken in concert with, the violence that occurred at the point of a gun.

My central questions in this dissertation revolve around mapping, and the construction of indigenous landscapes, particularly those in the US southwest, as peripheral, distant, marginal, desert, and/or deserted. In calling us to think about the

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[25] Limerick, 1987, p. 27.

contiguous processes of drawing lines on maps and "giving of meaning and power to those lines," Limerick reshapes US Western history with an idea borrowed from a cultural geographers and scholars of postcolonial studies: that *mapping* and the organization of geographic and spatial relations have been central technologies of colonialism and empire building. As noted by cultural geographer James Ryan, "with its practices of exploration, cartography, and resource inventory, and its spatial languages of discovery and colonial conquest, geography was of considerable imperial significance."[26] Likewise, the process of charting and mapping colonial landscapes, particularly the confounding landscapes of the southwest, became a central mechanism by which the US extended control over far-reaching landscapes.

Mapping and cartographies are central ways in which the colonial world is socially constructed. They are likewise central to the ways in which colonialism has extended its power over vast terrain, bringing that terrain into its purview in a seemingly methodical and rational way. Colonized terrain becomes contained and restrained in maps, just as the practice of surveying and cartography—the productive labor of mapping—represents a *repertoire* of colonial action: a *practice* of power relations.[27] Maps can thus be read as social texts, and the "natural" or "environmental" world they purport to represent is likewise part of the social, rather than the physical, world. This in itself is a remapping of our relationship to nature; that that relationship is deeply social, and that "nature" itself, and our relations to it, are likewise socially constructed and

[26] James Ryan, "Postcolonial Geographies," in Duncan, et al, 2004, p. 474.
[27] Taylor, 2003.

steeped in very social, human qualities such as politics, love, destruction, fear, and kinship.

Colonial maps and cartographic projects get canonized as the authoritative texts that confer knowledge of colonized terrain. This is particularly true in the colonization of the US West, the "frontier" where Native and other non-white geographies, cartographies and histories were delegitimated, smothered, and subverted, under the racial logic that they were primitive, dying, unschooled, or too subjective to represent anything "real." Raymond Craib, in his history of cartographic projects in rural Mexico, describes the colonial process of authorizing only colonial texts:

> On the stage space [of settler colonialism], *only* the settler makes history. In other words, as space becomes a stage, history becomes teleology. The ambiguities of (and struggles in) history are reconciled and suppressed through spatial order as the open-ended yields to the inevitable. The complexity, contingency, messiness, and irony that *is* human history; the struggles for, and alternative visions of, a better social life; the myriad ways of organizing and conceiving space; the spatial practices and relationships that were transformed in the process of primitive accumulation and state formation; and, not least of all, the techniques and technologies of domination—all are flattened and neutralized in the teleological quest for legitimacy, foundational coherence, and the naturalization of the social world.[28]

Craib's point here builds on the work of cultural geographers and historians invested in the project of explicating "the imbrication of the temporal within the spatial,"[29] the ways in which the production of knowledge about space is *historical*,[30] *social*, and deeply

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[28] Craib, 2004, p. 5.
[29] Brady, 2002, p. 5.
[30] "Space is produced…if there is a productive process, then we are dealing with *history*." Lefebvre, 1991, p. 46.

leaden with power.[31] Suffice to say: as Ann Laura Stoler calls historians to turn from "archive-as-source to archive-as-subject,"[32] so must those of us who are geographically-inclined begin to read maps as revelations of colonial ontology and technology—as *subjects* of our research and theory—rather than as objective representations of the natural, social, or political world.

This form of analysis has methodological as well as theoretical implications for my work: sifting through documents in New Mexico archives, I needed to learn how to read and interpret the massive cartographic and industrial development projects taking place in the name of "helping" the Navajo and boosting industrialism. I needed to understand, more pressingly, *how* the historical sedimentation of cartographic representations of this land and these people produced the complex layering of environmental injustices and spatial politics occurring in and around the Navajo Nation today. In moving from the analysis of Chapter 1, which explores the construction of knowledge about bodies and landscapes through modern regimes of knowledge production (cartography, agronomy, sociology, etc.) through to Chapter 4, which explores the reassertion of Native life and land claims in off-reservation areas, I examine maps as artifacts that reflect and construct the "situated knowledge" of those who make and consume them. In this sense, there is an abiding consistency to how this analysis was produced—despite the fact that the "situated knowledge" of the colonial power is falsely universalized and archived as the Truth.

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[31] "[T]o talk in terms of space, to trace the forms of implantation, delimitation and demarcation of objects, the modes of tabulation, the organization of domains meant the throwing into relief of processes—historical ones, needless to say—of power," Foucault, 1980, p. 70.

[32] Stoler, 2002, p. 93.

Literary critic Mary Pat Brady describes the word "landscape" as meaning "the conscious construction of a perspective, a way of seeing the region that, in concert with policies, laws, and institutions, physically *makes* the land, produces the landscape materially, and sustains it ideologically."[33] Donald Moore, Jake Kosek, and Anand Pandian describe "landscape" differently, and more simply, as an imbrication of "both seer and scene."[34] These quotes bring out two important components of the production of landscapes: the ocular and the perspectival. These come together in federal mapping projects on Navajo land, creating the notion that land is most objectively viewed from *above*—photographed and mapped—which in turn implies both a privileging of the ocular knowledge of the space as well as an outsider's technologically enhanced perspective of it. To see the land from above is an altogether different way of coming into a landscape than to grow up from the land, to be *of* and *from* the land—even more so if you and your world emerge from below, an organic epistemological positioning that is indigenous to the land at its very core. Figure 6 shows an apt image taken from the cover of a 1955 report of the New Mexico Mapping Advisory Committee, under the title "Recommendations for Topographic Mapping In New Mexico":

[33] Brady, 2002, p. 17.
[34] Moore, et al, 2003, p. 11.

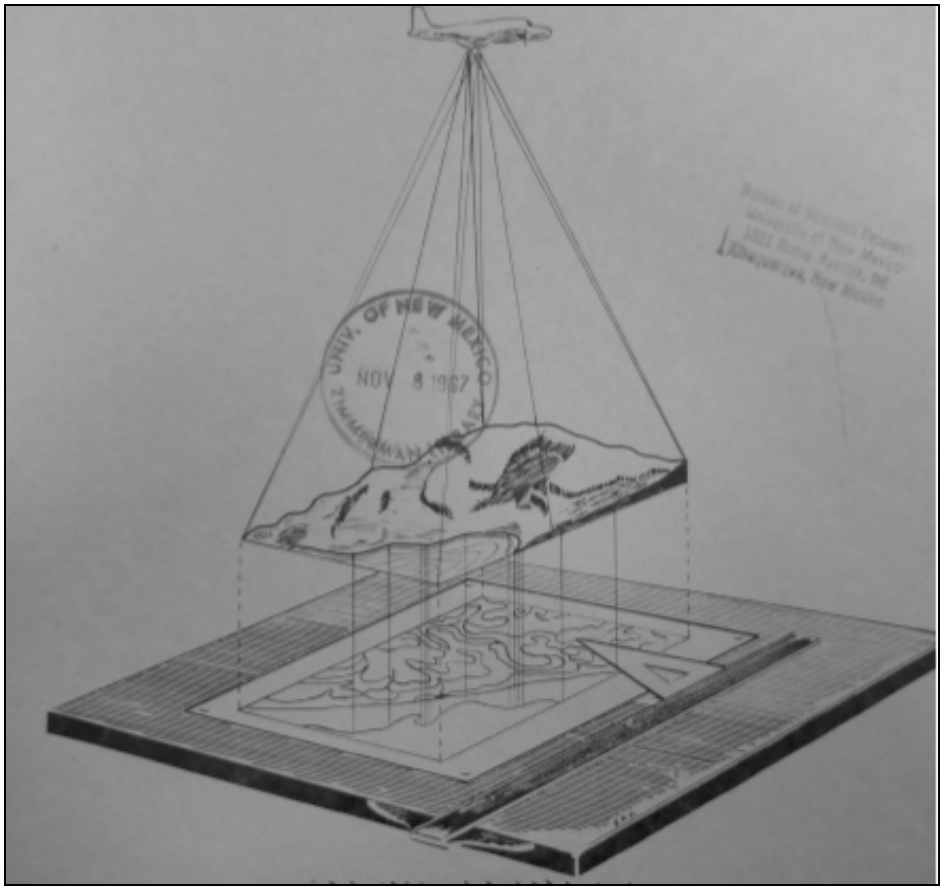

Figure 6 Image from New Mexico Mapping Advisory Committee, 1955[35]

In this image, a plane carries away the weight of land itself, hauling away the infinite complexity of land and leaving behind a flat imprint, an empty signifier of land without its heft or its complexity. Technology, in the form here of a plane and a cartographer's map, does away with nature in favor of charts. The "scaping" of the land in these mapping projects was far from a mere production of knowledge about colonized terrain by the federal government. It was also, deeply, a privileging of colonizers' experiences of coming-into-the-land over indigenous ones; it was a visual representation and

[35] New Mexico Mapping Advisory Committee, "Recommendations for Topographic Mapping in New Mexico," February, 1955. Accessed at the Mapping and Geographic Information Center, University of New Mexico, Albuquerque.

institutional policy of the myth of "objective" versus "subjective" knowledge of a space. Thus, inhered in planes with mounted cameras and helicopters with mounted Geiger counters, was the difference between the white world, "Navajo" land, and *Dine bikeyah*[36].

This dissertation seeks to provide a methodological blueprint for reading Native mapping projects as strategies of resistance to the obliteration inhered in these colonial constructions of "Navajo" land and peoples. These chapters draw from a guiding question offered by indigenous feminist theorist Mishuana Goeman: "we must begin," she writes, "to scrutinize the impact of spatial policies in our cognitive mapping of Native lands and bodies…How do we uproot settler maps that guide our everyday materiality and realities?" In this quote, Goeman is inciting us to think about a number of things. The phrase "cognitive mapping" refers to the ways in which we understand spatial relationships and spatial "common sense," including and perhaps especially in terms of myriad metaphorical or non-physical spaces. This is how we imagine an ordered world, and "our" (as well as "their") places within it. It is a hegemonic practice of ordering the world and managing "the spatialization of race and the racialization of space."[37] It is cognitive mapping that makes, for example, indigenous bodies illegible *outside* the racialized "reservation" and *inside* the space/time of the present, what Philip Deloria calls the problem of "Indians in unexpected places."[38] It is also a hegemonic practice of cognitive mapping that makes any space outside a reservation implicitly white space, and space inside a reservation mapped as colonized, and the bodies within it as dead or dying. Thus *mapping*, as either a process of visually rendering a landscape or a process of

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[36] *Dine bikeyah* is the Navajo word for "Dine land."
[37] Lipsitz, 2007.
[38] Deloria, 2006.

spatially configuring a terrain (natural, theoretical, or otherwise) is a social-structuring process *even as* it purports to represent the real, the "natural," or the empirically extant. The deeply social nature of how we see the land and how we understand our relationships to it holds meaning for understanding colonialism, power, and ultimately, decolonization.

Decolonizing Cartographies of Sovereignty and Territoriality

Studies of the Navajo and Pueblo peoples of the US southwest often note that these indigenous groups stand in exception to the history of forced migration and displacement experienced by indigenous peoples in other regions of North America. In the words of Valerie Kuletz "[s]ignificantly, [the southwest] is home to the majority of *land-based* American Indians alive today on the North American continent."[39] Indeed, struggles against the uranium industry and for Navajo sovereignty often invoke the notion that the Navajos (and here the ominous and loaded qualifier "still" is often inserted) occupy part of their "traditional" homeland, and thus have a seemingly more "authentic" claim to territorial sovereignty. This is an urgent part of the struggle over uranium mining because the Navajo Tribal Council and anti-uranium mining activists often turn to the framework of Native sovereignty and self-determination on a traditional homeland as a means of protecting land and people from the incursions of the uranium industry.

In the dissertation, I argue that territoriality and land-claims are central to political projects that struggle for indigenous sovereignty, environmental justice, and decolonization. *However*, my understanding of "territoriality" and "land-claims" are not reducible to racialized constructions of "authentic" or precolonial indigenous homelands that undergird the violent logic of the reservation system, nor to hegemonic *scales* of

[39] Kuletz, 1998.

"territory." This is, in part, because the logical extension of indigenous "homeland" claims tend to foreclose other kinds of claims to sovereignty (and indeed indigeneity) for indigenous communities and bodies that do not occupy spaces that can be considered "original" or "authentic"—always according to the ultimate authority of colonial (usually anthropological or historical) knowledge.

Thus an imperative question to consider when studying struggles over environmental injustice on indigenous land and against indigenous bodies is how to argue *for* territorial sovereignty without falling into the colonial catch-22 that denies the authenticity of other kinds of sovereign indigenous claims to "inauthentic" territories, such as urban spaces.[40] In other words, how can indigenous peoples make politically productive (and, often, deeply urgent) claims to territorial sovereignty without reverting to colonizing notions that peripheral(ized) and bounded landscapes like reservations are the only authentic indigenous "homelands"?[41] This problem posits that the only valid claims Natives can make under the rubric of sovereign territoriality are claims that are based on federally recognized geographic boundaries, "proven" (often in US courts with non-Native arbiters) to be "sacred" or authentically indigenous according to religious or

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[40] I was prompted to think about this issue at the 2009 Transnational Feminism and Justice Dissertation Workshop, at which another scholar presented a case involving the U'wa people of Colombia, who claimed recognition of territorial sovereignty from the Colombian state on the basis of Spanish land grants that had recently been discovered in a personal archive. The question arose, if the U'wa were to pin their claims to sovereignty on these colonial documents, what would that mean for indigenous groups who had no such "evidence" of authentic land claims? Should the U'wa use the documents at all, or instead use claims to sovereignty that have their basis in non-colonial forms of knowledge? This question bears on a number of cases, such as those in Australia where the government long operated under the doctrine of *terra nullius*, which foreclosed any official recognition of indigenous presence on the Australian continent.

[41] Or, at the scale of the body, claims that the only "authentic" Native bodies are those that pass standards of blood quantum.

historical criteria. Claims of colonized peoples to their shrunken, abjected, wastelanded spaces (whether urban or rural, "traditional" or new), spaces that are nevertheless under attack by toxic industrialism, gentrification, military adventurism, etc., are simply more legible when they can be called "traditional" under the racial rubric of "primitive" indigenous territorialism. As Mishuana Goeman sums up this problem,

> the politics of place in Native American Studies is very tricky both socially and politically. While conceptions of Native identity are legislated differently depending on governing nation-states, tribal government systems, histories, and cultural differences, they share spatialized tendencies, identity, social relations, and politics are often conceived, represented, and determined as geographically and historically situated and bound to a particular community. This grounding, even while considered abject space by the settler state, is of utmost importance to the imaginative geographies that create the material consequences of everyday existence for Native people, even while the historical onslaught of legislation continues to rip that grounding out from under Native people.[42]

Native peoples in the southwest have the somewhat unique experience of articulating these claims to sovereignty from what are recognized as authentic or precolonial land bases. In colonial texts, Navajos in particular are often situated on their reservation with the blessings of archeology, anthropology, history, and "The People"[43] themselves.

My response to this question of asserting indigenous territorial sovereignty without raising the specter of territorial authenticity is twofold. First, the reservation system is both spatially and temporally displacing and demobilizing, even when it overlaps a commonly recognized "homeland." Even though the Navajo reservation, for example, overlaps a segment of the geographic land-base that Navajo peoples occupied

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[42] Goeman, 2009.

[43] This is the phrase used by anthropologist Clyde Kluckhohn and Indian Service physician Dorothea Leighton in their 1947 book about the Navajos and stock reduction policy.

during the Spanish colonial period, the very creation of a reservation system displaces them to inorganically bounded (and largely arbitrary) abjected space, and cuts them off from contiguous landscapes like that of Mount Taylor, which is outside the reservation but central to Navajo history and geography, or that of the checkerboard, which is almost exclusively occupied and used by Navajos but also outside the official reservation boundaries.

Transnational migration scholarship offers a productive re-mapping of political forces and migration to explicate this point. For example, when Professor Yen Le Espiritu teaches about migration to undergraduates, she often begins by noting that migration begins when the *US* crosses borders. In saying this, Espiritu upends the commonly held notion that migration begins when *people* (the migrants themselves) cross borders. This is a deeply effective and affecting way to shorthand a much larger argument: that human mobility, migration, and displacement in a colonizing world are often the products of the global movement of (often militarized and industrialized) colonial forces. Espiritu's point, and that of the transnational theory she is engaging, also reveals a deeper reality of the global flow of militaries and economies: that the space of "home" becomes a transnational space well before the migration of bodies begins, and "displacement" can mean to displace the economies and cultural practices of "home" *as well as* to displace human bodies to other locales. Inderpal Grewal and Caren Kaplan make a similar point, arguing that "scattered hegemonies" remake transnational life in ways that situate economic and political power across the world. This work subverts

relational geographic constructions of "here" and "there," and especially "metropole" and "colony" built into hegemonic cognitive maps of the world.[44]

This transnational theory points us to the notion that colonialism is displacing no matter what form it takes, whether or not a population continues to reside in "traditional" pre-colonial spaces—if there are such things. It also points to the lie that connections to spaces that are not "traditional" are somehow less valuable, less authentically *home*, than those spaces Natives can claim to "legitimately" inhabit, based on pre-colonial patterns of territoriality. This lie renders illegitimate any space outside those "pre-colonial" areas, and many within them, to which Natives lay claim in the wake of (and in the face of) colonialism's demand that they be home-less and perpetually re-locatable. Therefore the fact that the Navajo reservation overlaps what is generally understood as part of their "traditional" homeland seems to make the practice of contemporary Navajo land claims more legible, and more politically feasible, than, say, the claims made by urban Natives on their urban spaces against environmental racism, homelessness, and gentrification. However, this increased legibility due to their location on "traditional" land does not mean that colonial displacement is not figured into the Navajo colonial experience—evidenced in part by the actual forced relocation to the concentration camp at Bosque Redondo, as well as by the reality that up to two-thirds of the Navajo population has consistently lived outside the boundaries of the official reservation.

My second answer to the question raised above about territorial authenticity derives from feminist indigenous theory and feminist environmental justice theory, both of which point to the *body* as a critical site for struggles over sovereignty and

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[44] Grewal and Kaplan, 1994.

environmental justice; in the words of Cherrie Moraga, "land is that physical mass called our bodies."[45] When the sovereign "right to be responsible"[46] for a terrain is distilled down to something as immediate, and immediately human, as control over the terrain of one's own body, the politics of racial, sexual, and environmental forms of violence get remapped according to new, quite powerful, perspectives. In one sense, it is a deceptively simple way to frame the politics of sovereignty or environmental justice: for example, shouldn't a person have control over the toxins that do or do not penetrate her own body? If the answer is a resounding *yes*, as it so often is if you pose this question to groups of undergraduates, for whom this "yes" answer is directly in line with their received knowledge of justice and fairness, then considerable political terrain is exposed for new standards of practice for industrialism, patriarchy, racial violence, etc.

This same logic of shifting the scales and perspectives of sovereignty was used in an anti-mining campaign in northern Wisconsin, when a coalition of Chippewa, Oneida, Menominee, Potawatomie, and Stockbridge-Munsee peoples successfully confronted mining corporations on the grounds that mining violated Chippewa treaty rights. Their case revolved around the logic that a treaty guaranteeing their right to hunt, fish, and gather in ceded territories *also* guaranteed "the right to have things *to* hunt, fish, and gather…In other words, if all the fish are contaminated with mercury [from the mining operations] and unfit for consumption, then the fish are for all practical purposes

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[45] Cherrie Moraga, quoted by Stein, 2004, p. 1.
[46] Andrea Smith uses this phrase to describe a feminist indigenous approach to sovereignty—as in, the right to be responsible for a community's politics, environments, bodies, relations, etc.

unavailable, and a recognized treaty right has been violated."[47] This campaign, in other words, used ecology as a model for political sovereignty in an explicit subversion of the Western notion that arbitrary political boundaries, like those encircling Native reservations, have power and meaning in the grounded material world. Rather, like feminist environmental justice theorists, this campaign recognized the interconnectedness of "outside" political and environmental problems to the "insides" of community or individual life.

At the level of ecosystems or of the body, these indigenous and feminist perspectives on terrain point to the *situatedness* of humans in the physical world—a notion that is all at odds with the Western Enlightenment dichotomy that cleaves mind from body and human from nature. Fittingly, this corresponds to the environmental justice tenet that the "environment" is wherever humans "live, work, play, and worship," in contrast to the un-peopled, pristine landscapes of mainstream environmentalism.

In addition to re-imagining political, human relationships to nature, decolonizing "sovereignty" and "territoriality" means to decouple "sovereignty" and "nationalism," particularly nationalism in the form of the modern nation-state. When I argue for "sovereignty" and territoriality in this dissertation, it is in the sense that feminist indigenous theorists have constructed it. This feminist work "provide[s] the basis for a prolineal genealogy of sovereignty: a history of the future of sovereignty, what sovereignty *could mean* for Native peoples."[48] Struggles among Native nations for self-determination, in the form of a sovereign nation-state, too often relegate feminist politics

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[47] Emphasis in original. Justine Smith, 1999, p. 206.
[48] Smith, 2008, p. 257.

and praxes to the margins of decolonization, when, for example, nationalists say "let us not worry about domestic violence. Let us worry about survival issues first."[49] This comment reflects a differential inclusion of women in the nation, and also imagines a nation that inheres the heteropatriarchal violence upon which modern colonial nation-states are constructed. This distinction between uses and interpretations of "sovereignty" in ways that exclude feminist politics is particularly important in Chapter 3, when I examine activist tropes that frame the environmental violence of uranium mining on Mount Taylor as a colonial-industrial "rape" of the mountain.

"The 90%": Environmental Justice and Imagining New Futures

Studies of uranium mining on Native land in the US customarily begin with a statistic: 90% of uranium mined for the US uranium industry came from indigenous owned and occupied land.[50] This statistic ably points to the skin and bones of this case as one of environmental racism, wherein the disproportionate (in this case, *starkly* disproportionate) amount of a toxic industry is located in and near communities of color. The statistic, therefore, does seem a good place for any study of uranium mining to begin. However, the statistic, for all its worth in evincing the "proof" of environmental racism, is already misleading and embeds a number of assumptions that bear on the problems of uranium mining and environmental racism in general. The first and most obvious, of course, is that the "90%" only makes sense if you accept the federal government's demarcations of what is indigenous land—that is, the 90% depends on whose maps you are looking at. Thus the 90% quite quickly comes to seem like an arbitrary number,

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[49] Smith, 2008, p. 257.
[50] Brugge, et al, 1996; Churchill, 2002; Churchill and LaDuke, 1986; Eichstaedt, 1994; Goldtooth, 1994; Kuletz, 1998.

entirely dependent on how you understand what is this thing called "indigenous land" (or, the term I explore in Chapter 4, "Indian Country").

The 90% statistic rests on the racialization of space, particularly the space of the US southwest. The racialization of space, like racialization writ large, erases the importance of *whiteness* as the anchor of representations of racial Otherness. Marking a space as indigenous, often involving the highly racialized reservation system, automatically renders what is "left over" outside the reservation as implicitly white space. That this becomes, quite literally, the *white space* on maps is a mere visual reminder that what is not explicitly marked as belonging to the racialized Other is, by virtue of the violence of hegemonic common sense, white space. The 90% thus emerges from an epistemological bias that naturalizes *most* space, especially within the political borders of the US nation-state, as always already racialized as white. In Chapter 2, I propose that the production of space as "white," even within Native geographies, occurs through the mechanism of "resource sovereignty," or the extension of control over land and bodies under the pretense of extracting or controlling resources. The 90% thus reflects not only the implicit naturalization of white space, but also the notion that environmental harm and resource exploitation are problems of the *distribution* of environmental "bads," rather than the mode of racial colonialism that constructs racialized geographies as always already wastelanded, abject spaces.

The distributive model has been one of the defining modalities through which the field of environmental justice studies has operated. Because of this framework for "justice," environmental justice studies is a field of academic inquiry that operates frequently out of what Eve Tuck calls the "litagory…theory of change": the notion that,

like lawyers in a grand class action lawsuit, scholars and activists offering overwhelming *evidence* of damage and disproportion (such as the 90%) will lead to way to the redress of injustices.[51] In the case of uranium mining on Navajo land, this is the idea that offering up the bodies of dead miners, the tears of their widows, and the detritus left behind on ravaged landscapes can together crack the colonial dedication to grinding, penetrating violence. This theory of change derives from the deeply liberal notion that justice is the natural condition of modern political systems, and that offering evidence of *injustice* will produce the requisite distributional changes, or at least compensation for the ills suffered as a result of environmental contamination.

Andrea Smith calls this kind of reasoning "the liberal myth that the United States was founded on democratic principles…rather than a state built on the pillars of capitalism, colonialism, and white supremacy."[52] This liberal myth denies the reality that, as David Pellow argues:

> The production of social inequalities by race, class, gender, and nation is not an aberration or the result of market failures. Rather, it is evidence of the normal, routine functioning of capitalist economies. Modern market economies are *supposed* to produce social inequalities and environmental inequalities.

Some environmental justice scholars, such as Pellow, have used comparative ethnic studies race theory to move environmental justice studies beyond the distributive model, invested as it is in this liberal myth, towards an understanding that environmentally racist distributive outcomes point us to "a crucial entry point for exploring the social and

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[51] Tuck, 2009.
[52] Smith, 2008, p. 256.

institutional processes underlying" those unequal "distributional patterns."[53] Charles Mills uses social contract theory to build on this point, arguing that the racialization of space perpetuates environmental racism by "mark[ing] the limits of the sovereign's full responsibilities."[54] Put simply, racialized spaces, like the abject, wastelanded space of Native reservations, exist *at* (not outside) "the limits of the sovereign's full responsibilities," including the responsibility to redress injustices and fully achieve modern liberal tenets of equality, fairness, and justice.

In Chapters 1 and 2, I map the space at the borders of the "sovereign's responsibilities": Native land and bodies in the uranium landscape. Rather than merely being outside of the sovereign's responsibilities, they "mark the limits" of it; like all borders, they are liminal spaces, sometimes excludable from the sovereign's responsibilities, but more often the sites of those responsibilities' spectacular hyper-articulation. Indigenous scholar Sandy Grande describes, for example, how democracy, a primary one of these "responsibilities," was a violent project of colonial coercion and genocide. "From the perspective of American Indians," Grande notes, "'democracy' has been wielded with impunity as the first and most virulent weapon of mass destruction."[55] In the 1930s on Navajo land, this spectacular hyper-articulation of responsibilities came in the form of environmental conservation policy, and the "good management" of ecological as well as social and political life. During this time and continuing into the uranium booms, the "sovereign's responsibility" was articulated as the extension of US sovereignty over resources on Native land.

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[53] Cole and Foster, 2001, p. 54.
[54] Mills, 2001, p. 87.
[55] Grande, 2004, 31-32.

Like comparative race theory, indigenous theory, and particularly indigenous feminist theory, is profoundly generative for environmental justice studies.[56] Whereas environmental justice studies has tended to look at indigeneity as a *site* of environmental racism, indigenous feminist theory offers a means of understanding the production of environmental inequality as a "pillar" of modernity, racism, patriarchy, and colonialism. Rather than being the site of research, in other words, indigeneity becomes the theoretical frame. Likewise, distribution can then be seen as a *symptom* of the problem, rather than the problem itself.

The distributive model of justice operates from the kind of "theory of change" that imagines an impossible future: one *with* the environmental contamination built into the modern "risk society" distributed along "just" lines: to each according to their consumption. This world is impossible because modern forms of capitalism, industrialism, and environmental contamination cannot exist without the technologies of racial and colonial domination. Thus the distribution of toxins, or "the 90%," is merely the *signifier* of the foundational, enabling modalities of modernity: "capitalism,

[56] I think that this is generally true of indigenous feminist theory as it relates to comparative ethnic studies; it offers comparative ethnic studies a frame through which to begin a critique at the level of settler colonialism, rather than the starting point built into much ethnic studies work of the 1970s through the present, which begins at the level of civil rights or the myth of immigrant America. These latter frames presuppose the "liberal myth" to some extent and leave settler colonialism intact, including its inhered patriarchy, labor exploitation, and environmental racism. This is not *new* to comparative race theory, just one that has been underprivileged in the development of ethnic studies. For example, Malcolm X put it this way: "We can't really get meaningful redress for our grievances when we are depending upon these grievances being redressed just within the jurisdiction of the United States government…we feel that by calling it civil rights for the past 12 years we've actually been barking up the wrong tree." Quoted in Eze, 1998, p. 110.

colonialism, and white supremacy."[57] Thus to ask for "just" distribution of industrial pollution, waste sites, mines, unsustainable and toxic labor, etc., is to not to ask for redistribution, but rather to ask for modernity to throw up its hands and dismantle itself.[58] As Pellow notes, this kind of re-articulation of the distributive model has been shorthanded by environmental justice activists as a move from the politics of NIMBY (Not In My Back Yard) to the politics of NOPE (Not On Planet Earth).[59]

This re-articulation of distributive justice suggests new theories of change, theories that imagine new futures for the world that contend with the racist, patriarchal, and environmentally unjust realities of colonial modernity but simultaneously seek justice outside of the liberal myth. As Avery Gordon reminds us, "we need to know where we live in order to imagine living elsewhere. We need to imagine living elsewhere before we can live there."[60] In Chapters 3 and 4 I trace the mapping projects that anti-uranium activists have engaged in as part of this project of "know[ing] where we live in order to imagine living elsewhere" (although the "elsewhere" is not a physical "elsewhere" but rather a new political future). In Chapter 4, for example, I explore maps of uranium industry waste sites created by the Church Rock Uranium Monitoring Project (CRUMP). These mapping projects were undertaken in part because the Church Rock community seeks to expand housing units for its residents, and must wrestle with the present problem of uranium contamination before undertaking the building (quite literally) of its future.

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[57] Smith, 2008, p. 256.
[58] I borrow this phraseology, and in part the line of thinking, from conversations around reparations for slavery; the demand for reparations is at heart a demand for the US to bankrupt and "unsettle" itself and its land.
[59] Pellow, 2007.
[60] Gordon, 1997, p. 5.

The inaction of the US government and uranium corporations in cleaning up uranium waste indicates, among other things, that they prefer to imagine futures in which Native lands and bodies continue to be dead and dying at the borders of sovereign's responsibilities.

Maps of Desire and Refusal

The mapping and racializing projects that enabled the uranium industry and solidified the colonial, environmentally racist relationship between the US and the Navajo reveal the *desire* of the US to view the Navajo as abject, and particularly as racialized and sexualized Others against which the hyper-rationality of US policy was constructed. Colonial maps desire abjected space, national sacrifice, and the dead/dying Indian on which progress and modernity are constituted. But desire works other ways as well—in using knowledge about land and politics to create new versions of reality, where humans contend with the ghosts and cyborgs of colonial modernity in order to build politically productive models of decolonization and sovereignty. Within this latter desire there is refusal to be *only* portrayed as victims, rather than denizens of a complex present, and bodies living in a landscape that is both toxic *and* home. This dissertation is, in part, a project of mapping out these conflicting desires as they emerge in the case of uranium mining.

I would like to offer a concluding note on the subject of stakes, because any environmental justice project must contend with questions of *what is at stake?* when toxins meet tissues. The stakes in this particular case are wrapped up in colonial and anti-colonial maps of desire and theories of change, but they are also wrapped up in the implications of *uranium*. The uranium landscape, with its radioactive residues and threats

to the land and those living on it, offers its own futures: it projects itself into the future via the promise of cancer and birth defects, with all the vigor and virulence of a substance with a half-life of 4.46 billion years. Uranium gives us a future of congenital damage to human and nonhuman life alike, on a temporal scale that exceeds our human understandings of the "future" itself. This promise of the future is not one anyone wants shaping her world.

Chapter 1

Intimate Cartographies: The Cultivation of Federal Knowledge of Navajo Land, Livestock, and Bodies through Soil Erosion Control

A quarter of a century before the uranium boom got underway on the Colorado Plateau, oil was discovered on the Navajo reservation. As a result, there was a sudden uptick in federal and industry interest in Navajo affairs and lands, eventually culminating in the formation of the Navajo Tribal Council in the late 1920s. The process of obtaining permission to drill for oil entailed a number of bureaucratic and political maneuvers, and significantly shaped the ways in which relationships between Navajos, industrialists, and the federal government would play out in subsequent decades. As Kathleen Chamberlain notes in her account of this history, by the end of this process of legal and political wrangling, oil companies and agents of the Indian Service had obtained every inroad to begin oil extraction on Navajo land except one: "no structural maps of the area existed," and no comprehensive geographical surveys had been conducted.[61] This seemingly mundane factor of maps proved to stump the powerful industry, if only temporarily.

In the 1930s, as the US government was beginning to develop plans for the massive Boulder Dam[62] project on the Colorado River, one that would go on to supply energy to major population centers in the southwest, federal scientists began to worry that soil runoff would quite literally muck up the works and cause major operational problems for the dam. These scientists traced what they thought were the origins of the problematic soil runoff upland to the Navajo reservation, where sheep, goat, cattle, and horse grazing

[61] Chamberlain, 2000.
[62] Later re-named the Hoover Dam.

had been promoted by the BIA for decades as a self-sustaining economic practice for Navajos. Unfortunately the combined result of two government policies for the Navajos, first, promotion of livestock herds, and second, limitation of their land base to a restricted reservation, had produced what federal agronomists of the time considered to be major degradation of the range and its vegetation. While historians have debated whether the soil erosion associated with the Navajo reservation in the 1930s was a result of livestock grazing or of larger climate and ecosystem factors what is not disputed is the federal reaction to the state of the Navajo rangeland: they saw it as overgrazed, badly eroded, and potentially destructive to the Boulder Dam project.

Thus the government set about to remedy the "problem" of soil erosion on the reservation and save the dam project by promoting livestock reduction and soil conservation. What resulted was more than a decade of policies that forced the selling-off and slaughter of Navajo sheep, goats, horses, and cows, and that mapped Navajo land and life according to the priorities and dispositions of federal agents and bureaucrats. By the end of World War II, with the dramatic unveiling of atomic bomb technology on the bodies of Japanese civilians, Navajo economies had been crippled by stock reduction, and briefly propped up again by war work. And in June of 1950, when a Navajo sheepherder named Paddy Martinez discovered the uranium deposit that instigated a uranium boom rivaling the Gold Rush of a century prior, there was no shortage of "structural maps" or geological studies to limit the onslaught of uranium prospectors and miners onto Navajo land.

Introduction *The Navajo Problem*

In 1941, ER Fryer, then General Superintendent of the Navajo Service, submitted a report to Commissioner of Indian Affairs John Collier that succinctly sums up the federal position on something called the "Navajo problem," a matter of intense federal concern throughout the 1930s and 1940s. "The Navajo problem," Fryer writes,

> is notoriously one of severe land deterioration and economic deprivation […] Early in the [Navajo Service] program, the underlying causes of maladjustment were clearly defined as:
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> Overpopulation of the Navajo country;[63] correlative evils of excess numbers and poor distribution of livestock, severe overgrazing, unregulated forest and woodland use, inadequate farming system and under-development of potential agricultural resources, and deterioration of social interrelationships, Indian leadership, economics, and health.[64]

The Navajo problem, described here by Fryer as a nexus of "correlative evils" on the reservation having to do not only with social, but also with ecological and economic challenges, became a central figure in federal Indian policy during the 1930s and the 1940s. Many government and media observers went so far as to predict dire consequences, including the extinction of the Navajo people, if the problem was not addressed with comprehensive economic development and ecological conservation practices, imposed by the federal government.

When this concern about the Navajo problem arose, the southwest region as a whole was experiencing a massive drought, compounded by the economic hardships of the Great Depression. For Navajos these conditions were made significantly worse by

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[63] Emphasis in original.
[64] ER Fryer, correspondence to John Collier, November 17, 1941, Collection of William Zimmerman, Jr. Papers, Center for Southwest Research, University of New Mexico, MSS 517 BC Box 10 Folder 5.

restrictions of their land base, consistent underdevelopment of critical infrastructure (such as roads, irrigation systems, etc.), and a crash in oil prices in late 1929.[65] However, the blame for economic and ecological problems was placed squarely on the shoulders of the Navajos themselves, who were told they were overpopulating and overgrazing their land with potentially devastating results. Grave misunderstandings shaped the Navajo and white perspectives on what was causing the so-called Navajo problem and, critically, what could be done to solve it. In the words of Eli Gorman, a Navajo from the Towering House Clan who was a young man at the time of the reduction policy:

> [John Collier] told them [Navajos at a tribal meeting in Window Rock] that they had over-grazed their land which caused it to wear out and become unproductive. We were aware of the fact that we hadn't had much rainfall for a particular period of time. I don't know who hid the rainfall, but it was true that some of the land was so dry and unproductive that a lot of livestock starved to death…[I]t was evident that the lack of rainfall had caused the bad condition [of the range]; but he [John Collier] kept on telling us that we had caused the grasses to disappear. It was on account of this that he reduced the livestock.[66]

Federal ecologists and agronomists were particularly concerned with the erosion of topsoil that cut deep arroyos into the four corners landscape, washed away shallowly-rooted vegetation, and moved unacceptable amounts of silt into the Colorado River, threatening to disrupt the planned Boulder Dam project to provide hydroelectric power to cities in the West such as Los Angeles. Thus soil conservation would make up a large part of the effort to alleviate the Navajo problem. Howard Gorman, a Navajo of the Bitter Water clan who was present at many of the meetings in the late 1920s and early 1930s, explains his understanding of the job the Soil Conservation Service had set out to do:

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[65] Chamberlain, 2000.
[66] "Eli Gorman," Roessel and Johnson, 1979.

"Their job would be to try to fill up the erosions caused by livestock. They thought that, when and if the goats were sold off, the problem of erosion would be solved. It was like telling us to fill up the erosions with our goats."[67]

Rather than accommodate the Navajos' need for a larger land base to support their herds in these drought conditions, or invest in irrigation technology and infrastructure to bring the Navajo Nation into the larger "hydraulic society" of the West,[68] the federal government settled on soil conservation as their central project for alleviating the effects of the Navajo problem. The first strike against soil erosion, and for years the only weapon wielded by the federal government against it, was to reduce livestock herds, which, as the singular economic resources of many Navajo families, were economically and well as culturally indispensable. The strategy adopted by the federal government to avert this disaster was to reduce Navajo livestock from about 1,270,000 sheep or "sheep equivalents" to the federally determined "carrying capacity" of the land: 560,000—a reduction of a devastating 710,000 head, or 56% of Navajos' total number of livestock.

The reasoning behind this excessive policy of reduction was multifaceted and dynamic. Despite the impression many Navajos were left with after the stock reduction period that John Collier was alone responsible for it (which was, from their perspective, the only way to explain the irrational nature of stock reduction policy), Collier was in fact influenced by the larger national context of conservationism and near-hysteria among federal bureaucrats and liberal journalists about this "Navajo problem." In a 1936 memorandum, when reduction was already underway but meeting with opposition from

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[67] "Howard W. Gorman," Roessel and Johnson, 1979.
[68] Worster, 1994.

Navajos, William Zeh, then Director of Forestry for the US Department of the Interior, Zeh called Collier to action about the need for continued stock reduction. Zeh's memorandum braces Collier for what this kind of reduction program would necessarily entail, and attempts to inure the Commissioner against the inevitable opposition:

> Here are some hard but realistic facts which you will have to face.
> 1. Many Navajos will probably exert physically violent opposition against the carrying out of this plan.
> 2. Such opposition can only be overcome by armed forces to confiscate excess livestock.
> 3. Some people will probably be killed.
> 4. All your enemies will howl like hell and Congress will make a nasty investigation.

Here, Zeh opens the process of soil erosion control to the possibility of physical violence, noting the potential need for armed seizure of Navajo livestock. He continues to provide a counterpoint to this decidedly nasty scene that could be even worse should Collier *not* engaged in forced stock reduction:

> The following, however, are some even harder and more realistic facts to face if you continue the present wishful and prayerful programs.
> 1. The Navajo Reservation will be wrecked for centuries.
> 2. Most of the 50,000 Navajos will become in effect landless and will have to depend for a livelihood on the government dole.
> 3. Mead Lake will be silted and the Boulder Dam project damaged to the extent of many million dollars […].
> 4. All your enemies will howl like hell and Congress will make a nasty investigation of why you permitted the Navajos to destroy their own civilization.

Zeh's stark list illustrates both the severity of the government treatment of the overgrazing issue, as well as its dire perspective on whether Navajos could be left in charge of their own ecological and economic practices.

The "conditions of maladjustment" referred to in the 1941 report were certainly ecological, including what was considered inordinate soil erosion, poor agricultural

productivity, low-quality stock (sheep, goats, and horses), and intense gullying (the washing away of soil into deep gullies and arroyos). However, the "conditions" were also those of *human* maladjustment with their environment. According to a 1941 report called "The Navajo Indians in a Changing World," the Navajo problem "results from the fact that Navajos are outgrowing their empire. Population is increasing faster than economic development of the resources of the tribe," and thus "[t]he solution of the Navajo problem would seem hopeless is it were not true that leading Navajos realize, though dimly and vaguely, that something is radically wrong with their way of life." The report's author concludes:

> Once the nature of this struggle for existence on the part of the Navajos is fully understood, once it is realized that the confusion, the misunderstanding, the resentments, have their source in the blind, frantic struggles of this race of pioneers to survive and preserve their way of life in a changing world, the understanding will bring about the realization that the task confronting the forces of government is one of patient education and sympathetic guidance.[69]

In other words, federal discourse about the Navajo problem presented it as a problem not only of the soil (eroded, drought-stricken, and gullied) and of the livestock (over-populated, undernourished, and of poor quality) but, most importantly, of the people (fiercely resistant to progress, agriculturally primitive, superstitious, unsanitary, and hyper-reproductive). This tripod of deviance from the norm—of the soil, livestock, and people—together made up the Navajo problem, and threatened the very extinction of the Navajo people and ways of life. To all but the most conservative, federal action to

[69] Robert W. Young Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 2, folder 18.

"save" the Navajos from themselves was of immediate necessity, and the government set about to scientifically map the contours of the problem and find rational solutions to it.

The stock reduction program was an exercise in assimilating Navajos into white land-cultivation practices, whether or not the "assimilation" part was actively acknowledged by the BIA institutional culture of the era, which headed down a nominally liberal path after the publication of the Merriam Report and the subsequent Indian Reorganization Act. Archival sources reveal that Indian Service personnel saw the Navajos themselves as having improper, almost perverse ecological relationships with their surroundings and with their livestock, as well as improper family forms that led to poverty and overpopulation (echoing larger eugenics discourse that sought to locate racial and class problems as being mainly problems of reproduction). One observer commented that the Navajo problem boiled down to "[s]imply too many people and, therefore, too many sheep for the developed resources of the land."[70] These perceived conditions of maladjustment seemed sufficiently dire as to prohibit Navajos from developing coherent political, economic, and ecological practices that would support their community.

The Indian Service, with the support of the Department of the Interior, felt action was of immediate necessity, with or (as it happened) without the consent of the Navajos. The course of action settled upon to alleviate the effects of the Navajo problem was twofold: first, to first reduce numbers of Navajo livestock, through slaughter or through coercive market practices, to what was "scientifically" deemed the land's carrying

[70] Alden Stevens, "Once they were Nomads," *Survey Graphic*, vol. 30, no. 63, February 1941, as quoted and cited by Pollock, 1984.

capacity, and second, to cultivate "good" soil conservation practices on the reservation in order to promote an agriculture-based economy.

Significance and Chapter Plan

This chapter sets the stage for later chapters that deal more directly with the subsequent uranium booms on and near the Navajo Nation. Here, I argue that the military industrialization of the Navajo Nation during World War II and the Cold War was facilitated by the intimacies of federal cartographic projects on the reservation during the 1930s and 1940s, sparked by federal near-hysteria about the Navajo problem. During this period of stock reduction and soil conservation, Navajo land and people became the subjects of intense federal scrutiny. In subsequent decades, the Defense Minerals Exploration Administration, the Atomic Energy Commission, and the Bureau of Indian Affairs built on these massive cartographic projects of the 1930s in order to chart the possibilities for mineral exploration and mining and to develop strategies for industrializing the Navajo economy in the 1950s. The knowledge created through the soil conservation programs regarding not only Navajo land and its resources, but also about Navajo politics, culture, economic systems and ecological traditions quite literally mapped the course of military industrialization during the uranium booms of the latter half of the 20th century and continuing to the present.

In this chapter, I explore how seemingly objective federal scientific projects, the "technologies of [environmental] government,"[71] were actually steeped in racial and heteronormative constructions of value and productivity of the land and its peoples. These cartographic and sociological projects took place under the auspices of extending

[71] Agrawal, 2005, p. 6.

colonial conceptions of proper gender, racial, and sexual orders (and a properly extractive relationship to land) to this frontier space. The southwest has been naturalized as the common sense "home" of militarization, a warping of time and space that makes it seem as though this region always already existed as a military sacrifice zone, by virtue of this presumed emptiness and agricultural worthlessness. However, quite to the contrary, militarization occurred precisely through the vehicle of being first constructed through colonial technologies and discourses as empty and worthless. At the heart of this argument is the notion that landscapes and ecologies are themselves constructed and inscribed with social meaning.

Section 1, "Deviant Ecologies," builds on this framework by exploring the ways in which Navajo land in particular was seen as inherently nonheteronormative: racially, sexually and reproductively resistant to white agricultural settlement. This nonheterornormative construction of the land and people was solidified by discourses about the Navajo problem and subsequent programs designed to alleviate it. As I argue in Section 2, "Rational Landscapes," during this period the federal government undertook to survey, grid, map, and develop Navajo people, stock, and soil into "properly" (re)productive ecological and economic practices. In the concluding section, "Bitter Legacies," I introduce an argument that the military industrialization that occurred here during the 1950s and 1960s was shaped by experiences of both the federal agencies and the Navajos themselves during this period of intimate federal cartography. The construction of both Navajo land and people as pathologically un- or hyper-reproductive, and, in any case, anathema to federal agricultural and economic development policy, left considerable room for notions of what the proper gender of the frontier *should* be. The

land having been deemed reproductively barren and worthless for agriculture, and the livestock economy left in tatters, non-agricultural economic solutions seemed to federal bureaucrats to make logical alternatives for Navajo economies.

Section 1 *Deviant Ecologies*

In a 1934 report, Lee Muck, then Assistant to the Secretary in Charge of Land Utilization, concluded that his "objective analysis of the Navajo situation can lead to only one conclusion, namely, that a serious state of maladjustment exists between the Navajo people and their environment."[72] Likewise, in a report written the same year, federal biologist WL McAtee described the Navajo problem in evocative terms:

> To illustrate, I may say that in three days' travel over the Reservation I saw no quail, no meadow-larks, and only three mourning doves, ground-dwelling birds which should be common in the region. I saw no hawk, no burrowing owl, no coyote […] In fact, the region is largely devoid of terrestrial wild life. It contrasts greatly with cattle country recently visited in Texas where not only the finest quality of cattle are produced by range feeding alone, but where the grass and other ground cover is not generally impaired.[73]

In these two quotes, the Navajo problem is constructed as having emerged from the "maladjusted" relationship of Navajos to the land and the perverse reproductive deviance of the land itself. McAtee seems indignantly to ask: how dare an arid landscape not resemble a properly reproductive (and white masculine) Texas rangeland? Perhaps more importantly, Navajo land here is marked by its difference (both actual, and perhaps, imagined) from the normative image that McAtee held of what frontier rangeland should

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[72] Lee Muck, "Survey of the Range Resources and Livestock Economy of the Navajo Indian Reservation," p 30, Robert Young Papers, Center for Southwest Research, University of New Mexico, MSS 672 BC Box 2 Folder 8.
[73] WL McAtee, "Report on Inspection of Navajo Erosion Control Project," June 4-6, 1934, pp 2-3, Soil Conservation Service Papers, Center for Southwest Research, University of New Mexico, MSS 289, Box 7, Folder 4, CSWR.

look like, what kind of wildlife it should sustain, and what kind of stock it should support.

During the years of stock reduction and Navajo Soil Erosion Control Project, the Navajo people, stock, and land were obsessively studied, and everywhere found lacking. Federal biologists like McAtee called for first stock reduction, then reintroduction of ground-dwelling birds, then reintroduction of deer and rabbits before "careful over-sight by the Navajos inspired by pride in the fact that wild life conditions on their reservation, under good management yearly, [would] approach more closely to those known and prized by their ancestors."[74] Exhaustive development schemes were proposed, including an educational program for Navajo children "designed for a rural people who are exceedingly primitive and who place superstitious interpretations upon natural phenomena."[75]

In this manner, federal discourse around this Navajo problem presented the problem as being not just one of racialized difference (using the racial logic that relegated Navajos to "primitive" Others) but also a problem of an ecologically and reproductively aberrant people, whose reproductive practices and family forms constituted a dangerous deviance from the white heteropatriarchal norm. Because the Navajo people and land did not easily fit US assimilationist models of racial integration and conservationist models of environmentalism, both people and land were perceived and represented as deviant, perverse, and pathologically un-reproductive (in the case of the land) or hyper-reproductive (in the case of the people and their livestock). Both land and people thus

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[74] Ibid.
[75] "The Navajo and the Land," *The Navajo Problem*, 1939, p. 24.

constituted a *queer* problematic to the colonial bureaucracy; that is, they were seen as reproductively and racially nonheteronormative, unable or unwilling to maintain hegemonic proprietary relationships to the land as well as "proper" familial orders and reproductive practices. This ecological queerness emerged from an *a priori* racialization of Navajos that rendered them primitive and pitiable "wards" of the US government—children to the American national patriarch—in the eyes of liberals, and unassimilable savages in the eyes of less sympathetic conservatives.

In the literature that explores colonialism and settler-states, "race" has become a reliable frame for understanding exclusion, differential inclusion, exploitation, and colonization. However I propose a more intersectional frame in "queer," not because it shifts the focus from race to sexuality and reproduction but because it functions as a nexus of subjection that includes not just racial but also gender, sexual, and economic "deviance" from the norm. In other words, if bodies are marked as "undesirable," "deviant," or "different," it has long been recognized by feminist scholars that this foreclosure occurs not only via racialization, but also via the intersections of socially constructed markers of difference (race, class, gender, sexuality). The Navajo problem and its attendant construction of "queer ecologies" exemplifies this intersectionality; Navajos could not be said to be deviant by race alone, but also by virtue of their political-economic, ecological, and domestic differences (either perceived or real) from white heteropatriarchy.

The Navajo problem, therefore, was located at the intersection of racial, gender, sexual, and reproductive nodes of normative ecological practice. While white Americans, particularly in the Department of the Interior, were increasingly concerned with

environmental conservationism and the role of "good management" in maintaining continual resource exploitation, the Navajo problem seemed to provide an ideal testing ground, quite literally, for new kinds of conservation practice. Larger national discourses about ecology linked control and conservationism to capitalist resource-exploitation practices that sought to "conserve" resources primarily to the benefit of industrialism—to this end, the government functioned more as an enabler to industry than a protector of natural resources. Simultaneously, larger national discourse about race and sexuality sought to maintain myths of racial purity through the regulation of sexual relationships and to manufacture the racial makeup of the nation through eugenic practices.

What federal treatment of the Navajo problem introduces to this intersectionality frame is the role of the land on which these articulations of conservation, race, and sexuality take place. Landscapes are a central device in the construction of imagined communities, and this is perhaps never so true as in US history, where the entire nation-building project of manifest destiny was built on the imagined ground of "the frontier," a staging ground, quite literally, for the "home" of the nation and development of the racial, sexual, gender, and political-economic orders that defined what it meant to be an American and what promises manifest destiny held for a nascent colonial power. The frontier meant settlement, agricultural cultivation, rugged masculine individualism, and racial violence; it meant an articulation of specifically (white) American gender, sexual and familial orders. It also required a very particular relationship of heteropatriarchal subjects to the land: an extractive, proprietary relationship that assimilates land into a capitalist political economy.

Indigenous peoples have long been excluded from this proprietary relationship to the land, largely under the justification that theirs was a "natural" rather than a "civil" right to land ownership, as famously argued by Massachusetts governor John Winthrop in 1629: "As for the Natives," Winthrop decreed, "they inclose noe land, neither do they have any settled habytation, nor any tame cattle to improve the land by, and soe have no other but a natural right to those countries."[76] This sentiment built on an already-longstanding tradition in European colonial discourse that rationalizes colonial domination of land and its resources on the grounds of "proper" economic land- and resource-use. In John Locke's *Second Treatise on Civil Government*, he outlines a modern relationship to land that illustrates the ideological platform from which Natives were excluded from land rights in colonialism:

> God gave the world to men in common; but it cannot be supposed he meant it to remain in common…He gave it to the use of the industrious and rational, and labor was to be his title to it,,,As much land as a man tills, plants, cultivates, and can use the product of, so much is his property. He by his labor does, as it were, inclose it from the common.

In the modern European social contract, proper (white heteropatriarchal) relationships to land were thus predicated on labor and resource exploitation. This modern social contract, with its implications for human-nature proprietary relationships, is inherently gendered; as argued by feminist theorist Carol Pateman, the labor that brings a man into the public sphere of political economy by virtue of his "industrious and rational" relationship to land is enabled by the private sphere labor of a feminized subject (a wife) in a heteropatriarchal household. [77] Gender and sexual roles and social

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[76] Winthrop, 1869, p. 312.
[77] Pateman, 1988.

constructions, therefore, are built into the very foundations of the modern social contract—the same contract that denies indigenous peoples civil rights to property in the colonization of the Americas. This social contract, and its implications for property ownership and ecological practice, has direct relevance to the case of the Navajo problem and subsequent livestock reduction and soil conservation policies. The General Allotment Act of 1887, more colloquially known as the Dawes Act, sought to assimilate Native peoples into these white heteropatriarchal relationships to land and resources through the process of allotting land to individual "heads of families" for agricultural development.[78] This policy is generally regarded as a disaster for Native peoples, as they lost significant portions of their original (already too restricted) reservations.

White colonization of Native peoples has consistently entailed constructions of Native bodies, sexuality, gender practices, ecological practices, and family forms as aberrantly non-normative, and in need of "assimilation" or annihilation. In the early colonial period, constructions of Natives as having non-normative "natural" rights to property (in my analysis above, an implicitly gendered and sexualized notion of property) were coupled with explicitly gendered and sexualized constructions of Native bodies, relationships, and sexual practices.[79] While racism and racialization tend to take center stage in the telling of histories about Native genocide and colonization, indigenous feminists and historians have done important work to re/member the importance of sexuality and gender, intersectional with race, in the exercise of colonial violence. Andrea Smith traces the ways in which sexuality in particular figured prominently in both

[78] General Allotment Act, Section 2, February 8, 1887, reprinted in Prucha, 2000.
[79] Trexler, 1997.

the extreme and "mundane" practices of racist colonial domination—ranging from rape and other forms of sexual violence to discursive constructions of Native land as rapable, Native men as emasculate, and Native peoples in general as "wards" or children to the American national patriarch. Richard King extends this kind of analysis to the discursive construction of Native women as "squ*ws," and the inscription of that racist and sexist epithet on American landscapes.[80] All of these iterations of colonial violence gesture to the ways in which sexuality and gender, in addition to race, class, and citizenship, figure prominently in Native experiences of colonization.

Ann McClintock connects the sexual nature of colonization to the very "discovery" and subsequent settlement of the North American landmass. She notes the myriad ways in which discovery and settlement, with their attendant encroachments (or "penetrations") into Native-populated terrain, were framed as matters of sexual conquest. Environmental historians[81] and ecofeminists[82] concur, noting that the "lay" of "virgin" land was "an ideological weapon in the service of the white European conquest of the Americas."[83]

Drawing from transnational feminism[84] and queer studies, a queer of color critique uses this hydra-like intersectional nature of colonial and racist violence as its

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[80] King, 2003.
[81] Notably William Cronon and Richard White.
[82] Notably Kolodny, 1975.
[83] Leo Marx discussing William Cronon's contentious article, "The Trouble with Wilderness," 2008, p. 19.
[84] I use "transnational feminism" as shorthand for the range of literature deriving from the "women of color" feminism that emerged in the US in the early 1980s as a response to the problematic politics of second wave white feminism. This literature has developed a critical theoretical apparatus that de-centers not only the white subject of second wave feminism, but also the US as the privileged subject and space of analysis. Mohanty, 1986;

jumping-off point. In his work, Roderick Ferguson argues that African Americans and African American families have been constructed as racially, sexually, economically, and gender deviant from white heteropatriarchal norms. As such, they constitute a queer/ed subject against which the nation has articulated itself. Building on this, I argue that the "queering" of African American individuals and families translates (although with important differences) to colonial constructions of Natives and Native families. Ferguson argues that it is not necessarily only non-heterosexuality that "queerness" signifies, but rather "queerness" emerges from "nightmares of the heteronormative," those elements of race, gender, sexuality, and class difference that displace normative, white heteropatriarchal American families and articulate different sets of gender and sexual meaning and importance. In the Navajo context, these different sets of meaning and importance include hogans[85] as the built environments of families, multiple-generation households, and egalitarian gender practices and property-ownership patterns.

In this section, I draw from the queer of color critique to argue that the "objective" modern sciences used to understand and "solve" the Navajo problem are "sites of knowledge production" about racialized subjects "that ha[ve] everything to do with modern formulations of sexuality, racialization, and citizenship."[86] I focus on cartography and conservationism, in addition to sociology and the racial-sexual

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Anzuldua, 1987; Anzaldua, ed., 1990; Mohanty, Russo, and Torres, 1991; Alexander and Mohanty, 1997; Allen, 1992; Moraga and Anzaldua, 1983, Alarcon, 1991; Grewal and Kaplan, 1994; Kaplan, Alarcon, Moallem, 1999; Davis, 1997; Shohat, 2001; Yoneyama, 2004.

[85] The building at the center of Navajo life; the hogan is composed of one round room, with the entrance in the east, with an opening at the top to let out smoke from the fire or stove.

[86] Ferguson, 2004, p. 55.

pseudoscience of eugenics, as way of pointing out that these scientific discourses, meant to represent and interrogate land and its resources, were also critical sites of knowledge production about people, bodies, and families—and therefore about gender, sexuality, and reproduction. Cartography and conservationism were primary modes through which Navajo racial, sexual, gender, and ecological difference were produced.

Violent Elisions

Much of the consternation over stock reduction in the 1930s resulted from violent elisions in federal discourse of Navajo gender roles, family forms, and relationships to land and animals. Just as maps of the Navajo reservation, no matter how thoroughly rendered, failed to recreate "truth" about the lands they purported to represent, federal discourse about Navajos and Navajo life violently elided the realities and indigenous rationalities that constituted Navajo worlds and ecologies. These violent elisions of Navajo worldviews did not result from problems of language or cultural misunderstandings, but rather from problems of representation, knowledge, and colonial power and violence.

Throughout the period of stock reduction, Commissioner Collier, General Superintendent Fryer, and other Indian Service personnel seemed unable or unwilling to understand differences in Navajo and white conceptions of stock ownership. With each enhancement of the reduction policy, the Service treated a flock as property, ignoring the extra-economic roles of stock in Navajo life. Further, they treated a flock as the property of one head of household (almost always male), rather than as collectively owned among a number of family members, including women, extended family members, and children. From the Navajo perspective the Service's desire to reduce sheep flocks according to an

individual owner was incomprehensible; with the exception of a few wealthy Navajo stock owners no individual possessed flocks of greater than 100-200 head of sheep.[87] Moreover, women rather than male heads of household owned large portions of the stock herds, particularly the goats; as historian Marsha Weisiger points out, "[w]omen…controlled the means of their own production: livestock and land…And women typically owned a large share of the sheep and almost all of the goats."[88] The federal agents in charge of overseeing stock reduction, however, did not appear to recognize these distinctions in stock ownership, nor did they seem to appreciate that Navajos might derive more value from their stock than mere economic gain.

However, despite the appearance of federal misunderstandings of Navajo relationships to stock, there is evidence that the government was in fact quite deeply aware of how important sheep, goats, and horses were in the Navajo world. The excessively violent nature of the policy of slaughtering thousands of sheep and burning their carcasses in full view of Navajo witnesses suggests a willful and deliberate infliction of trauma. In his oral history, Edward D. Smith recalls that Indian Agents hired "cowpunchers" as opposed to sheepmen as deliberate policy because cowpunchers "had no love for sheep." In fact, this policy went so far as to import cowpunchers from Texas, where a supposed hatred for sheep was built into the cattle ranching culture.

These kinds of elisions, and Navajo attempts to rectify them in order to mitigate the violence of federal policies, emerged at the very outset of conversations about stock reduction. The idea that Navajo lands could be "saved" by a reduction in sheep herds was

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[87] Weisiger, 2007.
[88] Weisiger, 2007.

first introduced to the Navajo in a 1928 Tribal Council meeting in Leupp, Arizona. At this meeting, then Assistant Commissioner on Indian Affairs EB Meritt and then Superintendent of the Santa Fe Indian School Chester Faris[89] presented the Tribal Council with the idea of reducing livestock "so that the benefits of the range may be more equitably distributed among all Navajo Indians."[90] According to Meritt, theirs was "a very liberal proposition…and it is nothing but justice to all the members of the Navajo Tribe."[91] Meritt went on to pitch the idea in this way:

> We are suggesting this proposition because we want the standard of all the Navajo Indians raised so that there will be water and grass and grazing area for all the Navajo Indians. This can be brought about by using the money you get for this excess grazing in increasing the water supply on your Reservation, and in buying full blood stock so as to increase the quality of all your sheep…and by that means you can all make more money than you are making now.[92]

Meritt concluded, in a somewhat triumphant vein, "Therefore, this proposition will benefit all of the Navajo Indians and we hope to receive practically the unanimous support of the entire membership of the Council."[93] This early version of stock reduction policy that Meritt and Faris proposed would require excess grazing fees for stock owners who had herds in excess of one thousand head of sheep, goats, cows, and horses.[94] The above quote illustrates that Meritt framed his proposal not only as a promotion of fairness

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[89] Faris went on to be named the General Secretary of the Navajo Indian Service by BIA Commissioner John Collier in 1935. His tenure there lasted less than a year, and he was replaced by ER Fryer in 1936.
[90] Minutes of the Navajo Tribal Council meeting November 12 and 13, 1928, p. 46, Robert W. Young Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 4, folder 28.
[91] Ibid, p. 63.
[92] Ibid, p. 64.
[93] Ibid, p. 64.
[94] While goats and sheep counted for one head of stock, each cow or horse counted for four or five head.

and "justice,"[95] but also of economic and infrastructural development. His reference to "increase[ing] the quality of all your sheep" was a nod to a federal sheep-breeding program at the Fort Wingate Sheep Laboratory that sought to replace "inferior" and "primitive" Navajo stock with more marketable "American" breeds, in clear (and possibly willful) ignorance of the multiple extra-economic values Navajos placed in their stock. The 1928 proposal at Leupp was relatively benign, particularly in comparison to the excessively violent stock reduction that would follow in the 1930s, when thousands of Navajo sheep, goats, horses, and cows were slaughtered by federal "Range Riders" and members of the Indian Service.[96]

The subsequent discussion about Meritt's proposal at the 1928 meeting illustrates the depth of white misunderstandings of Navajo sheep ownership and family forms, which was never rectified by the federal government and led only to increasingly unjust stock reduction policies. While Meritt continued to insist that each individual stock-owner would be allowed a thousand head of sheep, the Council members tried in vain to explain to him the more nuanced problem of multiple Navajo "owners" (or, perhaps more accurately, "stewards") of one herd, including owners who were women and children. Several of the meeting's exchanges reveal the depth of this misunderstanding, and how

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[95] While in this speech Meritt repeatedly struck a populist chord, arguing for stock reduction especially for owners of big herds so that the smaller owners could have "justice," he was careful to praise these big herd owners as "shrewd business men," "leaders," and "good examples." No doubt this vacillation was partly due to the presence of the influential Chee Dodge, the biggest of big herd owners, with whom Meritt was disagreeing.

[96] My thinking here is influenced by an unpublished essay by Greta Marchesi, "The Navajo Stock Reduction Program and the Science of American Nationalism," provided by the author; also by Weisiger, 2007.

multiple attempts to explain Navajo family forms and ownership patterns fell on the deaf ears of the federal agent:

> Little Silversmith, Southern Navajo Agency: I would like to run a little history about myself. I have two thousand head of sheep, and I have seven children. My wife and I, there are two of us, and then there are my children, none of us all together; and then besides that I have three grandchildren, makes us twelve in the family. My daughter, the oldest one, is twenty-eight years old.
>
> Mr. Meritt: She would be entitled to one thousand sheep in her own name.
>
> Little Silversmith: If these children and my grandchildren were allotted these sheep, they would get less than two hundred each. On this ground I figured that these other sheep men are in the same fix as I am. When you divide the sheep among your family there is no one thousand for each of them.
>
> Mr. Kneale, Supt. Northern Navajo Reservation: Those sheep have marks of the whole family.
>
> Little Silversmith, Southern Navajo Agency: Each child has his or her own earmark. I think I have about three hundred, maybe a little less than three hundred.
>
> Mr. Meritt: Then in that case you would not have to pay excess grazing fee.
>
> Little Silversmith: I am speaking for my tribe. I think they are in the same fix as I am. You see a bunch of sheep, they don't belong to this one man. Now with the number of sheep I have, I have to eat and feed my children.
>
> Mr. Meritt: You would not be required to pay an excess grazing fee. […] Each family, the husband and the wife and the minor children will be entitled to one thousand sheep without paying an excess grazing fee. If you have children who are grown, who are 21 years of age, and that child is living with you, that child would also be entitled to one thousand head of sheep…Now that same rule would apply to every child above the age of twenty-one years, so you see that this proposed rule would apply to only the big sheep owners.

In this exchange, Little Silversmith tries unsuccessfully to communicate to Meritt the issues that stock reduction would raise in his own Southern district, and particularly

the fact that from a Navajo perspective this reduction policy in this proposed form (i.e. limiting a family to a thousand head) was essentially meaningless, as no individual (male) "head of household" owned the entire herd. As Weisiger points out, "[t]he fact that women really mattered in Diné society…never fully penetrated the consciousness" of the Indian Service. This is evidenced not only by the misunderstanding of stock ownership revealed in the minutes of this Leupp meeting, but also by the fact that Meritt was asking that the proposal be approved by the all-male Tribal Council; women were simply not consulted by the federal agents nor regarded as important political or economic actors.

Little Silversmith went on to conclude that the proposal would not affect his Southern district, because, as he says, "I am the only one in that neighborhood who owns two thousand head, the rest of them have about eight hundred down the line." Billy Pete, from the Hopi reservation, agreed: "This doesn't affect me because even though I have 1200 sheep, a lot of them belong to my children. For that reason I feel it doesn't hurt me at all." Pete Price, also of the Southern Navajo jurisdiction, made a similar point, and Meritt's sharp response is characteristic of the tone of the discussion:

> Pete Price: I come from close to Fort Defiance. My family herd the sheep. We have about 500 head of sheep. There is quite a number of us in the family and when we divide the sheep among us we don't have many […] For my tribe, it looks like they own a whole lot of sheep, but taking it by families, each person has only a few sheep.
>
> Mr. Meritt: Then this rule would not apply to him, nor his family.

Maxwell Yazzie of the Western Navajo District interjected in seeming exasperation at the apparent futility of the federal proposition. "What is the use to make all kinds of alibis," he asks, "as this man says, it does not affect us at all. There isn't a single Navajo in this room that is being affected by this proposition, because the majority

of our sheep belong to our family." And again, in a similar vein, Mr. Becente of Crown Point argued that, "[w]e feel that this proposition that is made from Washington in regard to our sheep, that probably Washington thought that there were men here, that every individual probably owned about 1500 head of sheep…but there isn't any one individual that has over 1000 head of sheep," to which Meritt again replied, "let me say that the Indians in your jurisdiction who do not have 1000 sheep will not be required to pay under this proposed plan."

Finally, in anticipation of a vote on the measure, Lee Bradley, of the Western Navajo District, concluded the discussion with this point: "Friends, we are talking about a thing we do not have…It is well that Washington feels that we have 1000 head of sheep apiece, but we haven't got that much, so why do we talk about it and make all kinds of alibis." Bradley went on to suggest, quite presciently, that if they did not approve this particular measure, which would apply to none or almost none of the Navajo stock owners, the federal government would return later with a proposal to limit them to 500 head per person, which would be immeasurably worse for the Navajo people as a whole. In view of this logic, that the proposal seemed to offer limited immediate harm, the Council proceeded to vote in its favor.

The details of this Council meeting reveal the extent to which the federal government refused to recognize the implications of their stock reduction policy, and, in particular, the relationship of Navajos to their stock herds and gendered patterns of stock ownership. In the 1930s stock reduction would become a matter of great personal, political, and economic despair for the Navajos, who tried to resist the mass slaughter of their sheep, goats, horses, and cows, and looked on in horror as the carcasses of their

stock were piled up and burned.[97] Throughout, these foundational misunderstandings on the part of the Indian Service—this violent mistranslation of stock ownership and Navajo relationships to stock—would remain engraved in federal policy.

In particular, federal discourses reduced the despair of Navajo women, witnessing the violent destruction of their herds, to "her" domestic concerns; as FW LaRouche explained to William Zimmerman, "[u]nder present conditions she fears the loss of sheep because she does not know that other food can be acquired. She thinks that by taking the sheep, we are taking the food out of the mouths of her children." Importantly, LaRouche writes these words in argument for replacing the Navajos' livestock economy, reduced to a ghost of its former self by the 1940s, with *military* work. He writes that with a militarized economy, "[t]he wife could always buy food for herself and her family; she could always be sure some money would be available for future needs."[98] In further explanation of the angst of women during and after stock reduction, LaRouche blames the presumed economic impotency of Navajo men, rather than acknowledging a Navajo gender-egalitarian system of stock ownership. He writes, "[the women] would rather keep their sheep because they do not believe they can depend on the earnings of their men, and experience seems to justify skepticism."

If these misunderstandings of Navajo gender roles, particularly in terms of stock ownership and property, played a significant role in stock reduction policy, the larger project of solving the Navajo problem would likewise involve violent elisions of

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[97] For Navajo accounts of this period, see *Navajo Livestock Reduction: A National Disgrace*, Navajo Community College Press, 1974.

[98] Letter from FW LaRouche [Chicago] to John Collier, January 13, 1943, William Zimmerman, Jr. Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 10, folder 11.

domesticity, family forms, and reproduction. Many of the federal "experts" sent to map the reservation into rational cartographies did so through the modern forms of knowledge production of sociology and conservation, drawing conclusions about domestic practices and population land-use. Thus it was not just the land, the soil, and systems of property-ownership that the federal government set about to rationalize, but also families, their homes, and Navajo reproduction rates and land-use.

Mapping the Boundaries

By the Treaty of 1868, Navajos were allowed to leave the federal concentration camp at Bosque Redondo, where they had been interned since 1864, and return to their homeland. While the 1868 Treaty stipulated a "woefully inadequate" reservation of four million acres, subsequent additions to the reservation increased this to almost sixteen million acres by 1940.[99] Whatever the size and parameters of their official reservation, Navajos continued to populate and use a large part of what they saw as their traditional homeland, much of which was outside the designated boundaries of their official reservation. In the 1880s, prior to major expansions of their reservation, more than half of all Navajos lived off-reservation; after the major expansions, this number shrunk somewhat to about a third of all Navajos. As illustrated in Figure 7, additions subsequent to the 1868 reservation reflect more accurately Navajo land-use. Expansions to the reservation happened relatively easily when New Mexico and Arizona were still territories of the US, relatively unpopulated by white settlers and land-users. However these expansions ceme to a rather abrupt halt in and around 1912, when, not

[99] White, 1983, and Pollock.

coincidentally to the granting of statehood, white stockmen began to use the land to the north and east of the reservation to run their own herds.

The tendency of Navajos to live beyond their reservation borders created the persistent impression among federal agents that Navajos were constantly spilling over their designated land-base, unable or unwilling to contain their own population in accordance with legal boundaries. The federal reliance on maps and government-imposed boundaries rather than the Navajos' actual homeland between the four sacred mountains that were Navajo-recognized boundaries visually indicates that Navajo land-use is irrationally demanding. Maps such as the one shown in Figure 7 create an impression that the government has had to accommodate Navajos' inability to remain within their designated reservation, as opposed to alternative view that the Navajos have had to attempt to accommodate the government's irrational demands that they occupy only a fraction of their actual homeland.

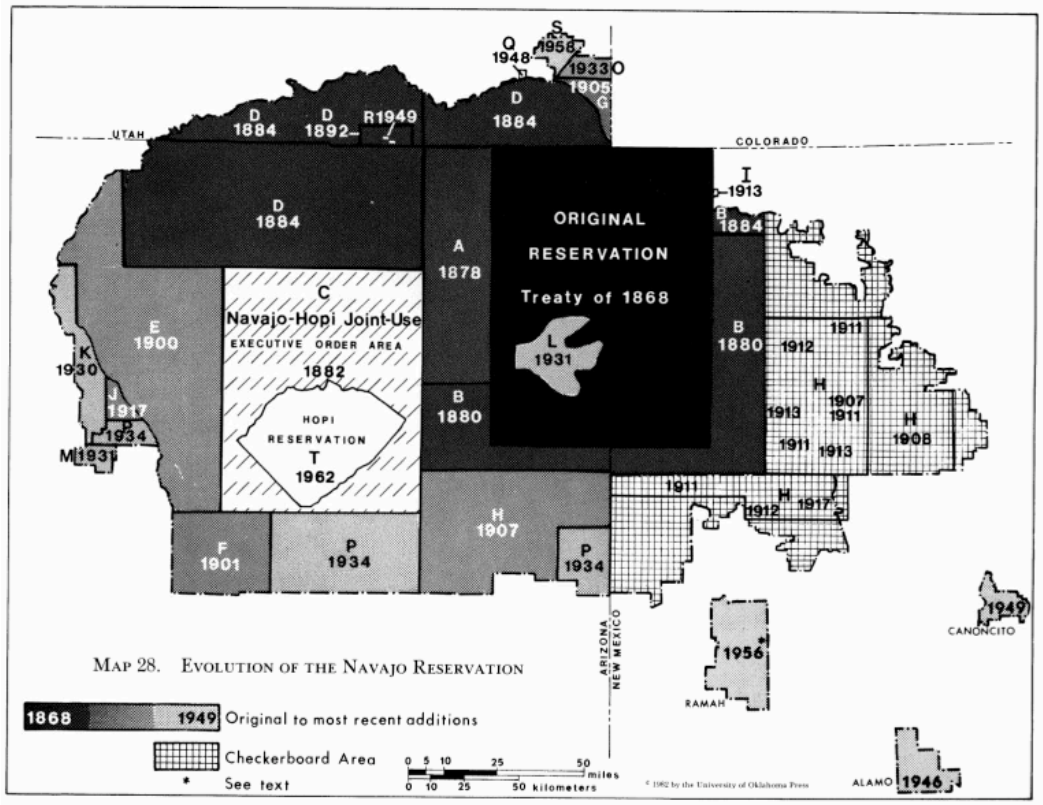

Figure 7 "Evolution of the Navajo Reservation"[100]

In the 1930s, these impressions of Navajo overpopulation were folded into the discourses of the larger Navajo problem. An increase in the size of the reservation to accommodate Navajos and their herds seemed a political impossibility, due in no small part to a noisy campaign made by white stockmen who ran their herds in the checkerboard region to the east of the reservation proper.[101] Thus discourse around the Navajo problem privileged the "problem" of population, framing the Navajo as irrationally hyper-reproductive given the "barrenness" of the land base:

The Navajo Indians [are] the largest tribe of Indians in the United States,

[100] Goodman, 1982.
[101] These white stockmen helped defeat the Navajo-New Mexico Boundary Bill, which would have added critically needed acreage to the Reservation.

> increasing from 10,000 in 1868 to approximately 45,000 in 1938, a phenomenal increase in seventy years despite the poverty of their arid land.[102]

John Collier himself listed the constituent parts of the Navajo problem as:

> (a) rapid deterioration of land, forage, and forest resources from overgrazing; (b) *increase of population to a point at which extraordinary effort is necessary to sustain living*; (c) great decrease in farming as the result of soil erosion; (d) lack of knowledge on the part of many of the Navajos as to the seriousness of their situation.[103]

In short, federal discourse about the Navajo problem concurred that "[m]ost of today's difficulties" with the Navajo problem "result from the fact that Navajos are outgrowing their empire. Population is increasing faster than economic development of the resources of the tribe."[104]

In a book titled simply *The Navajo*, originally published in 1947, anthropologist Clyde Kluckhohn and Indian Service physician Dorothea Leighton concur with this impression that the Navajo land is over-crowded, given its paucity of "high-quality" soil. They write, in a section titled "THE LAND IS CROWDED":

> Navahos [sic] have long since swarmed beyond the boundaries of the original Reservation, which has been increased in area repeatedly…This vast, but arid and unfriendly, domain stretches in irregular outlines from the Jemez Mountains of New Mexico westward to the Grand Canyon…The old southwestern saw, 'Let's give the country back to the Indians,' is no longer a pleasantry to many stockmen of the Navaho [sic] country. The People are taking the country back. Yet even this vast domain is not enough for The People."

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[102] *The Navajo Indian Problem*, an inquiry sponsored by the Phelps-Stokes Fund, New York, 1939, p. vii.
[103] Emphasis added. John Collier, *Navajo Policies and Program*, as quoted by Pollock, p. 61.
[104] Robert W. Young Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 2, folder 18.

Kluckhohn and Leighton go on to use statistical evidence to "prove" that this overcrowding is due to comparatively high Navajo birth rates. They then hazard a hypothesis about *why* Navajo birth rates might be higher than the US average:

> [t]he determinants of Navaho [sic] population increase are undoubtedly manifold. Perhaps The People's varied origins, so heterogeneous from both biological and cultural sources, have resulted in an outstanding manifestation of that phenomenon known to biologists as 'hybrid vigor.' At all events, there can be no doubt that the fecundity of the tribe is but one symptom of a generally radiant vitality. They want to live. They want children, many children.

In this way, the racialization of the Navajo constructs their racial difference as deriving both from biology and culture. Along with this racialization, however, the "race" difference of Navajos has sexual implications; being biological or racial "hybrids" in the fuzzy pseudoscience of race-determinism, they are an "outstanding manifestation" of reproductive "vigor."

While the general impression of Navajo reproduction was that it occurred "phenomenally" quickly and gave rise to overpopulation of their notably "barren" land, the specifics of Navajo domestic life were likewise unfavorable. As part of Soil Conservation Service and Indian Service attempts to map out the contours of the Navajo problem, sociologists and social workers were deployed to the reservation to collect data on Navajo social life, including family life and domestic practices. This part of the project was described in one Soil Conservation Service report, under the heading "Fact Finding," as the need for "a study of human groups and institutions through their functions and interrelationships" including studies of the "[d]omestic economy of

household groups—housing, diet, clothing as a basis for intelligent handling of these basic problems affecting human welfare."[105]

One social worker, Ruby Tomlinson, paints a gloomy portrait of Navajo families and homes:

> The study disclosed that approximately ¼ of the people in all the homes were dependents. Dependents included widows, second wives, aged, grandchildren, children of unmarried mothers, and 100 orphaned or semi-orphaned children. The latter results from the Navajos [sic] custom of leaving the children with the mother's people when a mother dies, while the father marries into another family and does not contribute to the support of his motherless children. Relatively little has been done to relieve the above situation […] No homes were found to be sanitary and about 28 per cent were rated as fair in appearance for Navajo hogans. They still cling to the typical windowless, one room hogan constructed of poles and mud. Improvements in construction and in the way a few homes were kept were found to exist among a few families.

Tomlinson implicitly links these domestic conditions to larger social problems of "illicit" sexuality and disease, noting that "[c]ourt records show that arrests over a period of two years were predominantly for social disorders" including "giving venereal disease" and "adultery and illicit cohabitation." The author notes "there probably would have been more arrests, if there had been more adequate law and order personnel." She bleakly concludes:

> The study indicates widespread poverty and a high rate of illiteracy among the Navajos. The rangeland is over-grazed and rapidly eroding. Farmland is insufficient and there is a lack of water for much of the land that is farmed. At least 50 per cent of the families are burdened with extra dependents. Many of these families are large and poor. Homes are inadequate and unsanitary. The medicine man is still popular, diseases are

[105] United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 7, folder 16.

> widespread, and the death rate of children is high. Social problems are numerous and are on the increase.[106]

These kinds of discursive representations of Navajo family forms, reproductive life, and "phenomenal" population growth formed federal knowledge about the Navajo problem. Beyond being an oddity of twentieth century racial discourse and policy, these representations were part of a larger national context of eugenics. Throughout the first half of the 20th century, eugenics gained momentum as an ideology of racial, sexual, and gender management of social life, achieving significant cultural and political strength up until the end of World War II, when explicit practice of eugenics became politically unpalatable.

The eugenics movement at this time was qualitatively and thematically linked to the then-dominant brand of resource conservationism. "Conservation" is a virtual misnomer, left over from the turn-of-the-century debates between John Muir and Gifford Pinchot over different varieties of environmentalist thought and policy. Muir advocated the "preservation" of wilderness in what he presumed was its pure form—that is, untouched by "man," including Natives, who, Muir argued, had "no right place in the wilderness."[107] Pinchot, on the other hand, believed in what he called "conservation" or "the use of the earth for the good of man."[108] While Muir's followers would go on to form the most influential mainstream environmentalist organizations, including the Sierra Club, Pinchot's version of conservationism became the dominant ideology of the US

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[106] Ruby Tomlinson, Social Worker, "A Study of the Social and Economic Status of One Hundred Navajo Families," Navajo Service, Window Rock, AZ, February 1944, William Zimmerman, Jr. Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 10, folder 5.
[107] As quoted by Kosek, 2006, p. 156.
[108] As quoted by Kosek, 2006, p. 78.

government with regard to natural resources. Conservationism, in practice, meant the rational cultivation of natural resources for their exploitation by government and industry. As head of the Forest Service beginning in 1898, Pinchot initiated this process of "redefin[ing] public lands and government-regulated spaces of production."[109] Conservationism was therefore seen as the culmination of modern scientific knowledge about ecology and land-use; with "good management," it was presumed, the federal government could cultivate rational landscapes of natural resource production and control.

Section 2 *Rational Landscapes: Mapping out Federal Fantasies of Control*

In this heady context of federal fantasies of social control through eugenics and resource control through conservationism, the Navajo reservation was marked as an ideal first test site for the practice of soil conservation, which became a major part of federal land policy throughout the 20th century. John Collier recounts in his memoir that the "near-impending doom" of the Navajo problem "launched…the soil conservation movement of the United States" which was "a movement to extend to every continent in the dawning realization that all mankind is facing the same crisis, growing from wastage of soil resource, that faced the Navajo tribe."[110] A 1936 report from the US Department of Agriculture explained that

> [t]he selection of the Navajo Indian Reservation as one of the original Soil Conservation Service projects was based on the fact that this area was outstanding in its need for proper land management and would make an ideal demonstration area, in that the land was in an advanced stage of depletion as regards both soil and vegetation; the Navajo tribe with a

[109] Kosek, 2006, p. 81.
[110] John Collier, 1963, p. 251.

> rapidly increasing population was dependent for its livelihood on the productivity of the land.[111]

What made the Navajo reservation even more attractive for these experiments in soil control was the nature of the colonial relationship between the Navajo and the federal government—that is, in the view of the government, "the entire area was Federally controlled, which permitted the establishment of a project through a working agreement between the Bureau of Indian Affairs and the Soil Conservation Service."[112]

The soil conservation movement reveals how, in this landscape, the soil itself seemed improperly unruly, and deviantly un-reproductive in the eyes of the Soil Conservation Service and the US Geological Survey. It did not behave as expected or as required, and it did not follow the patterns of agricultural productivity that US "experts" anticipated. One Soil Conservation Service report finds Navajo land insufficient for several reasons, listing "[t]he low rainfall, steep slopes, lack of permanent streams, lack of water storing or spreading possibilities and the texture of the soil" all of which "renders all but a small portion of this land unadaptable to farming." According to federal biologist WL McAtee, who was quoted at the outset of the previous section, conditions of the Navajo land and soil stand in sharp contrast to "normal" ranges:

> I was requested to visit the [Navajo Erosion Control] Project and make a report on natural balance. Normally one would expect to find in such a report comment on insects and their enemies, on vegetation consuming rodents and their predators, but this is not a normal case. The fact is that practically all forms of life dependent on ground cover are either very scarce or absent.

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[111] United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 7, folder 56.
[112] United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 7, folder 56.

The "proof" of the abnormal nature of the land came to a large extent through the use of "before and after" photographs published alongside reports (see Figure 8). These photographs show areas under tight control of the Soil Conservation Service, juxtaposed against areas left to Navajo use, arguing through visual evidence that only with tightly controlled "proper" range management could the Navajos could have a measurably "good" agricultural lifestyle.

The solution to the Navajo problem, by overwhelming consensus among federal actors, was a need to rationalize and grid the landscape—in short, to map the land itself into modern, "civilized" political-economies in order to "civilize" its people out of their perceived ecological deviance. As a result, Navajo peoples and land were subject to a veritable flood of federal experts, ranging from ecologists, conservationists, agronomists and cartographers, to sociologists, anthropologists and economists. Eighteen Soil Conservation Districts were parceled out of the larger reservation to study the effects of scientific range development practices run by the Soil Conservation Service. Range studies were deployed in the interest of "understand[ing] thoroughly the conservation problem on range and pasture lands," and producing "a complete natural resource inventory" of the reservation.[113]

Mapping constituted a major part of this effort. The reservation was photographed by airplane, painstakingly surveyed, and mapped according to scores of different criteria: carrying capacity, watershed, erosion, grazing patterns, agriculture, metals and minerals, timber, etc. Under a section in a 1938 report titled "Maps Compiled from Aerial

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[113] United States Soil Conservation Service Report, 1938, "Introductory Statement," United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 11, folder 60.

Photographs," the authors note that "[t]he number of maps indicated under Navajo Base Map and Maps for Range Department are maps of fifteen minute quadrangles showing topographic and cultural features," and, in addition to these Aerial Photograph maps, the Soil Conservation Service developed Engineering Maps, Soil Maps, and Range Survey Maps.[114] This list hints at the extent to which maps, as seemingly objective visual representations of landscapes along with the "before and after" photos of range control projects, were privileged vehicles through which federal agents created and communicated knowledge about Navajo ecologies and lands.

Range and soil surveyors, USGS cartographers, and agronomists did meticulous work. Soil Conservation Service records reveal the extent to which mapping this landscape and producing objective data about it were labor intensive processes that required multiple engagements with the land. "In many cases," one report notes, "preliminary surveys have been followed by more intense types of survey. The intensive survey was plotted first, the extensive, second, and last, the preliminary survey."[115] This explanation is followed by ten pages of charts, which summarize the amount and intensity of range surveys through the quantitative evidence of acres covered, which comes to total an impressive 43,739,521 acres. Thus the conversion of Navajo land into a rational landscape involved not just bureaucratic discursive constructions, such as charts of data, but also "boots on ground" in the form of federal surveyors, cartographers, and various types of ecological specialists.

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[114] United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 7, folder 16.
[115] United States Soil Conservation Service Report, 1938, United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 11, folder 60.

This process entailed a number of different government agencies, as demanded by its size and scope, and required intra-agency collaboration in order to produce the most "objective" picture possible of the Navajo problem. A 1938 Soil Conservation Service report notes that

> the varied and mixed land status generally prevailing over the region has necessitated the preparation and approval of formal 'Memoranda of Understanding' with other government agencies covering lands under their administrative control…The survey data on areas under the control or administration of the various agencies have been made available for each respective agency…The agencies that signed the 'Memoranda of Understanding' and with which cooperation has been carried are: Indian Service, US Forest Service, Agricultural Adjustment Administration, Division of Grazing, Farm Security Administration, New Mexico State Experiment Station, and Arizona State Experiment Station.[116]

This list of collaborating administrative bodies (which does not include the seven other agencies "which have cooperated with the Soil Conservation Service but which have not signed a 'Memoranda of Understanding'"[117]) reveals the complex and contesting sovereignties to which the land and its people were considered subject. Importantly, nowhere in the report are the Navajo people, or even the Navajo Tribal Council, listed as being in cooperation with the Soil Conservation Service's efforts—or in fact of needing to be in "understanding" of policies to which their families, stock, and land were subject.

Assimilation By Any Other Name

The process of mapping and charting was not limited to the land. Included in the Soil Conservation Service's mission was to "learn the manners, traditions, and customs of

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[116] United States Soil Conservation Service Report, 1938, United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 11, folder 60.

[117] United States Soil Conservation Service Report, 1938, United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 11, folder 60.

the Navajo and the environmental factors affecting them, with special reference to their economic needs, and their adaptability to improved methods of livestock management."[118] By the end of 1935, it was clear that the Soil Conservation Service was operating under a much more ambitious mandate than just surveying and mapping the erosion problem and finding ways to develop agricultural productivity. The organization quickly began to frame itself as part of a larger project of assimilating the Navajos into a more civilized, rational relationship with their land base.

Lamenting the fact that white men were not brought in to do Soil Conservation Service work, which "would have immediately simplified the work on the Reservation," the Service consoled itself that at least employing Navajos for its projects would begin the long process of the Navajos "adjusting themselves to standards of accuracy and precision which have no relation to the Navajo background."[119] Indeed, the Soil Conservation Service saw itself as facilitating a kind of benevolent assimilation into good conservationism. Their project, as they saw it,

> must go far beyond this [training], with the objective the fullest possible understanding of the entire regional land use point of view as it applies to the Navajo problem in particular but also as it applies to the southwest in general. The aim should be the building in as many Navajos as possible, men, women, and children, and certainly in every man on the payroll, be he Navajo or white, a sympathetic understanding of the approach to the land use problem. This is particularly necessary because the entire population of the area, Indians and whites, have practically no realization of the seriousness of the land crisis and little, if any, understanding of the means of meeting it. It is a question of building in these people a new

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[118] Under the heading "Fact Finding," United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, box 7, folder 16.

[119] United States Soil Conservation Service, "Annual report for the year ending June 30, 1935," United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, p. 174.

> point of view. To what degree it can be built in a large number of people is a question. A question that the SCS must attempt to answer.[120]

To build this new relationship with the land, this new "point of view" and an understanding of the gravity of soil erosion, would be the Soil Conservation Service's larger, quite ambitious goal.

This goal was met, in part, through the edifying practices of federal education, and although lip service is paid in the above quotation to the need to educate whites as well as Indians, it is quite clear that the "Navajo problem" remained a *Navajo* problem. A school for Indian employees of the Soil Conservation Service was opened up at Fort Wingate in 1934, which provided training in "topographical mapping, handling and laying out of construction work, and in developing in selected students an understanding of the Navajo land problem in general." The educational requirements of soil conservation were directed primarily at Navajo men employed by the Soil Conservation Service, and the education offered was almost exclusively in the art of rationalizing and rationally representing the landscape through cartography and surveying. The Soil Conservation Service report for the year 1935 commented, "so far work [at the Fort Wingate training facility] has concentrated on the use of instruments, mapping, and handling of survey problems."

In its educational efforts, however, the Soil Conservation Service did not ignore the many Navajos who were not in their employ. The Service dabbled in a number of educational programs for the larger Navajo public, including one that enrolled twelfth

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[120] United States Soil Conservation Service, "Annual report for the year ending June 30, 1935," United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, p. 176.

graders in a unit called "How to Restore and Keep the Land in Condition to Support the Navajo People" in which the students were required to do fieldwork and make speeches about soil erosion and good conservation practices. Moreover, the Soil Conservation Service took their message to day schools and other reservation centers with an interactive exhibit: "a small truck […] equipped with an outfit for showing 16mm moving pictures" which "by its very nature and completeness [could] reach all types of people with its graphic portrayal of erosion unchecked and under control."[121] This truck was even equipped for sound projection, to achieve maximum effectiveness with its audience.

In this way, the Soil Conservation Service undertook to assimilate the Navajo public into the federal "point of view": that the Navajos has seriously mismanaged their livestock, irrigation, and agriculture and that the objective technologies of aerial photography and mapping left little room for doubt about the nature and extent of the problem. In a 1950 memo to "All Soil and Moisture Conservation Employees," Evan L. Flory, then Chief of the BIA Branch of Soil Conservation, wrote a call-to-action under the subject "WANTED: Zeal and fire that will not falter or tire":

> I cannot refrain from passing on to you the lift I got on my last field trip from an Indian farmer on a brushy, rocky, steep, small mountain farm…His family had been raised and had left for homes of their own. During all this period he had struggled with the slopes, the rock, and the brush in producing meager crops for a precarious living. His pastures were weedy, brushy, and of low carrying capacity…and then, within the past two years, something happened. He was sparked by the zeal and enthusiasm of an understanding soil conservationist who has his hands in the earth. This Indian's eyes had a light in them that had never been there

[121] United States Soil Conservation Service, "Annual report for the year ending June 30, 1935," United States Soil Conservation Service Region Eight Records, Center for Southwest Research, University Libraries, University of New Mexico, p. 178.

> even as a youth because he was making a tired old farm live. He and the farm were being vitalized together. There is no doubt that the remaining years of his life will be richer and more exciting than all the past […] He had cleaned the brush and rock off his land; he had limed and fertilized it according to its needs; he was using each field according to its proper use…His eyes glowed with pride as he pointed out his contented fat cattle and hogs enjoying this luxurious repast.

Flory describes a pastoral utopia, brought about the "zeal and fire" of committed federal soil conservationists. Notably, the politics of family life, and particularly the participation of women and children in a functional agricultural system, are absent. "Understanding soil conservationists" are the "something," the necessary catalyst that bring the "struggling" Native out of the reproductive incapacity of his soil and his dysfunctional ecological practices into his new (individualist and ruggedly masculine) rural idyll. Thus, the modern promise of soil conservationism and agricultural science is not merely one of developing the land, but of developing in individual men the ideology and practice of rationalizing their own landscapes.

Flory goes on to describe further the benefits of this process for both Natives and whites:

> …The Indian lives closer to nature, understands more of her moods, and tries to accommodate his life and actions to her moods to a much greater extent than most other people...Few realize that what he seeks in these chants and dances is to become a part of nature, rather than view it as something apart like most of the whites do…Do we know the fundamental, scientific facts of plant and animal nutrition, plant physiology, and plant ecology? Are we close enough to the land ourselves, and are we endowed with the intelligence, human understanding, zeal, and fire to make our knowledge an effective tool in the hands of the tiller of the soil, to use his hands in harmony with nature?

Here, the confluence of two kinds of cultivation, of Indians as Native agriculturalists and of whites who are more "in harmony with nature," reveal the ideological underpinnings

of Collier-era Indian and conservation policies. Collier himself, an avowed liberal, felt he stood in opposition to prior federal Indian policies of forced assimilation into white language and culture, but the policies during his tenure merely translated into new forms the old assimilationist ideology. In these new forms, assimilation encouraged Natives to *inhabit*[122] their own "Indianness," helped along by use of the rational practices of modern agriculture, soil conservation, and education to enhance their indigenous knowledge of nature. Whites, on the other hand, can "make [their] knowledge an effective tool" in the Native hands as well as get "close enough to the land [them]selves." Given this, Flory concludes the memo with a reminder about the particular mission of soil conservationists:

> Remember, we are not succeeding in conservation until a folk knowledge, a behavior, or cultural pattern of conservation, is firmly fixed. When the Indians in your area practice conservation from habit, then they have attained full stature as farmers and citizens.[123]

Flory and the "liberal" assimilationist vein of conservation and Indian Service work, under the leadership of John Collier, differed strikingly from more conservative views of Indian policy. In a 1946 "Navajo Report," summarizing the past decade and a half of stock reduction and soil conservation efforts on the part of the federal government, Randolph C. Downes and Elizabeth Clark stake out the anti-Collier position of Indian policymakers. In section of their report titled "Stock Reduction," they write

> In the winter of 1931-32 an event took place on the Navajo Reservation which may be called Nature's effort to solve the Navajo problem and prevent too much doing by human hands. There had been a very dry

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[122] My use of the term "inhabit" here borrows from the work of Natchee Blu Barnd in his doctoral dissertation in Ethnic Studies at UCSD, "Inhabiting Indianness: US Colonialism and Indigenous Geographies," 2008.

[123] Memo from Evan L Flory, Chief of the BIA Branch of Soil Conservation, to "All Soil and Moisture Conservation Employees," William Zimmerman, Jr. Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 2, folder 1.

> summer and the Navajo stock were in pretty bad shape. Then came a long, hard winter and hundreds of thousands of Navajo stock—as well as Navajo Indians—were faced with starvation. Perhaps this was Nature's way of helping to 'solve' the Navajo problem. If the 'natural' course of events had been allowed to proceed several hundred thousand Navajo sheep, goats and horses would have died and many thousands of Navajo Indians forced to migrate or makeshift in some desperate way. The effect of such a process would have been harsh but it would have made the Navajos themselves conscious of the realities of the 'Navajo situation,' i.e. of the overstocked and over-populated condition of their country. There might have been Navajo acquiescence and participation in the drastic measures of correction in far greater degree than there has been in the last twelve years of the white man's effort to solve the problem for them. But instead of allowing Nature to run its course, white agents and agitators raised the cry of relief. The result was that forage was moved in and the Indians and the livestock were saved—saved for the white man to come in later and reduce by more 'humanitarian' means.[124]

Importantly, this conservative position differs strikingly from the liberal position in its articulation of the Native's relationship to "Nature." For Downes and Clark, "Nature" is decidedly not on the side of the "Indians"; what would be natural, in fact, would be their (presumably inevitable) extinction and the "benign neglect"[125] of federal inaction comes down on the side of "Nature." For Flory, however, "Nature" is part and parcel of Indianness itself, and the white man's burden is to help the Native marry "his" intrinsic affinity with the natural world to white strategies for economic progress.

John Collier distinguished himself and his policies as sharply as possible from the conservative positions espoused by Downes and Clark, which he saw as in line with a tradition of "bad policies forced by law or by unwise administrators at the top" as opposed to "good, often heroic, work performed by devoted personnel in the field against hopeless odds." As part of the latter, "good" work,

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[124] Robert W. Young Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 2, folder 19.
[125] As the phrase is articulated by Angela Davis, 1996.

> [t]he seeds of many of the movements of Indian regeneration which now are being developed on a wide front…represent, in no small measure, the extension and intensification of many creative and humanizing efforts by many men and women through many years to help the Indians help themselves.[126]

"Help[ing] the Indians help themselves," what Downes and Clark sneeringly call "humanitarian" Indian policy, involves the kinds of agricultural and cartographic education already underway through the Soil Conservation Service, but also took the form of encouraging Navajos to assimilate "healthy" soil conservation practices through imposed cultural forms, a campaign spearheaded to a large extent by Collier himself.

Among these imposed cultural forms were Indian Affairs offices constructed between 1933 and 1937 at the Window Rock, designated by Collier as the new Navajo "capital." While most Navajos rejected this new capital because of it was the symbolic and material home of the BIA and thereby of stock reduction, the Bureau constructed it in what they called a "Navajo style," including buildings that had eight sides and opened to the east like a Navajo hogan. As argued by Rachel Leibowitz in her article "The Million Dollar Play House," this construction allowed Collier to "prove, in stone and steel, his commitment to the preservation and promotion of Native cultures."[127] In an echo of Flory, Collier noted that the "modern" techniques and technologies incorporated in these "Navajo style" buildings would also serve the purpose of "bringing the finer things of white life to the Indians."[128] Leibowitz argues,

> At the new Navajo Agency, the OIA [Office of Indian Affairs] disguised its intentions toward Dine and their land through the use of an

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[126] John Collier, *A Bird's-eye View of Indian Policy Historic and Contemporary*, 1935, as quoted by Pollock.
[127] Leibowitz, 2008, p. 13.
[128] As quoted by Leibowitz, 2008, p. 14.

> architectural 'tradition,' attempting to naturalize and 'Indianize' the Agency's presence in Dine Bakeyah[129] through use of an architectural style.[130]

In this way, the liberal assimilationist position of Collier, his Indian Affairs policies, and the Soil Conservation Service seek quite literally to encourage Navajos to inhabit their own Indianness, new and improved as it was with those "finer things of white life."

Another, quite different kind of imposed cultural form took hold during this period of stock reduction and soil conservation: children's literature, written bilingually and designed to encourage Navajo and English literacy (or, in fact, create literacy, since Navajo was primarily an oral language for which a written form had to be invented). Beyond the promotion of bilingual literacy, however, the children's book had a second purpose: to provide "a foundation for understanding modern concepts of special concern to Collier, such as the need for livestock reduction."[131] This latter purpose culminated in the *Little Herder* series, written and illustrated by Navajo artists in Indian Service employ and printed by the Education Division of Indian Affairs in 1940. This series was seen as a way out of the conflict between the government and the Navajos over stock reduction, by means of opening up communication between the government and younger generations of Navajos, who might not prove as reticent as older Navajos to government attempts to reduce their livestock.

The fourth and last book in the series, *Little Herder in Spring*, directly addresses the debate around stock reduction, in the voice of a fictional Navajo child, and suggesting that the debate is one purely between Navajos:

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[129] *Dine bikeyah*, "Navajo land/homeland"
[130] Leibowitz, 2008, p. 13.
[131] Benes, 2004, p. 66.

> For a long time / there have been meetings / of many men / for many days. / At the meetings / There is talking, / talking, / talking. / Some this way. / Some that way. / In the morning / when my father / leaves for meeting / he says to us, / "When I come here again / then I will know / if it is best / to have many sheep / or few sheep / to use the land / or let it sleep."[132]

Here, Collier's stated purpose of introducing Navajo children to the concept of stock reduction, "to use the land / or let it sleep," gets translated into a *Navajo* initiative instead of a federal one. Also, as hinted to in this passage, among the "finer things of white life" folded into "traditional" Navajo culture in these books are heteropatriarchal gender order and political practices. Whereas the father attends meetings to decide the fate of "his" sheep, hogans are elsewhere referred to as "my mother's hogan," and illustrations compound this point about the domestic environment being the space of feminized motherhood. Thus the children's literature, in addition to assimilating Navajo children into bilingual literacy and a more malleable position on stock reduction, subtly incorporates the Western gendered bifurcation of public and private spheres into a representation of "traditional" Navajo life.

Through these kinds of "soft colonialism" or assimilation-by-any-other-name, Indian Affairs policy under John Collier and the Soil Conservation Service attempted to bring modern practices of ecology, economy, and domesticity to Navajo people and land, all disguised as being germane to Navajo culture itself. Collier saw this as a sea change in US Indian policy, from the "bad" policies of the past to the "good" ones of the present, wherein the "Indian" world and point of view could be salvaged from near-extinction. All of this relied on knowledge created during the 1930s about Navajos, their land, and their

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[132] Benes, 2004, p. 68.

"culture" through the objective practices of modern science, allowing federal agents to conclude that

> [w]hatever mistakes have been made in the past, the present plans for the rehabilitation of the Navajo tribe are fundamentally sound, the result of intensive research, and a thorough knowledge of the problems of the Navajos.[133]

Conclusion *Bitter Legacies*

The stock reduction period would prove intensely painful for Navajos due to the callous and violent nature of this federal program. Navajos would remember stock reduction as "the most devastating experience in Navajo history since the imprisonment at Fort Sumner"[134] due to its violent and intrusive nature and methods. That it wound up being an essentially useless policy made it seem doubly unjust to those who suffered from it. In immediate protest, Navajos rejected the "Indian New Deal" (the Reorganization Act). Resentment about this program was often embodied in one man, John Collier, who came to directly represent the loss of their sheep, horses and cattle to embittered Navajos. This bitter legacy would shape the process of uranium mining in the 1950s and probably helped catalyze the anti-mining movements for environmental justice and sovereignty that seized Navajo political life in the 1970s and 1980s.

On the federal end, the failure of stock reduction and of the soil conservation project in general seemed destined to be blamed on the Navajos themselves—and on their land, which would never respond to the rational range development plans laid out by

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[133] Moris Burge, "The Navajos and the Land: the Government, the Tribe, and the Future," National Association on Indian Affairs, Bulletin 26 February 1937, William Zimmerman, Jr. Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 10, folder 5.

[134] Navajo Tribal Council chairman from 1946 to 1954, quoted in Iverson, 1981, p. 23.

federal agronomists. In a 1946 report, in which the Navajos are called "America's Minority Problem No. 1," the Navajo Problem is summed up as the fault, primarily, of the land itself, which is described as "a barren wasteland," and "so desolate that a handful of white men could use it…only for scattered and part-time grazing."[135] The report marks an important transition in the federal approach to the Navajo Problem from rationalization to industrialization, duly noting that the average family income on the reservation more than doubled from 1940 to 1944 as a direct result of the role of war work in the Navajo economy. By the end of Word War II, federal policy toward the Navajo economy had abandoned attempts to develop what was seen as an inherently deviant landscape, a non-normative ecology. At that point, federal stock reduction programs had finally achieved the desired reduction of livestock; in 1946, thirteen years after the program's official inception, the Navajo range was home to 449,000 sheep units—110,000 fewer than the original reduction goal. Without herds to tend to, and recovering from the memory of livestock slaughters and brutal treatment by federal employees, Navajos had been forced into war work off the reservation. When uranium was discovered on and near Navajo land, mining jobs were seen as good work to have by Navajos in large part because they could remain close to home.

By the 1950s, the federal government had limited its plans for Indian policy in general to just two options: termination and industrialization. In the eyes of these federal actors, having deemed Navajo land worthless for agriculture or sustainable stock-raising, but rich in mineral resources, primed the Navajos for both options. The Bureau of Indian

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[135] Randolph Downes and Elizabeth Clark, "Navajo Report," 1946, Robert W. Young Papers, Center for Southwest Research, University Libraries, University of New Mexico.

Affairs began considering corporate proposals to locate a variety of factories on reservation land, as well as to offer financial incentives for Navajos to move to cities such as Los Angeles and Denver under the relocation plan of 1954. In their 1949 report on the Navajo problem, authors Randolph Downes and Elizabeth Clark recommend escalation of oil and mineral surveys on the reservation, commenting, "the Navajos know now that they will get a square deal if oil and minerals are discovered by white men and leased to them. Royalty and lease contracts are being honestly administered and their benefits to the Navajos are relieving the distrust they used to feel when strange surveyors invaded their country."[136]

Therefore in July of 1950, when a Navajo sheepherder named Paddy Martinez brought a clutch of yellowish rocks to be assayed in Grants, New Mexico, the federal government was already primed to find a permanent alternative, probably involving mining, to the Navajo's livestock-based economy. These yellowish rocks, pulsing invisibly with the radiation that the government so desperately desired to find and develop, would offer just that kind of alternative, one whose toxic legacy still remains on Navajo land today. The rocks turned out to hold the richest concentrations of uranium that had ever been found in the continental US.

The first uranium boom had begun.

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[136] Ibid.

Chapter 2

Prospecting for the Magic Ore: Heteromasculinity and Resource Sovereignty in America's New Frontier

By 1950, the Cold War arms race between the Soviet Union and the United States was already underway. The US was quite fearful that it would lose its position as the most technologically advanced military power in the world, a status (presumably) achieved with the detonation of three atomic bombs in New Mexico and Japan. A major part of this fear was the widespread belief that the US had no domestic reserves of uranium, the radioactive element that made radioactive weaponry possible. The Atomic Energy Commission feared that the US might have to continually buy its uranium from other countries such as Canada, Belgian Congo, and South Africa, which was a serious hindrance to the Cold War mentality of state secrecy and economic protectionism, especially regarding defense industries. Likewise, uranium mining had left behind its "most romantic period…in the cloak and dagger days of the Manhattan Engineer District" after "the big secret was---revealed" with the bombing of Hiroshima.[137] The Atomic Energy Act of 1946 established the Atomic Energy Commission as the inheritor of atomic technology, and was charged (among other things) with the development of a uranium industry, complete with financial incentives to prospectors to "find and develop" "the magic ore"—uranium.

In a few quick years, the whole of what was called "Grant's Uranium Belt" was swarmed with uranium prospectors, all armed with Geiger counters and government

[137] US AEC, for Release at 1pm EST, Monday February 20, 1956, Remarks prepared by Jesse Johnson, Director, Division of Raw Materials, for delivery to the American Institute of Mining and Metallurgical Engineers, " NY February 20, 1956, "The Romance of Uranium." National Archives Rocky Mountain Region, 434-99-198, Speeches.

supplied manuals for how to find uranium. The deposits that they discovered became the largest uranium mines in the country; through the 1980s, this area was ransacked for the radioactive metal and yielded billions of dollars in profit. Mapping was a central part of the mining boom period. Far from the shortage of maps that temporarily halted oil interests on the Navajo reservation in the 1920s, uranium hunters had access to intimate cartographies of Grant's Uranium Belt, and Navajo land in particular. In fact, as reported in 1955,

> [u]ranium and oil combined to bring about publication by the US Geological Survey of the most detailed maps ever made of the western portions of the great Navajo Indian Reservation. The maps, 28 sheets on a scale of two inches to the mile have recently been released to the public. They were made in response to requests of uranium and oil hunters.[138]

Introduction *The Magic Ore*[139]

> Uranium 235 and plutonium are the fuels of atomic energy. The amount of these fissionable materials available is a significant measure of the national wealth. It determines how many atomic weapons the American people can build for defense and the number and the power of the atomic machines—nuclear reactors—they can operate for the application for the new energy to all departments of the national life.[140]

So begins the Fifth Semiannual report of the Atomic Energy Commission to the United States Congress, made in January of 1949. The Commission, at this point in its young history (in 1949 it was only 3 years old) was facing what it considered to be a most serious impediment to US atomic technology development for either defense or energy purposes: the seeming dearth of productive uranium ore deposits within the US's own

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[138] Grants *Beacon*, February 1955.
[139] One of many nicknames given uranium during this initial boom period, as noted in "Energy—Power for America's Progress," Grants *Beacon*, February 1955.
[140] AEC, "Fifth Semiannual Report to Congress," submitted January 31, 1949, US Government Printing Office, 1949, p. 1.

geopolitical borders. Despite their deployment of prospectors to a range of publicly-owned lands in the continental US and in Alaska, and despite a stepping up of exploratory drilling on the Colorado Plateau to a rate of 200,000 feet per year, the United States, in 1949, "continue[d] to receive most of its uranium from the Belgian Congo and Canada. Our own country," they conceded glumly, "has produced little uranium."[141]

Contrast that with the triumphant declaration of the Grants, New Mexico *Beacon* four short years later that "even more dramatic than the gold rush days is America's quest for uranium ore, now under way high on the rugged Colorado Plateau."[142] Grants, by 1953, was undergoing its first economic boom as a direct result of uranium mining in the region, declaring itself "The Uranium Capital of the World." In the same year, the AEC itself likewise declared, "the Colorado Plateau mining province is in a mining boom rivaling the most colorful days of the early West."[143] Clearly the years between 1949 and 1953 witnessed a marked change from the disconsolate AEC report on the US's apparent dearth of uranium to Grant's celebration of its own uranium wealth. In these four short years, the uranium prospects of the United States went from almost nothing to a booming industry comparable to California's gold rush of a century earlier, complete with the requisite boom-towns, like Grants, and rags-to-riches stories of big strikes and lucky breaks.

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[141] AEC, "Fifth Semiannual Report to Congress," submitted January 31, 1949, US Government Printing Office, 1949, p. 5.
[142] "Lofty Quest for Uranium," Grants *Beacon*, August 13, 1953.
[143] From a speech by Phillip W. Simmons, of the AEC Grand Junction Operating Office, in New York City, February 1954, Rocky Mountain National Archives, NRG 434-99-125, Box 1.

Throughout these and subsequent years, the AEC, as in the above quote, regularly conflated the presence of uranium with the US's national wealth, and the ability of the "Nation" to develop modern technologies of warfare and for "all departments of the national life." This conflation of national wealth and well being with a healthy uranium mining industry,[144] as well as the AEC's association of dependence on foreign sources of uranium with national weakness, would go on to characterize federal and industrial discourse about uranium for the next fifty years (and counting). Uranium became a central measure of the nation's wealth, wellbeing, and viable defense industry.

While the AEC and the media sung the praises of the prospector, who would lead the American government into a new era of military might and economic domination, what occurred on the ground during the initial uranium boom period of 1950-1958 was actually an inverse of the spirit of individualist, frontier entrepreneurialism. The uranium boom, quite apart from resulting from the grit and sweat of prospectors, was largely born of bureaucracy, and brought into the world via the orchestration of the federal government and its administrative actors.

A major part of this bureaucratic process to quite literally engineer a uranium boom was to send prospectors out into the landscapes deemed by the AEC, in collaboration with the Geological Survey, most likely to hold rich deposits of uranium ore. Prospectors fanned out across the Colorado Plateau, carting their government-printed *Prospecting for Uranium* booklets, USGS topographic maps, and brand-new Geiger counters, with little or no concern or knowledge of who owned the land through which

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[144] It should be noted here that, while in 1949 plutonium was included with uranium, uranium has been the most prevalent and important "fissionable material," for US military, AEC, and Department of Energy nuclear programs.

they were traipsing. As a result of the imperative that had been placed on uranium—that its discovery was of utmost need for defense of the nation state—and of the disregard USGS maps had for the boundaries of sovereign indigenous land, these prospectors rarely stayed on the "public domain" where they could legally prospect for minerals and stake claims. What followed was a bureaucratic and human tangle of interpersonal violence, land seizure, contested claims to the valuable deposits, and, mostly, a whole lot of correspondence between prospectors, landowners, politicians, and bureaucrats.

The rhetorical links made between national strength and the uranium industry emerged particularly through what was arguably the most visible figure in early AEC discourse about raw materials procurement: the prospector, who throughout the 1950s would venture into the wild places of what was left of the American frontier, the arid, Native-occupied land of the southwest, to unearth the uranium that would solidify the US's newfound position as a world power. This prospector figure would do for Cold War frontier mythology what the figure of the 49er did a century prior, providing an overwrought, hypermasculine archetype whose qualities of rugged individuality and entrepreneurialism could enable (in this case, quite literally) the construction of a richer and more powerful US nation state.

The figure of the prospector on the Colorado Plateau and his project of locating uranium reserves critical for national defense constitute a direct counter-point to federal constructions of Navajo ecologies, as explored in Chapter 1. Whereas Navajos were racialized as having a pathologically un-reproductive relationship to their land, and nonheteronormative, hyper-reproductive family forms, the figure of the prospector had both a properly extractive relationship to land and proper heteromasculine sexual and

gender identity. And whereas Navajo lands and soils themselves were likewise racialized as unproductive and "useless" for agriculture, mineral prospecting and extraction made for more economically sound ways for the federal government to put these otherwise "unproductive" landscapes to good use.

The heteromasculinity and "proper" extraction ecology the prospector represented brought a much-desired clarity about land-use and indigenous economies to federal treatments of Native lands and peoples. Having spent the better part of three decades confounded by the Navajo problem, and concluding that Navajo people and their relationships to the land were inherently non-normative, an exertion of "proper" frontier genders and ecologies through the example of the prospector and the mining industry provided a welcome respite for federal Indian agents. The construction of Navajo lands and peoples as pathologically un- or hyper-reproductive, and, in any case, anathema to federal agricultural and economic development policy, left considerable room for notions of what the proper re/productive function of the frontier *should* be. The land having been deemed reproductively barren and worthless for agriculture, non-agricultural economic solutions seemed to federal bureaucrats to make logical alternatives for Navajo economies.

Significance and Chapter Outline

This chapter proposes new ways to think about post-World War II Indian policy and mining policy in the US. After the rigors of World War II military industrialization, and the catalyzing effects war industry had on the American economy, national defense seemed to provide an unimpeachable stimulus strategy for guaranteeing continued economic growth and profitability. The Cold War changed the way that militarization and

industrialization happened in the US. First, it provided a long-range, seemingly endless period of *potential* warfare as opposed to short periods of intense development. Second, it was as much about economic as military strength: to save free nations from the threats of Communism, the power of Capitalism as an ideology relied on the successes of capitalist market forces as they were practiced in the United States. This period saw the gestation of hawkish neoconservative deregulation fantasies that paired with neoliberal "free" trade schema to effectively change the relationship between government and markets; the strength of capitalist practices were explicitly posited as a national security priority. These ultimately culminated in the crackdown on (and eventual eradication of) the welfare state as well as the massive privatization of defense industries—as well as a gamut of other, previously government-owned and –operated programs.

The uranium mining industry provides an exemplary case of this process precisely because it was born a hybrid of federal and private defense interests. The uranium industry existed *because of* the federal government, but the government never was and never wanted to be owner of the industry itself, starting with the very prospecting from whence it was initiated. Indeed, one of the things that appealed most to the government about the prospector figure was that he possessed an independent entrepreneurial spirit, purely capitalist and unfettered by government employment or coercion. Unlike the socialists against whom the US was constructing itself, the prospector was a pure American who sought uranium out of personal patriotism and the promise of individual prosperity.

This chapter investigates three interrelated points about this period of uranium prospecting from 1950-1958. First, I explore the ways in which public discourse

facilitated the prospecting boom in part through constructions of the prospector figure. I analyze primary sources, including AEC speeches to various mining organizations, AEC press releases, regional newspapers, and national media such as magazines and movies, looking for the presence of the prospector and what role he plays in larger discourses about national security and the Cold War. The prospector, in the eyes of the AEC, embodied American masculinity and engaged in a deeply American economic venture: to strike it rich in the "virgin" lands of the American frontier. This noble vision of a white American archetype, undergirded by the well-worn trope of "go west, young man!" was compounded by the AEC's conflation of uranium with national defense and constructions of the Colorado Plateau as the last American frontier. The prospector figure represented more than potential rags-to-riches success stories common to other mining booms; he was also a Cold Warrior protecting America's influence abroad by pursuing their own personal interests in the arid, wild country of the southwest.

Second, I outline federal land policy and mining laws from the 1872 General Mining Act to the uranium boom period of 1950-1958, examining the ways in which these policies and laws created a federal "resource sovereignty" that characterized federal treatments of indigenous land through the discursive vagaries of the so-called "trust" relationship. My argument here is that mining policy is a critical, though understudied, way in which Native sovereignty has been created as a tenuous, ambiguous legal and political reality, and US sovereignty over Native land as the "trustee" of that land has been enhanced and reinforced. The uranium boom period advanced and consolidated the US's sense of resource sovereignty over indigenous land through the trope of national security, which created a discursive atmosphere that made it legally and politically

acceptable to open lands up to federal and industrial exploitation, often on a reduced budget because of the "national security" primacy of uranium. Environmental and human health in the mines went unprotected because the government's ultimate, and most important, goal was to open up land and labor for industry incursion rather than protect land and labor from industry exploitation. By tracing federal mining policy as it relates to indigenous land from the 1872 General Mining Act to the initial uranium boom of 1950-1958, with a particular focus on how land and mining policy changed from 1950-1958 to open up federal resource sovereignty even further, I explore the ways in which incursions from mining interests have even further crippled indigenous peoples' already-limited sovereignty over their already-limited reservation land-bases.

Third, I trace the course of uranium mining industry on indigenous land throughout this boom period, focusing specifically on the Navajo reservation. Using archival sources about land conflicts and AEC dealings with the Navajo Tribal Council, I argue that uranium mining was privileged by the AEC, and by the federal government in general, as a means of modernizing indigenous economies and promoting economic development where the BIA had failed for decades. While resource extraction industries had long been treated as good ways to privatize economic development on reservations, the uranium industry was seen as particularly promising for indigenous peoples of the southwest because of its national security primacy, its federal subsidies (which made it seem like a more stable industry), and the apparent abundance of its deposits in indigenous land. The context of Cold War-era discourses of racial democracy and moves within the BIA towards termination and industrialization further compounded the attractiveness of uranium industry development on indigenous land. Thus, when

prospectors staked claims inside the boundaries of reservations, the inclination of federal and state bureaucrats (and, in many instances, Tribal Council members) was to facilitate the mining of that claim, rather than to protect land rights as they often did in the case of private (white) landowners.

Section 1 *The Prospector Figure, the Magic Ore, and "America's New Frontier"*[145]

> The amazing story of the Colorado Plateau is only beginning to unfold. There remains a vast treasure chest full of raw materials and undeveloped natural resources waiting only for men with ambition, fortitude, and vision to produce the magic key. Here in the great West lies opportunity, wealth, happiness for the individuals who conquer her vastness…and power for America.[146]

This quote is taken from a 100-plus-page special "Energy Edition" published as a collaborative effort among twenty newspapers on the Colorado Plateau in 1955.[147] It illustrates the ways in which the Plateau region and its resources, uranium prospectors, and the boom itself were constructed during the early years of the boom period: the landscape itself is an "undeveloped" "treasure chest of raw materials," prospectors are "magic key"-bearing conquerors, and the uranium boom promises wealth, happiness, and, most importantly, "power for America." These triumphant themes abound in AEC and media discourse about the uranium boom on the Colorado Plateau. Uranium is variously called "the wonder metal of the present," "the magic ore," "a magic word," "the fabulous

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[145] "Colorado Plateau, America's Energy Storehouse," Grants *Beacon*, February 1955.
[146] "Energy—Power for America's Progress," Grants *Beacon*, February 1955.
[147] The editors describe "but one purpose of publishing this Energy Edition: To bring to the attention of America the great potentials of the Colorado Plateau, the multitude of opportunities that here await the ambitious, the industrious, the stalwart and adventurous people of this great country. For here lies opportunity for wealth, adventure, excitement. Here on the Colorado Plateau are thousands upon thousands of acres of unsettled land, here the settler will find the answer to his dreams and the opportunities that are not found elsewhere…This is America's New Frontier—The Colorado Plateau!" "Colorado Plateau, America's Energy Storehouse," Grants *Beacon*, February 1955.

metal," "glamour metal," and "precious metal." The Colorado Plateau, on the other hand, is constructed as an unsettled wasteland, yet one of surprising potential: it is a land of "desolate mesas" and "rugged terrain" where "desert wastes stretch[] out for miles…to distant mountains," and "beneath this wasteland are millions of tons of coal but because of marketing difficulties the reserves have not been tapped."

In this section I explore the roles these constructions played in orchestrating the boom period, attending closely to the promotion of uranium prospecting through AEC and media discourse about uranium, the land it comes from, and the figure of the prospector poised to conquer this landscape on behalf of national security. The language used in this discourse, which calls the boom-time Colorado Plateau "America's New Frontier" and uranium prospectors "settlers" and "adventurers," invokes deeply rooted tropes of 19th century westward expansion, racial violence, colonial settlement, and capitalist industrialism—right down to the portrayal of the Colorado Plateau as empty, virgin land from which "settlers" can glean great wealth while promoting the nation's interests. The uranium itself "means too much to the security of our nation to be permitted to lie undeveloped,"[148] and its "very vital flow" is a requisite feature of AEC policy.

The view of the prospector put forth by the AEC and picked up in national media—that he was motivated purely out of personal interest, and that he was the ultimate capitalist entrepreneur—was often pure fiction. The uranium boom was born of

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[148] US AEC Remarks by Richard Cook, Assistant General Manager for Manufacturing AEC, before the Uranium Ore Producers Association, May 8, 1954, Grand Junction, CO, "Over-all Relationship of AEC Program to Ore Production," National Archives Rocky Mountain Region, 434-99-198, Speeches.

federal efforts, not individual entrepreneurialism, and in fact, according to historian Herbert Lang, "the search for uranium has been the only government-induced, government-maintained, government-controlled mining boom in the nation's experience."[149] However, the rags-to-riches ideal of individual prospectors staking major uranium claims was a central rhetorical frame utilized by the AEC to "trigger a domestic uranium industry."[150] The AEC worked tirelessly to promote a popular understanding of the uranium prospector as a latter day 49er, ruggedly masculine, and standing to earn fortunes, while at the same time promoting a patriotic campaign of national strength and security.

The promotion of prospecting for uranium on the Colorado Plateau was a central project of the AEC's Grand Junction Operating Office (GJOO) in Grand Junction, Colorado. From there, through its Raw Materials Division, the AEC orchestrated the uranium boom via a number of strategies: manipulating land policy to promote maximum access for prospectors; liaising between prospectors, landowners, and bureaucrats; conducting ground and aerial surveys for radioactive anomalies that might indicate uranium deposits; and engaging in public relations efforts to promote a uranium mining and prospecting boom. In selecting Grand Junction as the home site of its uranium-procurement program, the AEC was already indicating that the Colorado Plateau was, in its estimation, a most promising region for finding uranium deposits.

In the AEC's construction of uranium mining, the figure of the prospector became the ultimate capitalist actor, and his (relatively rare) successes were trumpeted, and

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[149] Lang, 1962.
[150] Ibid.

frequently repeated, as the origin stories of the uranium boom; the Commission asserted, in fact, that "many stories of uranium discoveries should have a place in the history of the romance of mining."[151] In a speech delivered in New York in 1954, an AEC Mining Engineer from GJOO named Phillip Simmons declared, "the Colorado Plateau uranium province is in a mining boom rivaling the most colorful days of the early West" and predicts that the people involved will be well-remembered for their role in developing the region:

> There is romance and color, riches and bitterness attached to uranium mining, and the people who are a part of this industry will someday be worthy of a storyteller's attention. So far no Mark Twain or Jack London has come forward to eulogize the searing summer heat, the tortuous roads, the freezing winters, or the tremendously rugged canyons and cliffs that characterize much of the Colorado Plateau…Yet the uranium prospectors and miners can be justifiably proud, for in spite of these obstacles, by their efforts, they have explored and developed a vast mining province once considered worthless.[152]

Later in the speech, Simmons hits on a mild cautionary note: "yes, you can strike it rich but don't count on doing so to the extent of gambling your future upon the off chance that you will be among the fortunate few." It is likely, however, that this caution was lost on his audience in the context of so much talk of "romance and color," particularly as Simmons goes on to tell anecdotes of chance strikes, including one in which a "phenomenally large ore body" was discovered by a prospector who "had come…without previous mining or prospecting experience," but

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[151] US AEC, for Release at 1pm EST, Monday February 20, 1956, Remarks prepared by Jesse Johnson, Director, Division of Raw Materials, for delivery to the American Institute of Mining and Metallurgical Engineers, " NY February 20, 1956, "The Romance of Uranium." National Archives Rocky Mountain Region, 434-99-198, Speeches.

[152] "Finding and Mining Uranium," speech given by Phillip Simmons, Mining Engineer for the AEC GJOO, in February 1954, to the "Annual Meeting AIME" [?], National Archives Rocky Mountain Region, 434-99-195, "Speeches."

> he gathered a great deal of information from the Commission offices, and learning all that he could about the problems of rim walking. He spend eight long, hard, tremendously exhausting months walking rims, chanced upon the exposure that make him wealthy practically overnight.

It is likely that Simmons was talking here of Charlie Steen, perhaps the most famous subject of the uranium rags-to-riches stories, who discovered the Mi Vida deposit in Utah in 1952. In his history of uranium mining, Raye Ringholz tells Steen's story with a nod toward AEC ambitions for constructing the prospector figure in pursuit of its own interests. On Steen's success, Ringholz writes:

> [A] spindly young Texan with a pretty wife, a gaggle of kids and a nickel in his pocket grabbed for the brass ring and caught it! The AEC couldn't have scripted it better if they tried…What made it even better was the Charlie's story let loose the hoped-for prospecting rush on the Colorado Plateau.[153]

Having located a large deposit in an area south of Moab, Utah, in July of 1952, Steen became the first (and one of the few) "uraniumaires," a neologism coined in the subsequent of news reports about Steen's strike to describe men who had earned fortunes from uranium prospecting. Ringholz acknowledges the AEC's deep investment in promoting prospecting here by noting that "[t]he AEC couldn't have scripted it better," and indeed Steen's story was circulated widely by both the AEC and national media as a means of encouraging more prospectors to head to the Colorado Plateau. By January of 1953, the rush of uranium prospecting was underway in earnest, and Steen became a central character in a national story of mining prosperity.

The AEC unflinchingly believed in the power of the (white masculine) individual to be the most productive tool in locating uranium claims, despite the fact that "[m]ost

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[153] Ringholz, 1989, p. 67.

uranium hunters…just followed the lead of the Manhattan Project and the AEC geologists and moved over the canyon ridges of the backcountry like a blind man's fingers reading a relief map."[154] The prospectors were admittedly amateurs, mostly strangers to the land, and largely unfamiliar with the red tape of stake claiming and mine development. The AEC's booklet *Prospecting for Uranium* sold nearly 70,000 copies between 1948 and 1950, and during that time the Division of Raw Materials office fielded more than 12,000 letters about uranium occurrences—this, notably, *before* uranium was discovered on the Colorado Plateau by Paddy Martinez.[155] In 1954, Sheldon Wimpfen, Manager of GJOO, described the industry in terms that reflect this particular construction of the prospector figure and the uranium-hunting project as a whole:

> Our collective picture of the uranium industry…is one of a lusty youngster just reaching maturity, and as with man at a comparable age, the period of greatest opportunity lies just ahead. As I have stated before, the Commission program is one of control to the extent required by the Atomic Energy Act, but more than that, one of guidance, encouragement and assistance to private capital, which is performing the greater percentage of the task. The opportunities then, are for the enterprising prospector who through skill, luck and work is able to discover new ore bodies.[156]

In subsequent years the number of prospectors in the four corners area would only increase, particularly as the rags-to-riches stories of men like Charlie Steen were popularized by the AEC and by local newspapers. Importantly, there were other "origin

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[154] Ringholz, 1989, p. 32.
[155] Jesse Johnson, Manager of Raw Materials operations, AEC, address at the Meeting of the American Mining Congress, Salt Lake City, Utah, August 30, 1950, "Uranium Procurement Policies," Anthony J. Albert Papers, New Mexico State Records Center and Archives, Santa Fe, New Mexico, Box 8, Folder 53.
[156] US AEC Address by Sheldon Wimpfen, Manager, GJOO, at the Meeting of the Colorado Mining Association, Denver, January 29, 1954, "The Present and Future of Domestic Uranium Production," National Archives Rocky Mountain Region, 434-99-198, Speeches.

stories" circulated in the media, including that of Paddy Martinez, who was far from the prospector figure ideal. Whereas Martinez was portrayed as a Navajo sheepherder with intimate knowledge of the land in question, the prospector figure was rather a white outsider to the high arid plateau, and, quite frequently, a portrayed as a hobbyist rather than a geologist by profession. The hobbyist—or "backyard prospector" as he came to be known—was a footnote to the larger prospector narrative; backyard prospector anecdotes added flavor to AEC promotional materials and lectures, and eventually it was picked up by national media and promoted in magazine articles, a feature-length film, and even a children's board game called "Uranium Rush! Make a Million Dollars."

For prospectors, the differences between indigenous land and other kinds of land in what was considered by the federal government to be public domain were mapped out in articles like one published in *Life* magazine on May 23, 1955. On the "complex question" of "where you can prospect," the article advises:

> Much of the uranium terrain in the United States is public land, on which you can prospect freely. National parks and monuments, however, are off limits and from time to time the AEC has withdrawn areas of public land from entry by prospectors. On Indian reservations, permission to prospect must be obtained from the tribal council. On any private land anywhere, you must have the owner's permission to prospect or run the risk of finding uranium and being unable to mine it.

As far as restrictions go, in other words, Native land has relatively few. Little weight is given to the need for "permission," and it is unlikely that potential prospectors would know how to go about obtaining such permission anyway, as evidenced by the number of letters sent to public officials and bureaucrats ranging from Senators to state mine officials to the AEC GJOO.

The latter claim in the article, that prospecting on private land would be a more risky endeavor and permission to prospect more urgently needed, bore out time and again. The archive is replete with evidence of such conflicts, wherein a prospector trespassed on private land and filed a lease for a uranium claim only to have it be later turned over to the land owner (if the prospector was not first shot at, which was another likely risk of prospecting on private land without permission). The prospectors followed the propagandist dream of instant fortune, and found themselves contending with unexpected bureaucratic obstacles in addition to the problems inherent to these issues of land status. The differences between types of land (public, private, "Indian," or AEC withdrawal) and how those differences were presented to the public in articles like this one shaped the ways in which prospectors went about looking for claims on the Colorado Plateau. As I explore in section 2, these types of distinctions that govern prospecting on different types of land also shaped how mining itself, in addition to prospecting, evolved over the course of the uranium boom period.

Potential prospectors were not always ignorant of the challenge at hand. In a 1954 letter asking for advice on finding locations of uranium deposits in "the Northwestern New Mexico Mountains," two potential prospectors acknowledge that finding un-prospected land might be their biggest hurdle. They write, "frankly…we are not afraid of rugged country and are interested in prospecting where every Tom, Dick, and Harry has'nt [sic] been. We realize every Tom, Dick, and Harry has written you concerning this matter."[157] Other inquiries about uranium prospecting, however, reveal an almost willful

[157] Hollis Prine and Leslie Earwood, "two students at the University," correspondence to Mr. Eugene Callaghan, Bureau of Mines and Mineral Resources, New Mexico School of

ignorance of the challenges posed by uranium mining, no doubt a result of media attention to "backyard prospector" stories. In a handwritten letter to the New Mexico Institute of Mines and Technology, Sam Snyder of Louisville Kentucky treats prospecting quite lightly. "Gentlemen," he writes, "I am coming to New Mexico for my vacation next month and I would like to do a little prospecting for uranium. I wonder if you could or would please send me information as to the most logical place to prospect? Would appreciate it very much. Thanks a million."[158] The response to Snyder's letter is also telling. Robert H. Weber, an economic geologist with the NMIMT, replied to him: "Uranium minerals have been found in so many areas of the state that it is difficult to specify particular areas favorable to prospecting."[159]

The AEC actively encouraged the influx of prospectors, novices or no. In a speech before the American Mining Congress, the director of the AEC's Raw Materials Division noted that, "the prospector, like the infantry-man, is not out-moded. We still need the prospector to find mineral deposits. The geologist's technical knowledge is no substitute for the optimism and persistence of the prospector, uninhibited by geological theories."[160] In fact, "geological theories" of where to find uranium were considered tentative at best and the AEC largely encouraged prospectors to follow what it called the "uranium-is-where-it-ought-to-be theory," privileging occurrence of known deposits, and

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Mines, Socorro, NM, February 8, 1954, Lucien A. File Research Files, New Mexico State Records Center and Archives, Santa Fe, New Mexico, box 6, folder 195.

[158] Letter dated May 6, 1955. New Mexico Institute of Mining and Technology Records, New Mexico State Records Center and Archives, Santa Fe, New Mexico, box 11.

[159] Letter dated May 17, 1955. Ibid.

[160] Jesse Johnson, Manager of Raw Materials operations, AEC, address at the Meeting of the American Mining Congress, Salt Lake City, Utah, August 30, 1950, "Uranium Procurement Policies," Anthony J. Albert Papers, New Mexico State Records Center and Archives, Santa Fe, New Mexico, Box 8, Folder 53.

the geology and geography of known deposits, over concrete geological evidence.[161] This led prospectors, by AEC encouragement and by word-of-mouth, directly to the four corners area (see Figure 8) where indigenous land and indigenous peoples themselves were regarded as temporary obstacles to staking claims and mine development.

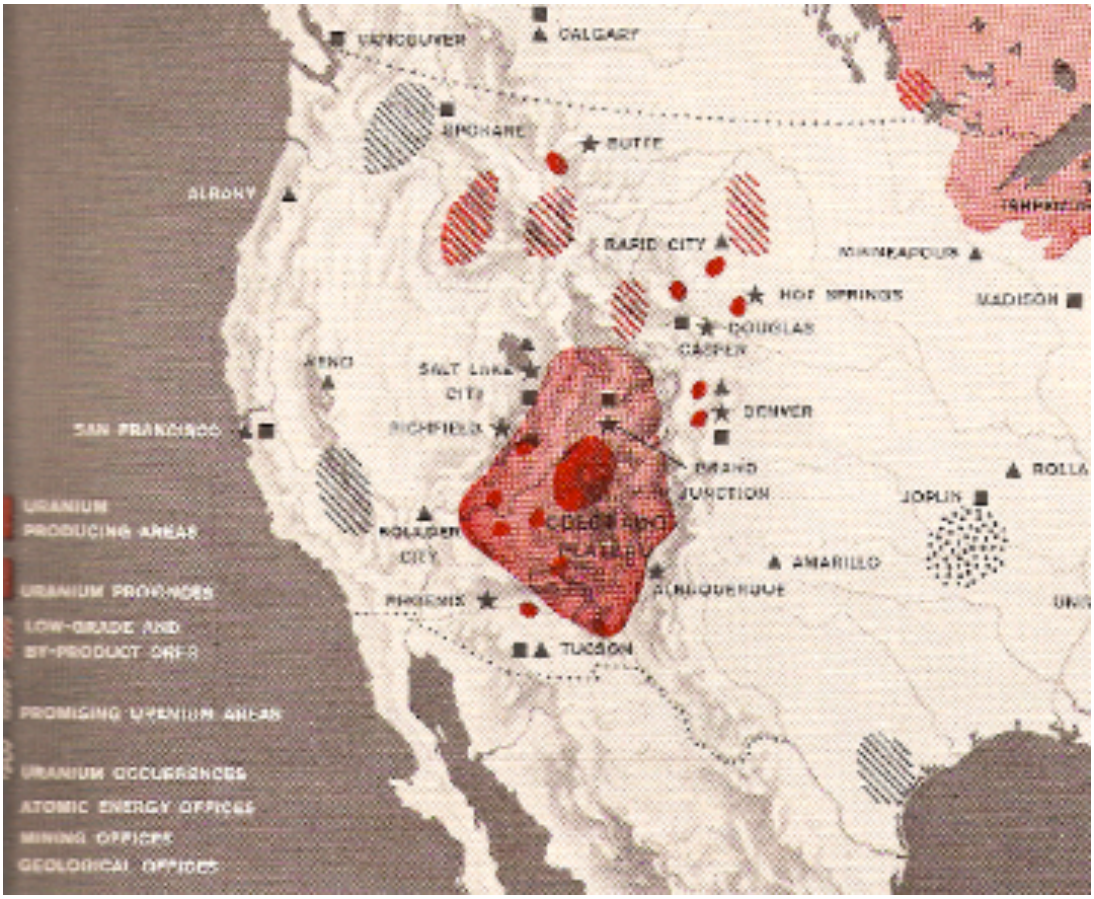

Figure 8 A map showing the Colorado Plateau uranium district, published in *Life* magazine in 1955, over the headline "Where Prospectors Can and Should Look."[162]

Prospectors were needed as the boots on the ground in order to launch a new uranium industry. However, the figure of the prospector was more than mere propaganda

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[161] Jesse Johnson, Director of the Division of Raw Materials, AEC, remarks to the American Institute of Mining and Metallurgical Engineers, Mexico City, DF, October 31, 1951. Anthony J. Albert Papers, New Mexico State Records Center and Archives, Santa Fe, New Mexico, box 8, folder 53.

[162] *Life* Magazine, 1995, p. 31.

to serve the ends of industry and defense. As the Cold War was an ideological struggle as much as a material one, so was the prospector an ideological penetration into the southwest region as much as a material one. The prospector manned the frontlines of American empire in a region that had always been viewed as unruly at best, the unsettling (and lingering) exception to Turner's frontier thesis and a space of slippage in the US's sovereignty over its "own" landmass. The southwest was home to a unique history of racial and cultural difference as well as hotly contested politics of land claims and land ownership and, thus, sovereignty. As I argue in Chapter 1, the US's colonial relationship to Native peoples of the southwest saw them distinctly as undesirable Others in the American national family, too different to be assimilable and thus a confounding "problem" in the consolidation of the US nation-state in the 20th century.

That the government used a mining boom as a fresh opportunity to consolidate its sovereignty over an unruly landscape was not new—not for the US or for other settler-colonial states. Occupation of the land by the hegemonic archetype of a citizen has long been a successful strategy, for the US or any other settler-colonial state, for extending colonial ownership and sense of colonizing identity in a strange land. In this case the settler figure is translated somewhat into a prospector, an enterprising young capitalist, a "spindly young Texan with a pretty wife, a gaggle of kids and a nickel in his pocket who grabbed for a brass ring and caught it."

Section 2 *Resource Sovereignty: Cold War Manifest Destiny*

The Cold War was ostensibly about saving the nation from the threats of state socialism; likewise the arms race was framed as the ultimate means by which the US government, through the AEC, could and would protect its people from Soviet

aggression. Under these pretenses, the US deployed a discursive frame of *resource sovereignty* for the purposes of national defense and national security. This discursive frame mapped many new resources—human, mineral, animal, etc—that could potentially be useful to the arms race or militarization as exploitable by the government by whatever means it saw fit. Within the nuclear industry, this tended to mean the sacrifice of human, environmental, and animal health in the interest of defending "the nation," which technically should have included those same human, if not also environmental and animal concerns.

The phrase "resource sovereignty" is not one that has been used in indigenous studies or indigenous legal theory. While "sovereignty" itself, and particularly the ways in which sovereignty has been taken from indigenous peoples and invested in the federal government as the "trustee" of Native lands and nations, has been a matter of great concern for indigenous studies scholars, debates about the meaning of sovereignty, and its elision for Native Nations, have not paired "sovereignty" with an analysis of federal policy regarding resource management and use. By focusing on resources and resource management, particularly in regard to metals, minerals, and mining policy, I argue that these policies are central to the ways in which that trust relationship has been managed, and therefore should be a central frame for understanding sovereignty issues as a whole. I focus specifically on mining policy, which to date has not occupied a privileged position in studies of the legal relationships between the US and indigenous peoples. I argue here that mining policy should be seen as a central way in which indigenous land and resources, and thus indigenous bodies and politics, have been controlled by the US, and thus how the colonial nature of the relationship has been maintained and indigenous

sovereignty subverted. Mining policy, in short, is a prism through which the inherently colonial relationship between the US and indigenous peoples is created. In this section, I explore resource sovereignty in two senses: the first more broadly related to the creation of the "public domain," including non-Native and Native land, and the codification of access to these lands for settlers and miners; and the second describes the mechanisms by which control of resources in Native "trust" land by the federal government has facilitated control over Native bodies and economic and social life.

First, resource sovereignty has functioned to increase the amount of non-Native "public domain"[163] land and simultaneously decrease the amount of land set aside for Native reservations. This occurred largely through major land and mining policy enacted in the 1860s and 1870s, when western expansion and settlement practices were being formed. Resource sovereignty, in this sense, is an approach to understanding US land and mining policy and its role in Native land dispossession during a critical period of forming and defining policies relating to the west and its resources. Federal policy regarding the west has treated the land itself as both an ideological and material resource for national development. Thus in the period following the Civil War and extending through the first half of the 20th century the federal government set aside large amounts of land for federal uses, often first removing this land from indigenous occupation or control. In an article

[163] The term "public domain" was used extensively in the 18th and 19th centuries to refer to any land that was not state or privately owned, but in the "domain" of the federal government. Mayer and Riley, 1985, note that statistics "showing the total land holdings of the federal government often very greatly, reflecting different assumptions about the nature of federal ownership." However, their use of the term "refers to all lands held by the federal government" (p. 1). Due to the fact that Native land is technically held "in trust" for tribes by the federal government, reservation land can and has been considered part of this public domain, particularly for leasing mining claims under the 1872 Mining Act, discussed below.

reviewing the conflicts between the federal government and the states over resource sovereignty, Dan Tarlock provides a succinct analysis of this history:

> Historically, these conflicts [between federal and state power over resources] occurred primarily in the West. During the "conservation era" the national government switched from a policy of disposition of all the public domain to one of simultaneous disposition and retention. Ultimately, government policy became one of retention and rational management.[164]

Resource sovereignty in this first sense impacted Native lands by virtue of the large amount of land divested from indigenous peoples for the purposes of creating the non-Native public domain, including national forests, parks, and monuments, and grazing districts under the Bureau of Land Management. As Jake Kosek notes in his account of forest politics in northern New Mexico, lands that had historically belonged to Hispano land grantees and indigenous communities in the southwest were often set aside as part of the federal public domain, decreasing the acreage of reservations and land grants while increasing the acreage of the public domain, state land, and private land. This was often done, as Kosek notes, through means that were "legal, but unjust,"[165] and many longtime users and inhabitants of the land in the southwest saw their landholdings exponentially decrease from 1848 up through the first half of the 20th century. This was certainly true of the formation of the Navajo reservation in the aftermath of the Long Walk to Bosque Redondo; whereas before this removal Navajos mapped their homeland between the four mountains to the north, south, east, and west, afterward, their land base was drastically reduced and the majority of the land leftover transferred to national forests, parks, and monuments, as well as scattered private and state landholdings. Mark David Spence

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[164] Tarlock, 1983.
[165] Kosek, 2008.

offers related analysis in his history of the removal of indigenous peoples from national park areas, arguing that, "wilderness preservation often went hand in hand with native dispossession."[166] Unfortunately, under the General Mining Act, even "wilderness preservation" itself was not fully achieved, as these national park areas could only be retroactively removed from environmentally-destructive mineral extraction industries, a point I elaborate on in the third section of this chapter.

Figures 9 and 10 illustrate these trends of decreasing indigenous land and increasing federal public domain land on a national scale. Figure 9 shows trends of decreasing indigenous land and increasing national parkland and private rangeland from 1881 to 1957, reflecting these historical shifts in US land policy and how land was converted to private or "public" domain during the course of the critical period 1881 to 1957, when the majority of US land and Indian policies were being formed in its western territories. This chart shows that indigenous land dwindles from 160 million acres in 1881, to about 57 million acres in 1957, while during the same period, other kinds of public domain increase from zero to 170 and 180 million acres for national parkland and grazing districts, respectively. Figure 9, on the other hand, shows the percentage of federal public domain land by state as of 1957, illustrating geographic differences in land policy, and the dramatic increase of federal land holdings in the "public domain" in the western states. These federal land holdings include Native reservations, national parks and monuments, national forests, and land controlled by the Bureau of Land Management.

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[166] Spence, 1999, p. 3.

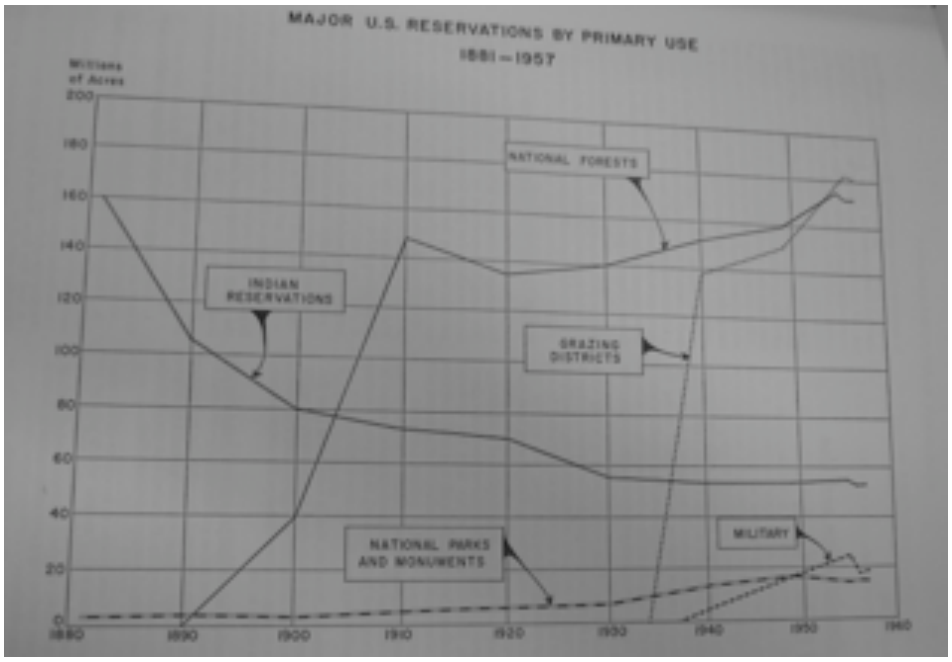

Figure 9 Graph showing the increase in federal land and private rangeland, and the decrease in indigenous land, 1881-1957

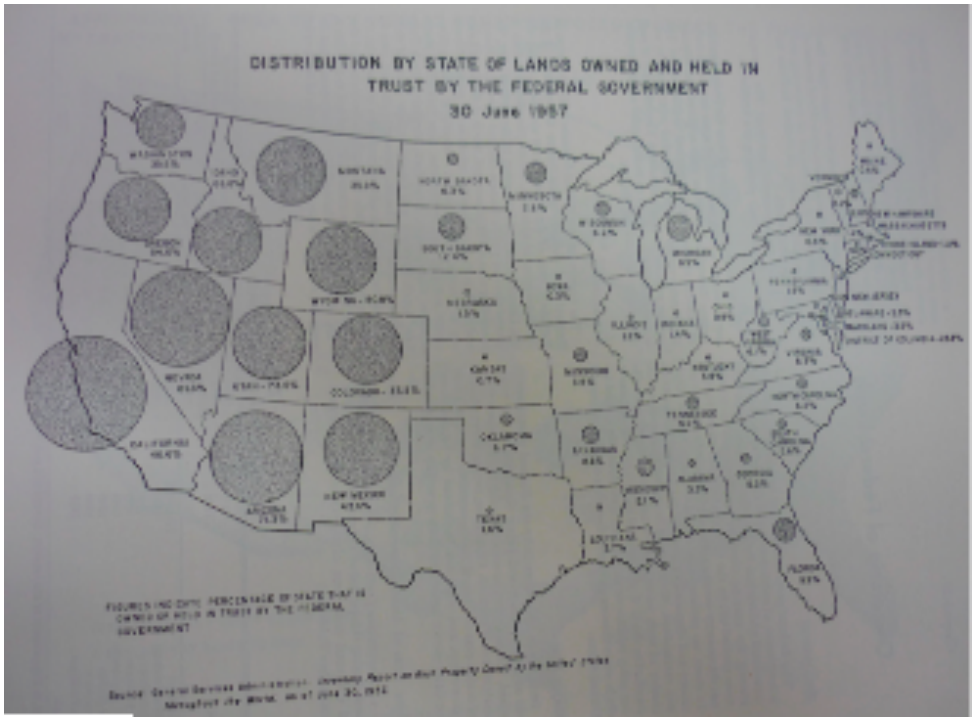

Figure 10 Showing the percentage of federal lands by state, 1957

This trend of decreasing Native land and increasing land in the public domain was certainly a problem of Native dispossession and the degradation of Native landholdings. However, equally problematic were the late 19th century policies that encouraged white settlers and industrialists to claim these newly "public" lands for settlement and economic development. In 1862, the federal government passed the Homestead Act, intended to push settlers west into the vast stretches of the US's territory, much of it newly acquired by conquest in the US-Mexico war. As documented by environmental historian William Cronon, US land-use policies, like those codified by the Homestead Act, were based on the environmental conditions of land *east* of the 100th meridian. That is, they were based on the assumption that relatively small parcels of land could be mapped out and distributed in equal-sized grids, with little or no concern for details like access to water sources, and be successfully farmed by small family units. Thus each parcel granted its owners rights to the land, the soil, and the water that (presumably) would fall abundantly on it. As homesteaders were quick to learn upon moving into the more arid terrain of the west, the 160-acre parcels they were granted under the Homestead Act were only infrequently appropriate for sustaining a family. Rainfall was significantly less abundant than in the east, and the farms that succeeded were ones that were adjacent to water sources. However, many water-adjacent plots were claimed instead by ranchers and other large landholders, who then had rights to the water to the exclusion of nearby homesteaders. In this way, the drive to privatize the land of the west in order to settle it was stymied by policy that ignored the environmental realities of the US's new territories.[167]

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[167] Worster, 1994.

Ten years after the passage of the Homestead Act, the General Mining Act of 1872 further influenced land and resource politics in the west. Again in the interest of populating the new territories, the General Mining Act, "a type of homestead act for miners,"[168] allowed prospecting and mining of metals on land that is part of the federal public domain. Partly as a response to the gold rushes of the 1840s and 1850s, this act was intended to encourage similar mining rushes that could bring the US population west as well as encourage economic development in the western territories. By not collecting rent or royalties on the metals mined from these federal lands, and by allowing mine claims to be privatized at remarkably cheap rates, from $2.50 to $5.00 an acre, the 1872 Act codified miners' practices already established during the gold rush. Rather than applying with the government to mine a claim, miners in the mid-1800s would merely mark out a claim and set about mining it, essentially laying claim to both the land and whatever metals it yielded. Like the Homestead Act, which sought not only to populate the west, but to populate it with the right kinds of people (white settlers), the General Mining Act restricted these rights to citizens or those who could become citizens of the US. Natives fit neither category.

The Homestead Act and the General Mining Act helped create and shape resource sovereignty through the access they granted these citizens (or would-be citizens) to the public domain, as well as through the dramatic increase of non-Native public domain lands. However, of equal importance for this discussion, they also played a role in constructing and codifying the relationship between the west and the federal government as one of resources, resource extraction, and resource management. Since the legal status

[168] Mayer and Riley, 1985, p. 44.

of indigenous peoples as "domestic dependent nations" whose land and resources were held in trust by the federal government, indigenous lands are included in the "public domain" and therefore open to mineral leasing under the 1872 General Mining Act. In fact, in order that they be exempted from the Act and therefore protected from the incursions of prospectors and miners, indigenous lands must be actively withdrawn by the Bureau of Land Management. If this action is not taken, they are considered simply part of the public domain, and therefore subject to lease.[169]

Resource sovereignty in the second sense functions through the use of resources as a primary means of maintaining the trust relationship between Natives and the government. Ecologist Nicholas Flanders notes that the "land and water management problems" that attended US resource policy since the late 1800s shaped the "relationship between [Native] sovereignty and resources" in ways that encouraged federal conservation policy (like that of soil conservation and stock reduction) as well as "nonconservation cases, such as nuclear waste disposal on tribal land," to assert its trust responsibilities through the manipulation of resources on Native land.[170] Thus the trust relationship was used not only for matters of Native assimilation, schooling, and welfare,

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[169] In practice there has been conflict over whether these tribal trust lands can be governed in the same ways as other public domain lands. The first test case of this problem came in 1877, when gold miners who assumed that Indian land was open for prospecting under the General Mining Act moved into Black Hills, part of the sovereign Lakota Nation under the Treaty of Fort Laramie signed in 1868, and began staking claims. The Lakota protested the influx of prospectors, citing the Fort Laramie Treaty. The Black Hills Settlement Act of 1922 purported to resolve this issue by ceding the Black Hills to the US to be part of the public domain (and therefore open to gold prospectors and miners), but it was signed into law without the proper number of Lakota signatories and is largely considered as invalid as it did not represent Lakota interests or the desires of the Lakota people as a whole.

[170] Flanders, 1998.

but also for the management of resources however the federal government saw fit. The end result, in Flanders' words, is that "the relationship between Native Americans and the Euro-American settlers has evolved from the latter seeking to end the separate identity of the former to one in which the US government uses Native rights to control large-scale resource problems."[171] Along these lines, resource sovereignty is *not* meant as a universalizing frame to encompass the whole history of Native dispossession from their land. Rather, it signifies a particular turn that emerged with late 19th century US land and mining policy, wherein land under the control of the federal government was classified as "public domain," and was solidified through the 20th century as resources came to be seen as governable through manipulation of Native politics and the trust relationship.

Resource sovereignty, therefore, can be and has been exerted over Native reservations and not just the non-Native sectors of the public domain (national forests, parks and monuments, BLM land, wilderness areas, etc.). Resource sovereignty thus points to the ways in which resources located on Native land have facilitated the inherently colonial trust relationship between the federal government and indigenous peoples. In this sense, resources such as sheep, soil, water, or uranium become just as central to federal control of Native lands, politics, and bodies, as do boarding schools, language assimilation, and imposed political and cultural forms. Flanders uses as a case-in-point the stock reduction period on the Navajo reservation. The extensive nature of the reduction, he argues, derived from the fact that "the relationship of the government to the Navajo was different. The government, through its trust responsibility could bring pressure to bear" on Navajos and the Indian Service to allow the incursions of federal

[171] Flanders, 1998.

policy, the Range Riders, and the Soil Conservation Service.[172] Similar processes were involved in relationships between mining industries and Native lands, particularly because of "the power of the [1872 Mining Act] to skew decisions in favor of mining"[173] and the BIA predisposition to developing reservation industries to promote Native economies.

This is not to say that mining interests were always content with their dealings with the BIA. For example, in a 1934 article in *The Mining Journal*, the BIA is faulted with preventing rigorous development of the mining industry on indigenous lands. The author argues:

> [t]he Indians themselves are not prospectors and…have taken no advantages of their opportunity to discover new mineral deposits, while red tape, on the other hand, has prevented white prospectors from doing so. The result of this policy has been, to quote the words of former Governor Hunt of Arizona, that 'the dead hand of the Indian Bureau has effectively stifled all mineral development on Indian reservations in Arizona.'[174]

This kind of protest on the part of the mining industry, always a powerful lobby in state and national politics, urges even further opening up of resource sovereignty on indigenous land, in part because "the Indians…are not prospectors." Implicit within this argument is the idea, in addition to helping out the mining industry, removing "'the dead hand of the Indian Bureau'" would benefit indigenous interests as well. This notion carries forward in later years when the uranium industry, like other oil, coal, and gas, is seen as beneficial to tribes because of presumed financial "opportunity."

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[172] Flanders, 1998, p. 437.
[173] Mayer and Riley, 1985, p. 45.
[174] Mitke, Charles, "Shall the Indian Bureau Control Arizona's Future Mines?" *The Mining Journal*, January 15, 1934. William Zimmerman, Jr. Papers, Center for Southwest Research, University Libraries, University of New Mexico, box 4, folder 27.

Thus by the time the uranium boom was underway, the US government had already codified resource sovereignty over metals and minerals on Native land in both policy and practice. The notion that these leases were governed according to the "best interests of the tribe"[175] offered a weak justification for the fact that, in essence, the federal government was using mining law to further solidify a deeply colonial position *vis a vis* Indian resources and lands. As argued by environmental justice scholars Byrne, Glover, and Martinez, "given the extensive exploration, mining, and processing that occurred on Indian lands, and the degradation to Indian lands and life that occurred as a result of the nation's nuclear program, it is clear that 'national security' won out over the 'best interest of the tribe.'"[176] After all, to quote Peter Eichstaedt from his history of uranium mining on Native land, "even if a tribe…[knew] that there were profits to be made in controlling a natural resource, what rights, after all, did they have to do so?...Indians, being considered wards of the state, had no property rights."[177]

The Atomic Turn

> [I]t is hereby declared to be the policy of the people of the United States that, subject at all times to the paramount objective of assuring the common defense and security, the development and utilization of atomic energy shall, so far as practicable, be directed toward improving the public welfare, increasing the standard of living, strengthening free competition and private enterprise, and promoting world peace.[178]

What I call "resource sovereignty" over Native land was predicated on almost one hundred years of legal and political precedent before the uranium boom began to funnel prospectors onto and near Native land in the southwest in search of their "uraniumaire"

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[175] As quoted in Byrne, et al, 2002, p. 140.
[176] Byrne, et al, 2002, p. 140.
[177] Eichstaedt, 1994, p. 14.
[178] US Atomic Energy Act of 1946.

strikes. However, beginning in 1939, resource extraction began to take on a new context: that of war necessity and patriotic fervor. Finding uranium became an essential first step in the "paramount objective of assuring the common defense and security" of the nation, and the newly-formed AEC was charged with the task of stockpiling uranium for the disposal of weapons- and energy-technology development.

The association between mining and national security certainly did not begin with the formation of the AEC. However, while prospectors and miners had long played a role in cultural discourses of patriotism, national security was not codified in law until a series of Acts and Executive Orders midway through the 20th century. Beginning with the Strategic Minerals Act of 1939, US resource sovereignty began to be linked in law and policy to national security and the defense industry, in large part as a response to the industrial challenges of militarization during World War I.[179] Searches for "strategic minerals" in the public domain lands of the west had been underway since 1938, funded through the Public Works Administration. The Strategic Minerals Act helped facilitate these searches, and would later prefigure the authority of the Atomic Energy Act. These two acts together supplied a new feature to US resource sovereignty: that of defense and promotion of national security through mining and resource extraction. A report on mineral exploration history by the USGS notes, "[p]ost World War II mineral policy was grounded in the concept of strategic minerals, and assuring the Nation's access to them.[180]

The Atomic Energy Act of 1946 established the AEC, with its imperative to find domestic supplies of uranium no matter the obstacle. The Act itself declared one of its

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[179] The U.S. Geological Survey Mineral Resources Program Five-Year Plan, 2006-2010, http://minerals.usgs.gov/plan/2006-2010/background.html, accessed on 10/08/2009.
[180] Ibid, p. 44.

paramount concerns to be enacting "a program for Government control of the production, ownership, and use of fissionable material to assure the common defense and security, and to ensure the broadest possible exploitation of the field."[181] In the early part of the uranium boom, as the federal government deployed prospectors out into the Colorado Plateau in search of uranium deposits, they also often "withdrew" public lands for use by the AEC. Through withdrawal, lands that were previously part of the public domain were reserved exclusively for the AEC's Division of Raw Materials for the prospecting of uranium. Reporting on one such withdrawal in January of 1953, under the headline "Withdraw Public Lands from Uranium Search" the Grants *Beacon* noted, "this is a continuation of the Commission's effort to develop sufficient uranium ores to keep uranium ore production on the Colorado Plateau at the maximum."[182]

Very quickly, however, this practice of AEC withdrawal became significantly less useful, as private investors would become "keenly interested in an area where AEC and USGS geologists focus[ed] their attention" in advance of withdrawal, and in the soon-to-be-withdrawn area, claims would be staked so rapidly that "by the time the withdrawal [was] effected, less than 50% of the area" remained in the public domain.[183] "Thus," as noted by Sheldon Wimpfen of the AEC GJOO at a meeting of the Colorado Miner's Association, "by the time we have moved on to complete the geological studies that are an essential preliminary to requesting a withdrawal in anticipation of a drilling program,

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[181] Atomic Energy Act of 1946.
[182] Grants *Beacon*, vol. 13, no. 46, January 15, 1953.
[183] US AEC Grand Junction, Colorado, Address by Sheldon Wimpfen, Manager, GJOO, at the Metal Mining Convention of the American Mining Congress, Seattle, Washington, September 23, 1953, "The Mechanics of Uranium Production." National Archives Rocky Mountain Region, 434-99-195, "Speeches."

much, if not most, of the land is already staked thereby negating the effect of the withdrawal." By 1953, GJOO was hard at work to remedy this problem, and assigned a Mr. Brewer to "prepare a staff paper on the subject." However, "in his research he discovered many conflicts in procedures, laws, and execution of the laws that the preparation of a staff paper was at that point not possible," evidencing not only the bureaucratic tangle of land law and policy that characterized the uranium boom, but also the rapidity and ease with which mining claims in the public domain could be privatized under the General Mining Act.[184]

There were segments of land in the public domain, however, that were protected from AEC prospecting by the agencies responsible for them. Quite a lot of bureaucratic negotiation, for example, took place within the Department of the Interior over the question of prospecting in national parks and monuments. Throughout the early 1950s, when AEC prospecting was in full swing, members of the GJOO office corresponded with the National Park Service to shape prospecting and mining policy on those protected parts of the public domain, and, as with prospecting on Native land, the AEC often assumed resource sovereignty as a matter of course. The National Park Service, however, often resisted this resource sovereignty. In 1953, the National Park Service sent a memorandum to the AEC requesting thirty days' notice before they began prospecting on National Park land. In reply, Sheldon Wimpfen, the manager of AEC GJOO, wrote a letter to the Superintendent of the Petrified Forest National Monument that read:

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[184] "Withdrawal Policy and Procedure," meeting minutes of the GJOO Office of the Manager, October 27, 1953. National Archives Rocky Mountain Region, 434-99-197, "Withdrawal Policy."

> Through inadvertence, you were not given this [thirty day] advanced notification and some of our geologists have been conducting exploratory work in the Monument for the past few weeks. If their presence there is not interfering with your programs, we request that you wave this notice requirement in this instance, and allow our men to continue their work in the Monument.[185]

In subsequent months, the AEC requested to do survey work in over twenty different national parks and monuments in four states, including the Grand Canyon National Park, Arches National Monument, and Mesa Verde National Monument. However, it seems that once the AEC did ask permission before engaging in prospecting work, the National Park Service did not automatically defer to the AEC's assumed resource sovereignty; "this permission," one AEC report notes, "they were unwilling or unable to give us." This may have been at least in part because the environmental damage incurred in even the exploratory phase of uranium mining flew in the face of the National Park Service's mission of protecting certain areas of national, historical, and environmental significance. The exploratory phase, for example, entails drilling boreholes every one to five miles to test the size and shape of a potential uranium deposit, with holes of increasing size and frequency the more uranium is discovered. "Eventually," notes Lisa Young, "drill holes six inches in diameter and from 400-2,000 feet deep may be spaced as closely as 12½ feet apart."[186] These boreholes cause significant air and water pollution, as does the process of transporting heavy equipment to and from the drilling sites.[187]

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[185] Letter dated December 10, 1953, from Sheldon Wimpfen to William Branch. National Archives Rocky Mountain Region, 434-99-208, "Exploration Public Lands."
[186] Young, 1981, p. 5.
[187] Ibid, pp. 5-6.

Whatever their reasoning, the Park Service never took kindly to AEC requests for permission to begin these processes on national park and monument land. The two agencies reached such a deadlock that in 1955, the Acting Assistant Director of the AEC Division of Raw Materials recommended "that the Commission forgo work in National Parks and Monuments" because "to search now for uranium on land under the jurisdiction of the Park Service is to look for ore unattainable without the aid of an Executive Order or perhaps some equally tedious process." Importantly, the letter concludes, "effort of field men could, I believe, be more profitably spent in areas of greater accessibility."[188] Native lands increasingly constituted these "areas of greater accessibility."

Thus even though the period from the late 1800s to 1934 saw a marked decrease in tribal landholdings and an increase in national parks and monuments, private land, and state land, Native lands remained among the least protected from the mining industry. The Reorganization Act of 1934 officially ended the period of allotment under the Dawes Act, partly in recognition of the attrition of tribal land holdings. It also reverted conflict over mine claims under the General Mining Act back to the question of whether Native land was open to mining claims as part of the public domain under the General Mining Act. As a response to this conflict, Congress passed the Tribal Minerals Leasing Act in 1938, intended to clarify the status of mineral leases on Indian lands and make mining law on reservations comply with the intent of the 1934 Reorganization Act (to give the tribes more control over decisions like the leasing of their land to mine developers). The

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[188] Letter dated March 30, 1955, from Robert Nininger, National Archives Rocky Mountain Region, 434-99-208, "Exploration Public Lands."

1938 Act, like the larger Reorganization Act itself, failed to achieve its intended ends. In essence, it opened Indian trust lands to mineral leasing according to negotiations between miners and the BIA, rather than the tribes themselves. According to legal theorists Getches, Wilkinson, and Williamson Jr., tribes were limited to "playing a passive role as recipients of royalties under a lease negotiated between the Bureau of Indian Affairs and the mineral developers."[189] This state of relations characterized the leasing of uranium deposits on Navajo land, and the resource sovereignty it reflected made Native land in general some of the most accessible land of the public domain to the uranium industry.

By 1955, prospectors and real estate developers had been in touch with the AEC for permits to explore for uranium on the reservations of the Navajos, the Canoncito Navajos, the Laguna Pueblo, the Jemez Pueblo, the Ute Mountain Utes, the Acoma Pueblo, the Zuni Pueblo, and the San Carlos Apaches. By the time these requests were made, the AEC had typically already conducted aerial surveys of the reservations, complete with plane-mounted Geiger counters, to locate potential uranium deposits on the ground, and the AEC could respond to these requests quickly with maps of radioactive "anomalies" that might indicate uranium. However, the Navajo reservation was the first to be flooded with AEC prospectors, geologists, miners, and mills. The procedure for communicating with the Councils of these various reservations, and the process of obtaining permission to prospect and mine on their land, followed the pattern of the AEC's dealings with the Navajo Tribal Council, as I outline in the following section. While the Navajo reservation was the first to be opened up to uranium

[189] Getches, et al, 1993, p. 638.

prospecting and mining, the uranium industry and the AEC followed suit on a number of other reservations in a few short years.

Each reservation was governed by its own set of rules about prospecting and claims staking, and these rules were of great interest to the AEC as it orchestrated the boom from its Grand Junction offices.[190] At least two tribes, the Southern Utes and the Ute Mountain Utes of Colorado, permitted no prospecting by either Natives or non-Natives on their land as of 1955. In that same year, however, the AEC began meeting with the Ute Mountain Ute Tribal Council in order to conduct aerial surveys and, eventually, they began issuing formal prospecting permits. On April 7, 1955, in one such meeting, AEC representatives "carefully explained to the [Tribal] Council the purpose and nature of the Commission's present airborne investigations on the…Reservation." In these careful explanations, "[The Commission] made sure that the Council fully understood that the Commission was a government agency like the Bureau of Indian Affairs…and would not make any profit from any uranium discovered on the Reservation."[191]

The process by which the AEC related to the Tribal Councils played a critical role in the development of the uranium industry. This process of carefully explaining AEC intent and procedures to various Native governments largely followed the pattern established between the AEC and the Navajo Tribal Council. The following section

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[190] Letter from Paul B Martin, Assistant General Counsel to the Grand Junction Operations Office, to Sheldon Wimpfren, Manager of the Grand Junction Operations Office, on July 1, 1955, General Records of the Department of Energy, NRG-434-99-197, National Archives Rocky Mountain Region.

[191] "Hearing before the Ute Mountain Tribal Council," April 8, 1955, General Records of the Department of Energy, NRG-434-99-197, National Archives Rocky Mountain Region.

explores the process by which Navajo land was opened up for AEC prospecting and the uranium industry, attending closely the ways in which government agencies (the BIA, the AEC, and the USGS) constructed the role of Tribal Councils in developing a uranium industry.

Section 3 *Navajo Problems*

On November 4, 1949, Alan Harper, Superintendent of the Navajo Service hosted a meeting between members of the AEC, a Navajo Tribal Council representative, and agents from the US Geological Survey to discuss "proposed investigation of the vanadium-uranium resources on the Navajo [reservation]." At that meeting, the attendees signed off on an "[o]rder…withdrawing certain Navajo tribal lands from further prospecting and development of vanadium and uranium minerals." This withdrawal by the AEC would set aside these "certain Navajo tribal lands" for exclusive prospecting by AEC geologists. In a subsequent letter to the AEC reviewing the meeting, Harper writes that the order of withdrawal was

> being issued in order to permit your office [AEC GJOO], in cooperation with the USGS to conduct exclusive prospecting and drilling operations in the area described…The Order further grants permission for you or your authorized representative to conduct geological reconnaissance on any part of the Navajo reservation.[192]

This meeting and the order of withdrawal it produced culminated at least three months' worth of correspondence between Harper and AEC regarding potential uranium reserves on Navajo land, or at the very least uranium that could be recovered from vanadium

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[192] Frank MacPherson, "Relations Between the Navajo Indian Tribe-Area Office of the Navajo Indian Reservation, and the US Atomic Energy Commission," November 13, 1951, National Archives Rocky Mountain Region, 434-99-208, "Program Correspondence," Box 3.

deposits that had been mined in the region for years (prior to the Manhattan Project, uranium was largely regarded as a waste by-product of vanadium). Harper first contacted the AEC on September 10, 1949, to inquire after "information concerning the uranium industry."[193] Three days later, he visited the AEC GJOO offices in person to request "any assistance that this office could give to the Navajo Tribe in the development of uranium resources on Tribal lands."[194]

In a 1951 AEC memo entitled "Relations Between the Navajo Indian Tribe-Area Office of the Navajo Indian Reservation, and the US Atomic Energy Commission," the meeting that resulted in the withdrawal Order of November 1949 is described in this way:

> In response to a request by Mr. Harper, a meeting was held in his office on November 4, 1949 between Mr. Harper, Mr. Fister, Mr. Tso of the Navajo Indian Council, Dr. Fetzer, Mr. Keiser, Mr. Rove of the USGS, and [Frank MacPherson]. The USGS representatives were interested in obtaining permission to perform drilling and exploration work on the Reservation. As a result of this meeting, the Navajo Tribal Council withdrew certain lands in the Navajo Reservation, with the provision that the AEC was authorized to permit the USGS or any of its authorized representatives to do prospecting and exploratory drilling and development work for vanadium and uranium bearing ores.

This, according to the AEC, was the inception of their "relations" with the Navajo Tribe. But these accounts of the November 4 meeting and the run-up to it suggest that it was not so much a relationship with the "Navajo Tribe" as with the Indian Service, and particularly Harper. In fact only one Tribal Council representative attended the meeting, the then-Vice Chairman of the Tribal Council Zhealy Tso. The report quoted above

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[193] Frank MacPherson, "Relations Between the Navajo Indian Tribe-Area Office of the Navajo Indian Reservation, and the US Atomic Energy Commission," November 13, 1951, National Archives Rocky Mountain Region, 434-99-208, "Program Correspondence," Box 3.
[194] Ibid.

suggests that Harper orchestrated a number of different parties interested in facilitating uranium prospecting on the reservation.

On October 14, 1949, a month after Harper's original contact with the AEC, the Tribal Council directed a special Advisory Committee to "'study and actively consider such changes in procedures as are necessary for positive results in securing greater development' of uranium."[195] Much has been made, in the secondary literature, of this Tribal Council resolution, and particularly that it reveals that the Tribal Council initiated the incursion of AEC prospectors on their land, and subsequently that it was Tribal Council initiative that produced the uranium boom in Navajo Country. Certainly the language of the resolution suggests that the Council was not adverse to the development of uranium deposits; "now be it resolved," the resolution reads, "that the Advisory Committee of the Navajo Tribal Council be and is hereby authorized and requested to study and actively consider such changes in procedures as are necessary for positive results in securing greater development of uranium…mining."[196]

What is clear from primary and secondary sources, however, is that whatever the intent of the Tribal Council to consider uranium development on Navajo land, this intent was seriously influenced by members of the Indian Service, the AEC, and the USGS. In 1950, for example, as Navajo policy for developing uranium reserves was still being formed, Frank MacPherson of the AEC noted that the Navajo policy of requiring deposits to be leased and ore sold through the Tribal Council, and not through the white miner

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[195] Navajo Tribe, *Council Resolutions, 1922-51*, pp. 301-7, quoted in Iverson, 1991, p. 78.
[196] Navajo Tribal Council Resolution, October 14, 1949, *Navajo Tribal Council Resolutions, 1922-1951*, p. 336.

himself, "was discouraging the development of uranium ore deposits." Therefore, when attending an Advisory Committee meeting in August of 1950, MacPherson

> suggested that they consider amending their license by authorizing issuance of the license to white men as well as Indians, or by amending the license to permit the Navajo who found uranium under such a license to either assign the license or enter into mining agreement with qualified people to develop the deposit.

MacPherson also suggested to the Advisory Committee that they lift the "limit of 960 acres as the maximum amount of land which might be covered by a permit." It appears that MacPherson's arguments were persuasive; both suggestions were adopted by resolution within days of this meeting.[197]

In March of following year, the AEC further suggested that the Navajo Tribal Council adopt a resolution that would "grant authority to the Commission and its contractors to perform such geological investigations and exploration for the discovery of uranium ores as the Commission might deem advisable, on any part of the Navajo Indian reservation for a period of three years."[198] Again, the Tribal Council passed the advised resolution on April 18, 1951, and the AEC was granted access to large swathes of Navajo land. In a similar vein, in a letter from MC Bucklin, Area Counsel to the Indian Service at Window Rock, to Paul Martin, a lawyer with the AEC, regarding a resolution passed by the Tribal Council to regulate uranium stockpiling on Navajo land, Bucklin notes, "[t]hese resolutions were, as I understand it, adopted at the suggestion of your

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[197] Frank MacPherson, "Relations Between the Navajo Indian Tribe-Area Office of the Navajo Indian Reservation, and the US Atomic Energy Commission," November 13, 1951, National Archives Rocky Mountain Region, 434-99-208, "Program Correspondence," Box 3.
[198] Ibid.

Commission."[199] Consistently, policy enacted by the Tribal Council "at the suggestion" of the AEC facilitated the development of the uranium industry on Navajo land, opening the land up to prospectors, miners, and, eventually, mills for processing the ore and mill tailings piles for dumping it.

What these examples suggest is that Tribal Council initiatives on uranium mining on Navajo land were shaped by outside influence, and the Tribal Council, by virtue of its role as representative of the Navajo people, was encouraged to give access to Navajo land as a whole to a highly destructive mining industry. The closing paragraph of the 1951 memo on "relations" between the Navajo Tribe and the AEC is revealing:

> The foregoing is a brief summation of the relationship between this office and the Navajo Tribe and Area office of the Bureau of Indian Affairs as of today. The position which we have consistently taken in this matter is that the Navajo Tribal lands are privately owned lands and our position would be that of an advisory capacity to the Bureau of Indian Affairs and the Tribal Council at such times as they should seek our advice. We have, undoubtedly, had some influence on the establishment of regulations and procedures for the operation of uranium mineral lands on the Navajo Indian Reservation but have always tried to give such assistance as would be to the benefit of the Navajo Indian Tribe. Our relationship has always been very cordial and of benefit to both the Navajo Tribe and this Commission.

In this quote, the influence of the AEC on Navajo Tribal Council policy is acknowledged, but also quickly downplayed. The insistence that Native lands are treated as "privately-owned" sidesteps the political reality of resource sovereignty under the 1872 Mining Act and the "trust" relationship between the federal government and Native peoples: that, by law, Native land was not *actually* privately-owned, but considered to be held in trust in the federal public domain. In the above quotation, the AEC politely takes the "position"

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[199] Letter dated September 27, 1951, National Archives Rocky Mountain Region, 434-99-208, "Program Correspondence," Box 3.

that Native land is privately held, nodding toward the post-IRA preference for self-determination for Natives, but the legal and political reality of federal control over Navajo land could not be far from anyone's mind.

Certainly, members of the Tribal Council were deeply aware of this legal and political reality. As argued by Donald Parman in his history of *The Navajos and the New Deal*, the stock reduction program had exposed much of the Navajo population to the power of federal intervention in Native life through means of resource sovereignty and the trust relationship.[200] Environmental historian Richard White provides a similar analysis, exploring how Navajo "dependency" on the federal government was produced through the stock reduction period. Of stock reduction and the Collier BIA administration, White notes, "in [a BIA] administration best remembered for its championing of civil and cultural freedom for Indians, the Navajos felt the coercive power of the government to an extent unequaled since the Long Walk."[201] Tribal Council members had their own reasons for wanting to promote industry, including the uranium industry, on their land, particularly since the failures of the stock reduction program had left the reservation economy in tatters without providing sufficient economic alternatives. Thus whatever complicity with AEC plans the Tribal Council seems to have demonstrated came in the context of Navajo fear of stock reduction-like incursions, Navajo economic underdevelopment, and AEC coercive influence within its "advisory capacity."

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[200] Parman, 1976.
[201] White, 1983, p. 313.

What is more, AEC encouragement of mining on Navajo land was consistently couched in terms of the best interest of both the Navajos and the nation as a whole. AEC rhetoric argued that the ends of Navajo economic development and US procurement of uranium were both served by easy and unfettered access of the uranium industry to Navajo land. Witness, in support of this point, a 1951 letter from the AEC GJOO to BIA Commissioner Dillon in response to his proposal that Navajos receive between 10% and 20% royalties for leasing their lands to uranium mine developers. The letter contests the need for this 10-20% rate with a rhetorical bob and weave, further evidence that the federal priority during this time was to clear the way, at any cost, for the uranium industry, rather than protect peoples and lands from it:

> We firmly believe that in order to provide for the maximum production of uranium and the maximum income to the Indians a more reasonable royalty scale should be adopted. To replace Mr. Allport's sliding scale ranging from 10% to 20% of payment received from sale of ores, depending on value, we suggest a flat rate of 10%.[202]

The letter also reflects the fact that these negotiations were taking place largely between federal agencies and uranium industries, instead of taking place among the agencies, the industry, and the Tribal Council; "we are pleased," Johnson writes, referring to the AEC Raw Minerals Division, "to have the opportunity to comment on the proposed lease provisions because it is important that leasing arrangements be designed to stimulate prospecting, development, and mining of uranium…ores." Johnson admits that this position on royalties is "colored by our desire to increase domestic uranium production to the highest practicable levels," but he also argues that, "in accomplishing this objective

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[202] Letter from Director of the Division of Raw Materials Jesse Johnson to BIA Commissioner Dillon Myer, July 5, 1951.

through the establishment of reasonable royalty rates and elimination of restrictive provisions in mining leases, the net income to the tribe will also reach a maximum."

Furthermore the AEC GJOO fully supported the leasing of these uranium-rich lands to "others than members of the tribe" because this would be an "essential step if financing and experience in mining are to be secured so that the mining of uranium can proceed expeditiously" and, lest we forget the altruistic bent of any good DOI project, so that uranium mining would "yield substantial income to the tribe." Thus the leasing of profitable lands to non-Navajo outsiders would actually *benefit* Navajos because the management of uranium mines would be left to (presumably) more rational economic actors who would have (realistically) more resources to draw from in terms of mine development and financing. As the language of this letter illustrates, the development of uranium mining at the lowest possible cost to the industry was consistently framed as a boon to the *tribe*, as a benevolent action that would maximize "new income to the tribe."

Throughout this process of uranium development on the reservation, the Tribal Council cannot be seen as acting purely out of Navajo interest without outside influence from federal agencies, but neither were they passive victims of federal coercion. Whatever the actions and intentions of the Council, however, ample evidence suggests that within the BIA, other federal agencies, and the industries working on Navajo lands, deeply rooted racism against and racialization of "Indians" were pervasive. For example, Figure 11 shows a note included in AEC GJOO correspondence about leases on Navajo land, circulated between AEC and Kerr McGee lawyers. Kerr McGee, at the time, was working on obtaining rights to lease lands for a mill tailings pile. These tailings piles would later constitute some of the most devastating threats to human and environmental

health entailed in the uranium industry on Navajo land. On this note, an anonymous person has drawn a figure of a "Navajo." The way in which the drawing was done on official AEC documents, a wry and condescending "inclusion" of Navajos in the process of leasing sites for tailings piles, stands as a powerful metaphor for how Navajo interests were "included" in these decision processes overall. The drawing illustrates the ways in which inscriptions of characters called "the Navajo," in no way reflecting actual Navajo peoples, bodies, lives, or values, consistently occupied the discourse of AEC, uranium industry, and BIA negotiations over uranium development.

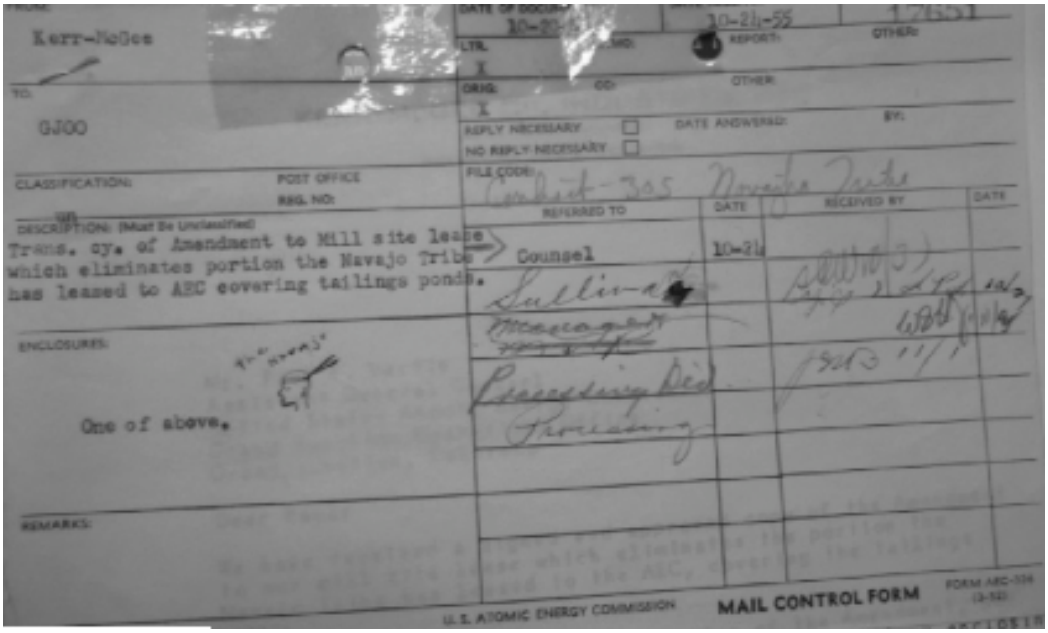

Figure 11 Memo from Kerr McGee Corporation to the AEC, October 24, 1955

Conclusion *First Signs and the Farce of Permission*

In 1958 the AEC announced it had acquired enough uranium for the foreseeable future, and that government purchase of uranium ore would not be guaranteed as of 1961, thus drawing the first uranium boom to a gradual close. By that time, over 7,500 uranium

deposits had been located in the US, as well as 750 working mines. The Navajo reservation itself was home to many of these mines, as well as the mills that processed the uranium ore into the yellowcake that was then sent to one of the nation's AEC facilities.[203] Figure 12 shows the close geographic association between Navajo land and the uranium industry. The majority of workers in the mines and mills on the Navajo reservation were young Navajo men. Part of the draw of these jobs for Navajos, as noted in Chapter 1, was that unlike work in the military industry during WWII or work for the railroads, these uranium jobs were close to home.

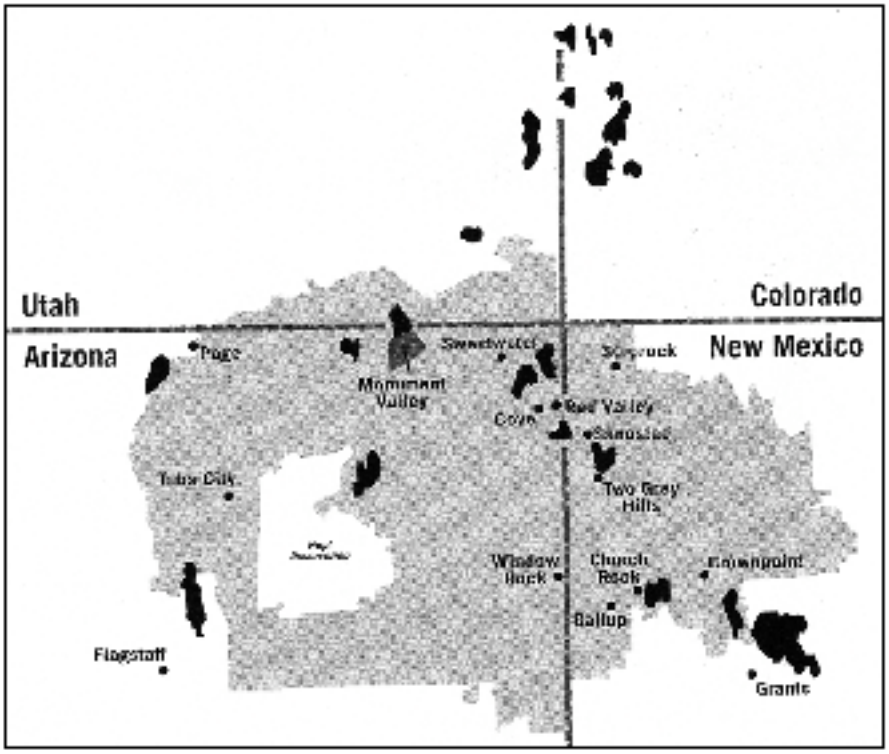

Figure 12 Showing Navajo reservation in grey, with centers of uranium industry in black.

Although there was ample evidence by the 1950s of the association between uranium mining and respiratory diseases, including lung cancer, Navajo miners were not

[203] Brugge, et al, 2006, pp. 27-28.

informed of these health risks, nor were they provided adequate protection from them. High death rates among uranium miners in Germany and Czechoslovakia since the late 1800s had suggested the toxic nature of uranium work, and "by 1932, Germany and Czechoslovakia had designated cancer in these miners as a compensable occupational disease."[204] By 1952, radon, a radioactive gas released in the uranium mining process, had been singled out as the primary culprit in these elevated lung cancer rates among miners, although other health problems, including silicosis, tuberculosis, pneumonia, and emphysema, also contributed to high death rates for miners.

In recognition of these potentially fatal health hazards, the US Public Health Service initiated a study in 1950 that monitored lung cancer in the mostly white miners working in the off-reservation mines scattered across the Colorado Plateau.[205] Despite this evidence of government concern about miners' health, "the study failed to inform miners of the risks being studied" and those who did advocate for ventilation in the mines, as an effort to provide some minimal protection to human health, faced barriers erected by the AEC.[206] According to Brugge, et al.,

> The AEC did not lack knowledge: records of a January 25, 1951, internal meeting of AEC and PHS staff reveal that the staff believed, based on early measurements, that radon was present in levels that would cause cancer, and that ventilation could abate the hazard. Public acknowledgment of this problem was apparently squelched. For instance, [Wilhelm] Hueper, the scientist who wrote the 1942 review, was then at the National Center Institute, and was forbidden to speak in public about his concerns about the health hazard of radon in uranium mines. It is

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[204] Brugge, et al, 2006, p. 27.
[205] As reported by Brugge, et al, 2006, "the reason for excluding minority miners…from the analysis was apparently a scientific desire to report on a homogenous population," reflecting larger racial discourses that saw essential differences between "races" that ran deep enough to corrupt the objectivity of scientific data collection, p. 34.
[206] Ibid, pp. 32-33.

> reported that he was even forbidden to *travel* west of the Mississippi, lest he say too much to the wrong people.[207]

This denial of information about health hazards was consistent with larger AEC patterns of protecting the uranium procurement program at all cost, including at the cost of human and environmental health. The involvement of the Public Health Service in conducting health surveys on uninformed human subjects echoes both the now-notorious Tuskegee Syphilis Tests (which were conducted by the same PHS) *and* the AEC practice of testing atomic technology on humans and animals.[208] The human health problems that inevitably arose among Navajo miners were the foreboding first signs of the larger devastation of human and environmental health that would occur in the wake of this first uranium boom.

The role of the Navajo Tribal Council in the leasing of Native land for prospecting, mining and milling throughout the initial uranium boom period can be characterized by what one New Mexico uranium activist called "the farce of permission."[209] No matter what the AEC knew, or suspected, about the potentially devastating effects of the uranium industry for human or environmental health, and no matter what level of cooperation they obtained from the Navajo Tribal Council, the leasing of this land took place under the farce that permission could be given for the uranium industry to ravage the landscape and put Navajo lives at risk for generations. In 2008, Edith Hood, a Navajo woman from the Church Rock Chapter of the Navajo Nation, remembers uranium prospecting in this way:

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[207] Ibid, p. 34.
[208] Kosek. 2006.
[209] Chris Shuey, Southwest Research and Information Center, private correspondence with the author, August 2009.

> I was only a teenager when strangers arrived. I remember Grandmother running to stop them from making roads into the wooded areas. The stakes she drove into the ground did not keep them out. No one ever told her what was happening. The exploratory drilling people had arrived. There was no respect for people, certainly no respect for Mother Earth.

For Edith Hood, and for the hundreds of uranium miners who died young of lung cancer and respiratory disease, the consent of the Tribal Council to open Navajo land to the uranium industry, or the consent of a worker to labor in a toxic, radioactive environment, is not a free choice; the farce of permission disguises their participation as consent. Edith Hood's grandmother tried and failed to communicate the farce of Tribal Council permission to prospect the land through the prospectors' own language: with stakes driven into the ground, to mark out what land was *not* theirs to violate.

Invariably, however, "the stakes she drove into the ground did not keep them out," and the uranium industry marched on.

Chapter 3

"Stop the Rape of Mount Taylor": Environmental Degradation, Sexual and Gender Violence, and the Re-mapping of the Uranium Landscape

By 1958, the AEC had leased over 90,000 acres of Navajo land for uranium prospecting, mining, and milling. In that year, the Commission announced it would discontinue its guaranteed price for buying uranium-ore, thus bringing to a close the first uranium boom and its attendant uranium fever among prospectors. Throughout the 1960s the uranium industry grew rapidly, with increased focus on nuclear energy, as opposed to weapons programs. Major energy corporations ran the biggest uranium mining and milling enterprises, and on Navajo land Kerr-McGee, Gulf Oil, Hydro Resources Incorporated, the Anaconda Corporation, and the Vanadium Corporation became some of the largest employers of Navajos in their uranium mines and mills. These Navajo workers tended to be relegated to the lowest paid, most dangerous jobs in the mines. Government regulation of working conditions, including monitoring levels of toxic radon gas in mine shafts, was weak and inconsistent. Workers in uranium mills spent long hours exposed to radioactive yellowcake, the end product of the ore-milling process, and often left work covered in radioactive yellow dust, which they then carried home with them on their clothes and in their lungs. By the mid-1960s, rates of lung cancer and other respiratory diseases were on the rise among uranium workers. Throughout the 1970s, Navajos noticed marked increases in early death among mine workers, and began to draw firmer associations between uranium mine work and patterns of death and disease. By 1975, sixteen of every one hundred Navajo miners were dead, and twenty-one more were feared dying.

By 1974, the US Department of Energy had begun to describe the sites of the nuclear production cycle throughout the western US as "national sacrifice zones" due to the evidence of human and environmental health disaster that resulted from every phase of the nuclear industry. The rising rates of disease and death among Navajo miners, a 1979 tailings spill into the Rio Puerco (which I discuss in Chapter 4), and the nearly 1,100 tailings piles scattered across the Navajo landscape made the Navajo Nation one of the prominent "national sacrifice zones."

Introduction *Cartographic Resistance to National Sacrifice*

> [I]n order not to cede the ground, we must also begin to scrutinize the impact of spatial policies in our cognitive mapping of Native lands and bodies. Beyond examining the discursive frameworks located in specific historical, political, and cultural moments, we must also think critically about "sets of choices, omissions, uncertainties, and intentions" that are "critical to, yet obscured within" the mapping of the body polity and nation-state. How do we uproot settler maps that drive our everyday materiality and realities?[210]

When Edith Hood's grandmother sought to stymie the incursion of the uranium industry by driving stakes into the ground, she was deploying a specifically *cartographic* strategy of resistance to the uranium industry: re-mapping the terrain that uranium prospectors could access according to her own assertions of territoriality. Unfortunately, as her granddaughter attests, this attempt failed to block the incursions of "the exploratory drilling people" who had "no respect for people, [and] certainly no respect for Mother Earth." This kind of articulation of spatial politics and territoriality through the physical act of driving stakes into the ground is echoed in Native feminist theorist Mishuana Goeman's question, quoted above, of "how do we uproot settler maps that

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[210] Goeman, 2009, p. 170.

drive our everyday materiality and realities?" Navajo Tribal Council "permission" (farce or no) to the uranium industry constitutes the "sets of choices, omissions, uncertainties, and intentions" inherent to hegemonic renderings of indigenous spatial politics that Goeman incites us to question; rather than "uproot[ing] settler maps" that drove the material conditions of uranium mining and milling, the Tribal Council was mapped *into* settler colonial politics of mapping indigenous space as penetrable and subject to the incursions of federal resource sovereignty.

When the human and environmental health costs of the uranium industry began to emerge on the Navajo Nation, resistance to the industry came largely through articulations of indigenous territoriality and a re-mapping of indigenous space. Particularly in the late 1970s and early 1980s, this took the form of mapping Mount Taylor as a "raped" terrain colonized by the federal government and the uranium industry. These types of new "cognitive mapping of Native lands and bodies" emerged to contest the uranium industry and construct the human and environmental violence of the industry, along with federal resource sovereignty, not just as violent, but as violent in both *sexual* and *colonial* ways. Mapping a terrain as having been "raped" by the uranium industry explicitly calls out this form of environmental violence as also a form of sexual violence. It also situates the uranium industry in a larger context of sexually violent colonial practices in North America, where the frontier, like the concept of "Nature" in general, is constructed as feminine and colonial ventures into it are "penetrations" that can be understood as deeply sexualized acts of violence against the natural environment and indigenous peoples alike.

Strategies of re-mapping parts of the uranium landscape as belonging to sovereign indigenous nations emerged in the 1970s and 1980s in response, not only to the human and environmental devastation of the uranium mining industry, but also to the larger problem of what Valerie Kuletz calls the "deterritoriality" of "nuclear landscapes" in the southwest. Deterritoriality, as Kuletz argues, describes the "loss of commitment by modern nation-states…to particular land or regions," and relies on constructions of those regions as peripheral, marginal, desert, or deserted—in this case, the deterritorialized region is not just the uranium belt of the four corners area, but the "nuclear desert"[211] of the southwest as a whole, home to bomb ranges, test sites, weapons development facilities, and radioactive waste dumps in addition to uranium mines. One effect of deterritorialization, this "loss of commitment," is "the construction of national…sacrifice zones" wherein the nonhuman environment and human bodies alike are sacrificed for the perceived good of the larger nation-state.[212] Kuletz has called the kind of re-mapping that resists derritoriality, like the remapping I explore here, a process that "relies on and uses local knowledge to make visible geographies of sacrifice" such as the Navajo Nation throughout the uranium mining period.[213] Here, Kuletz adds an important element to Goeman's project of "uprooting settler maps" and creating new "cognitive maps": that those maps should "*make visible* geographies of sacrifice" that are actively rendered invisible by deterritoriality.

Activists working against the uranium industry on Native lands from the late 1970s to the present have done just that. Like Edith Hood's grandmother, who used

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[211] Davis, 2002.
[212] Kuletz, 2002, p. 7.
[213] Kuletz, 2002, p. 6.

stakes as *visual* markers to contest incursions into Navajo territory, incursions based on "settler maps" of access and resource sovereignty, these activists used Mount Taylor to make visible the excessive violence of the uranium industry. They mapped Mount Taylor as both indigenous and as terrain "raped" by the uranium mines and mills. The culmination of this new mapping of Mount Taylor took the form, in 1979, of the Stop the Rape of Mount Taylor movement organized to extend Native sovereignty over terrain that was (and, currently, is) *not* marked as indigenous by any of the settler maps of the federal government. Although Mount Taylor is considered sacred by at least five Native Nations of the southwest, and is one of the four sacred mountains marking the cardinal points of Navajo land, it has never been part of federally recognized reservation land. To the contrary, from 1864, when Navajos were sent on the Long Walk to the federal concentration camp at Bosque Redondo, to 1979, when Native activists coalesced to protect the mountain from uranium mining, the land that makes up Mount Taylor was divided among federal and state forest management agencies, private land owners, and, to a lesser extent, Hispano inheritors of Spanish land grants. The anti-uranium movements of the 1970s sought to contest that federal mapping by marking Mount Taylor as indigenous land that should be protected from uranium mining and other kinds of development; furthermore, in using the rhetoric of protecting the mountain from "rape" and the gendered discourse of calling the land "Mother Earth," this movement re-maps uranium mining as a sexually violent part of the ongoing federal assault on Native sovereignty.

When framed as resistance to the "rape" of Native land, the movement to protect Mount Taylor from uranium mining inspires connections not only to metaphors of sexual

violence and gendered constructions of the land as "woman," but also connections to the deeply gendered implications of uranium mining for Native women. The role of "uranium widows," the widows and wives of those miners left dead and dying in the wake of the first uranium boom, has been crucial to the development and framing of anti-uranium mining projects. These uranium widows undertook the labor of social movement organizing in the late 1970s and early 1980s, catalyzing support for actions such as Stop the Rape of Mount Taylor and pointing to (and well as symbolizing) the ways in which the devastation of uranium mining transcends the borders of mine shafts, mine sites, and indeed larger gendered divisions of labor to impact homes and families as well as the miners themselves.

Significance and Chapter Outline

Using archival evidence and analysis from both print and online media sources, this chapter argues that contestation over uranium mining on the mountain is largely over how it should be *mapped*, and who has the power to delimit access to its resources, be they material, spiritual, or ideological. The history of naming Mount Taylor and mapping its significance to the US, to Hispanos, and to Native peoples, can be seen as a distillation of the larger politics of land-claims, space, and territoriality in the southwest as a whole. The spirit of "uprooting settler maps," with a focus not only on re-mapping terrain as indigenous and on "mak[ing] visible geographies of sacrifice," but also on re-mapping uranium mining as a form of gender, sexual, and colonial violence, has shaped indigenous responses to uranium mining. This is particularly true with regard to framing the uranium industry as an assault on indigenous sovereignty. This chapter explores the means by which indigenous and environmental justice activists have used *mapping* as a

way to resist the uranium industry, and simultaneously as a way to contest the federal resource sovereignty that mapped indigenous land as exploitable for the purposes of national security. This chapter explores these projects of cartographic resistance to the uranium industry and of re-mapping parts of the uranium landscape through social movement actions around Mount Taylor from the 1970s to the present. Each of these attempts to re-map Mount Taylor, the first in 1979 and the second almost thirty years later, reflect larger politics of space and claims to sovereignty over land. Throughout the chapter, and continuing with Chapter 4, I explore the ways in which "cartographic resistance" functions to assert a particular form of indigenous sovereignty over places like Mount Taylor, and how this holds the potential to change what Kuletz calls "a political practice of *seeing*" the uranium landscape.

The title of this chapter, "Stop the Rape of Mount Taylor," suggests a number of questions that bear on its larger significance and intervention: how can a mountain be raped? Is sexual violence a productive frame through which to see environmental violence? When and how? Deployed by whom, when, and to what audience? How can a feminist analysis "read" this kind of political discourse? These activist moves to protect Mount Taylor used political discourses that can be read in multiple ways. As I trace in this chapter, the "rape" frame was used beginning in the 1970s in activist work around Mount Taylor, and signifies a range of different politics and theories of environmental violence. At one level, it reproduces mainstream white environmental discourse that feminizes the earth as a woman's body ("Mother Earth") based on a discursive genealogy that feminizes the figure of western nation-state or of the "virgin" earth. This kind of discourse reproduces modern binaries that pit the "feminine" and "natural" against the

"masculine" or "cultural."[214] At a second level, the "rape" frame in the context of Mount Taylor points to the sexual violence of colonialism deployed against Natives in North America. This kind of discourse can either be analyzed as a masculinist move to "protect" Native feminized bodies (whether women's bodies or feminized land) from the sexual violence of the colonizer, or as a feminist politics of recognizing environmental colonial violence as sexual violence, and the experience of rape as a sexualized tool of racial colonialism. The "rape" of Mount Taylor, then, can be seen as a dialogic response to the colonial feminization of land as "barren," and general construction of the land as always already wasted, desert, and deserted.

Thus this chapter offers a larger critique about the struggle over constructions of landscapes, and what meanings those landscapes can come to hold. Whereas Navajos had long resisted depictions of their land as wasteland, rhetorical frames such as "Stop the Rape of Mount Taylor" turns the colonial feminization of land on its head: if the land is feminine, it asserts, then the colonizer is a rapist. As I explore in Section 1, this frame is fraught with political impact and potential pitfalls; like so many other political discourses and activist frames, these impacts and pitfalls depend, to a large extent, on who is deploying them and how. Feminist indigenous discourse,[215] for example, used the "rape" frame to point to the co-construction of dominating practices and discourses that tie land, bodies, gender, race, and sexuality together in a nexus of racial-sexual-environmental

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[214] See Kolodny, 1975.

[215] I use the term "feminist" here in full knowledge of debates over what the term means in the context of anti-patriarchal work in an indigenous context; while the women of Women of All Red Nations, for example, may or may not have adopted the name "feminists," I believe their work situated them directly in the genealogy of indigenous feminism as it has been articulated by a range of contemporary indigenous scholars. Smith, 2004, 2008; Goeman, 2009; Hall, 2008; Ross, 2009.

violence. The organization Women of All Red Nations, as I discuss below, explicitly linked the environmental racism of uranium mining to sterilization abuse and other forms of sexual and reproductive violence faced by indigenous women under US colonizing practices. It is in this feminist sense that the` "rape" frame is its most politically potent.

Section 1, "Stop the Rape of Mount Taylor," outlines one of the first, and one of the largest, anti-uranium mining activist movements to protect Mount Taylor from the uranium industry. This section explores the course of uranium mining on Mount Taylor, and how and why activists focused on the mountain as a central landmark of their political struggle. This movement around Mount Taylor, I contend, emerges out of different mappings of the mountain and its relationships to humans. For the uranium industry and professional geologists, Mount Taylor was (and is) the home of one of the richest uranium deposits on the North American continent, mapped by its composite volcanic geology and resulting mineral-rich strata. For the federal government as well as the state of New Mexico, the mountain is a combination of state, federal, and privately owned land, mapped according to those respective land titles and the mineral patents owned by various mining interests, but certainly, in this perspective, *not* indigenous land. For indigenous activists from a range of Native Nations, however, Mount Taylor is not "Mount Taylor" at all, but "is named in at least nine languages; Spanish, English, Navajo, Apache, and five Pueblo Indian languages."[216] Navajos, for example, call the mountain *Tsoodzil*, and it is the marker of the southern part of their land base and therefore definitively indigenous land. This section argues that the discursive framing of uranium mining as rape articulates the deeply sexualized and gendered implications of uranium

[216] Blake, 1999, p. 487.

mining, both materially for women's bodies and lived realities, and in terms of the gender and sexual nature of colonial industrialism.

Section 2, "Maps of Meaning: the Cultural Properties Listing," turns to a contemporary movement to protect the mountain: the listing of Mount Taylor as a protected site on the New Mexico Register of Cultural Properties. In 2008, the Navajo Nation collaborated with the Hopi, Laguna, Zuni and Acoma Pueblos to have the New Mexico Cultural Properties Board (CPB) extend protection to the mountain from industrial development, including uranium mining, because of the cultural, historical, and religious significance of the mountain to the "five contributing tribes": the Navajo, Hopi, Laguna, Zuni, and Acoma. At the time, a handful of uranium companies were also applying to the State of New Mexico for renewed permits to mine, mill, and dump uranium on the mountain. Concern over these renewed interests in mining on the mountain was not limited to indigenous groups in New Mexico; the same year, the National Trust for Historic Preservation placed the mountain on its list of "America's Most Endangered Places." The New Mexico Traditional Cultural Properties (TCP) listing created a protected area of more than 330,000 acres, within which mining corporations would be forced to consult with the Navajo and Pueblo governments before beginning development on the mountain. The TCP marked an explicit attempt by five indigenous nations to re-map Mount Taylor as Native terrain, giving rise to significant debate and conflict (as well as racial violence) in New Mexico communities about who can lay claim to the mountain, and what indigenous claims might mean for non-Native New Mexico peoples. Using close readings of TCP application documents as well as newspaper and internet sources, this section explores the ways in which maps became central tools for

protecting the land of Mount Taylor, and how the debate surrounding the TCP reflected larger New Mexico politics of land-claims, racial conflict, and territoriality.

Section 1 *Stop the Rape of Mount Taylor*

> The Laguna call it Tse Tina, the Navajos hold it as one of the four sacred mountains, and Gulf Oil calls it Mount Taylor, "the Project of the Century."[217]
>
> We are opposed to the continued destruction and rape of our Mother Earth. We are opposed to the physical and spiritual genocide of our people.[218]

Early in the morning of April 28, 1979, over one thousand Native, Chicano,[219] and white activists from across the country set up camp at the base of Mount Taylor, the site of one of the world's deepest uranium mines and a sacred mountain for the Navajos as well as the Laguna, Acoma, Zuni, and Hopi Pueblos. They would remain there for three days "to spiritually protest the desecration of their sacred lands by uranium companies, in particular, the Gulf Oil Company."[220] The "desecration" they protested was "the 3,600 foot deep underground uranium mine shaft which is sunk into the side of the mountain from which Gulf plans to bring some one hundred million pounds of uranium

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[217] Winona LaDuke, "Conference at Mount Taylor," *Akwesasne Notes*, Spring 1979, p. 22.
[218] National Indian Youth Council, June 24, 1978.
[219] A note on the word "Chicano": I use "Chicano" here instead of "Hispano," which I use more commonly throughout the dissertation, for two reasons: 1. I am referring here to people of Mexican descent who, in the 1970s, largely claim the name "Chicano" as a reflection of not only their ethnic identity but also an activist politics that characterized the Chicano movement in the southwest; 2. "Hispano" refers to land grant community members in New Mexico who have lived in that area since before the US-Mexico War. The activists engaged in the Stop the Rape of Mount Taylor action were not necessarily Hispano community members.
[220] John Redhouse Papers, Center for Southwest Research, Box 1, Folder 2.

to the surface."[221] Over the course of three days, activists engaged in educational seminars about uranium mining, heard speeches by those affected, including miners and "uranium widows" (discussed below), and developed political action plans designed to the prevent impending implementation of mining plans on the mountain. As shown in Figure 13, the art that advertised the protest framed the mountain in distinctively indigenous ways, showing its peak at the center of a circle that contains symbols and designs derived from the various Native Nations of the southwest to whom the mountain is a key figure. Note the incorporation of one of the mountain's "guardian peaks" on the left, which I will discuss in Section 2.

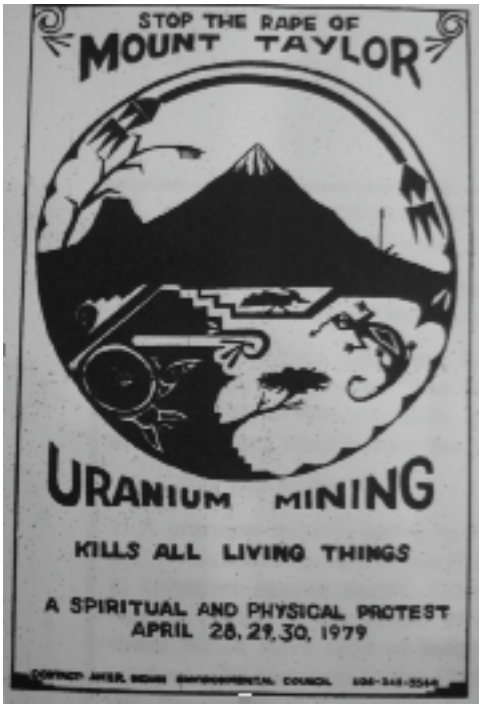

Figure 13 A poster advertising the 1979 Stop the Rape of Mount Taylor protest[222]

[221] Winona LaDuke, "Conference at Mount Taylor," *Akwesasne Notes*, Spring 1979, p. 22.

[222] American Indian Environmental Council, John Redhouse Papers, Center for Southwest Research, Box 1, Folder 2.

Concern over mining activities on Mount Taylor did not originate in 1979. To the contrary, the Stop the Rape of Mount Taylor action was developed over years of work to prohibit continued mining and uranium exploration on and near the mountain. Organized opposition to the uranium industry had been underway since at least 1976, when Navajos protested mine development on the mountain in a New Mexico Legislative Energy Committee hearing in Grants. Two years later, in 1978, Navajos and Pueblos participated in nationwide anti-nuclear day of action by coordinating a protest that held Mount Taylor as the primary focus. The Stop the Rape of Mount Taylor action, however, took place just as Gulf Mineral Resources was primed to restart development of uranium claims on the mountain, after several years of inactivity in the mountain's two three thousand-plus feet deep mine shafts. Thus, the Stop the Rape of Mount Taylor action came at a particularly critical moment in the development of the uranium industry; evidence of the significant environmental and human health problems incurred by the uranium industry had already made resistance to uranium mining an urgent political project in New Mexico communities, for indigenous peoples, Hispanos, and white residents alike.

Gulf Mineral Resources acquired the patents to uranium deposits on Mount Taylor in 1971, and subsequently sank two of the deepest uranium mine shafts in the country into the side of the mountain. Although it was well known throughout the 1950s and 1960s that Mount Taylor hosted significant uranium deposits, the considerable depth at which those deposits were located underground made mining on the mountain seem economically unfeasible. However, in the late 1960s and early 1970s, uranium prices soared and suddenly the development of deep underground mine shafts on Mount Taylor

became not just *possible*, but potentially quite *profitable*.[223] Much of the land under uranium development on and near Mount Taylor had been acquired by a range of mining corporations, including Kerr-McGee, Exxon, United Nuclear, Bokum Resources, and Sohio in addition to Gulf, under the provisions of the 1872 General Mining Act, which, as discussed in Chapter 2, allowed miners to privatize deposits located on public domain land; uranium companies in the 1960s used the 1872 Mining Act to patent their claims on what was mostly Cibola National Forest land. Gulf Mineral Resources by far held the largest amount of land among the companies. By 1970, Gulf had patented more than one hundred and twenty acres of Forest Service land on Mount Taylor.[224]

The presence of Gulf and other uranium corporations on and around Mount Taylor further complicated the already complex history of claims to the land of the mountain. While the mountain and its guardian peaks have deep religious, cultural, and historical significance for at least five indigenous nations of the southwest, Hispano land grant communities also claim large portions of the land on and around the mountain. By the 1970s, much of this land grant land had already been divested from Hispanos and passed into the control of first the National Forest Service, and then to mining companies through patents under the 1872 Mining Act. In the 1960s, when uranium deposits on Mount Taylor were known of but not seen as profitable for development, mining companies purchased permits to prospect and mine on land grant land as well as their (already considerable) patents in the surrounding Cibola National Forest. These companies often offered contracts to Hispano residents that gave them a meager eight to

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[223] Lydersen, 2009.
[224] Tom Barry, "New Mexico: Chicanos and Uranium Development," *Akwesasne Notes*, August 1980.

ten percent royalty rates, equal to what was offered on Native land but much lower than market value. Additionally, most of these land grantees were told that in all likelihood, the contracts would never actually be used for uranium mining or exploration. One Hispano resident, Horacio Marquez, described the power imbalance between Hispano community member and Gulf, and the sense of injustice that attended Gulf's exploration activities on the land grant:

> Gulf knows more about my land than I do. The company never tells us what they are doing underground or if they will be mining under my land. They are the experts, and if you get a lawyer you find they also will be working with the company. Even the government is on the side of the company. The mountain land was stolen from us by the government and now the Forest Service is giving it away to Gulf. There is no justice for poor people even in the United States.[225]

Thus the collaborative nature of the Stop the Rape of Mount Taylor action reflected multiple claims to the land and multiple political frameworks to protect it from destructive mining practices. In recent years, as I discuss in Section 2, these multiple claims to Mount Taylor have clashed, revealing the urgent politics (always contentious and sometimes violent) of land and territoriality in New Mexico among different communities. In the 1970s, the politics of Hispano land claims were seen as congruent, rather than conflicting, with Native calls to protect the mountain. A 1979 memo released by the American Indian Environmental Council notes that "direct support" had been received in organizing the Stop the Rape of Mount Taylor action "from a Chicano coalition that has organized their communities in northern and southern New Mexico."[226]

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[225] Quoted by Tom Barry in "New Mexico: Chicanos and Uranium Development," *Akwesasne Notes*, August 1980.
[226] "Stop the Rape of Mount Taylor!" American Indian Environmental Council, John Redhouse Papers, Center for Southwest Research, Box 1, Folder 2.

As Winona LaDuke notes in a 1979 article on the Mount Taylor action, "the Chicanos who hold the land grant at San Mateo…say they were paid pennies for the land," and thus were deeply invested in the action alongside Native activists.[227] The Stop the Rape of Mount Taylor action, instigated by the American Indian Environmental Council, certainly emphasized Native claims to land, but not necessarily to the exclusion of Hispano land claims to parts of the mountain; the emphasis of this action was instead on environmental protection and, as I argue below, the inherently sexual nature of the environmental violence of the uranium industry.

The 1979 action explicitly deployed the rhetorical frame of "rape" to characterize the incursions of the uranium industry on Mount Taylor. This frame emerged out of a context of concern over the extreme environmental destruction entailed in the uranium mining process in general, and the underground mining employed on Mount Taylor by Gulf Mineral Resources in particular. Underground uranium mining entails environmental devastation as significant, if not more so, than the open-pit mining employed elsewhere in uranium landscape. Like open-pit mining, underground mining requires massive above ground facilities and the attendant denuding of the above ground space for haulage roads, production facilities, and exploratory areas. Unlike open-pits, underground mines also require extensive drill holes and production shafts blasted hundreds of feet into the ground for ore removal. Additionally, waste ore that cannot be used or milled is usually dumped in waste piles around the mine site, leading to increased levels of ambient radiation and exposure to soil, animals, and humans.

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[227] Winona LaDuke, "Conference at Mount Taylor," *Akwesasne Notes*, Spring 1979.

Perhaps the most far-reaching environmental impact of underground mining, however, is on water-use and water quality. In her article on the environmental effects of uranium mining Lise Young reports that underground uranium deposits, such as those patented on Mount Taylor by Gulf Mineral Resources,

> are usually located beneath (and sometimes within) water-bearing rock formations or aquifers. Consequently, these aquifers are usually pierced by the sinking of mine shafts, causing continual seepage of groundwater from the aquifer into the mine. For production to continue, this water must be pumped to the surface and discharged. This dewatering continues for the life of the mine at a pumping rate of anywhere form 1,000 to 10,000 gallons per minute. Massive mine dewatering, with its effects on both water quantity and water quality in the southwest, constitutes the major environmental threat of underground uranium mining operations.[228]

The dewatering process at the Mount Taylor mine in 1980, with these attendant "effects on both water quantity and water quality" had reached 8,500 gallons per minute, almost twice the dewatering rate of the mines at nearby Church Rock, New Mexico.[229] These kinds of environmental problems led activists to frame uranium mining on Mount Taylor as a highly sexual form of environmental violence, taking place on terrain of deep cultural significance to indigenous peoples of the southwest.

Gender and Reproductive Violence of Uranium Mining

As with many environmentally destructive industries, the material implications of uranium mining are deeply gendered and sexualized. While the division of labor in the mines and mills meant that young, mostly (but not all[230]) male miners tended to be at the

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[228] Young, 1981, p. 9.
[229] Young, 1981, p. 9.
[230] A number of women miners had begun to work in the industry by the late 1970s. As noted by anthropologist Lenora Foerstel in an unpublished paper, "In June of 1979, when I first arrived in New Mexico, I was quite surprised to learn women worked in the

front lines of exposure to radioactive ore, dust, and radon gases, their wives and families indirectly received doses of radiation when miners and millers came home dusted in fine yellowcake powder, with radioactive debris on their clothes, shoes, and bodies. When miners took sick and died, many left wives with the burden of caring for and supporting first sick husbands, and then entire families. As a result of these gendered "first signs" of the human and environmental health devastation that would follow, these wives became politicized figures, often referred to as "uranium widows," and their stories were used to galvanize opposition to the uranium industry. Uranium widows were featured speakers, for example, at the Stop the Rape of Mount Taylor action, and the symbolic power of their losses was strong and lasting enough to be included as the title to the introductory chapter of one of the most comprehensive histories of uranium mining on the Navajo Nation, Brugge, et al's *The Navajo People and Uranium Mining*; quoting an interview with a former miner, chapter one is titled "So a lot of the Navajo ladies became widows."[231] Additionally, the following poem is printed in an undated pamphlet (probably from the late 1970s or early 1980s) along with a handwritten inscription that describes the poem as "part of [a] theater on the widows":

> Uranium keeps on comin and the miners keep on dyin' / leaving wives and children cryin' / one law for the rich; one for the poor / open your heart, it won't happen anymore. / Widows water…..radioactive / widows animals…..radioactive / the food they grow…..radioactive don't you know / hogans their homes…..radioactive

Uranium widows were also featured in a documentary slide show about the uranium industry, assembled and presented by the New Mexico People and Energy Research

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uranium mines." Lenora Foerstel, "From Matriarchy to the Mines: American Women in the Southwest," Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 9.

[231] Brugge, et al, 2006, p. xv.

Project in 1979. Reporting on the slide show, which was featured at meetings across New Mexico, Thora Guinn writes,

> The faces of the lung cancer widows flash on the screen and they speak of their inability to get workmen's compensation for the deaths of their miner husbands.
>
> Still other people are shown living next to the mountains of radioactive tailings left by the energy companies. Some of them are actually living in homes where the radioactive wastes were used as mix in the cement from which they were constructed.[232]

By the 1970s, mining and milling jobs were increasingly sought by Native women as well as men, adding to the direct material effects of uranium mining on women. Anthropologist Lenora Foerstel notes that

> [b]ecause so few jobs are available to Native American women, more and more of them are seeking employment within the uranium mines. In Church Rock, New Mexico, the uranium mines run by Kerr McGhee [sic] employ young Navajo women of childbearing age, paying them to do such things as locate ore deposits with a Geiger counter. The Jackpile mine at Laguna, owned and operated by Anaconda, employs 300 Laguna people, many of them women. The uranium mines at Grants, run by Kerr McGhee [sic], employ about fifty women, at least ten percent of them are Pueblo women. Although most of the women work above ground, some work in the mines below.[233]

According to Foerstel, the women employed in the mines largely fell into two groups: "divorced mothers" who needed the income to support children, and "young girls." Foerstel reports that she "asked many of these women if they knew what effects the radiation would have on their babies, if they were to become pregnant," but that neither the young girls nor the divorced mothers were "aware of the dangers produced by

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[232] Thora Guinn, "'People and Energy in the Southwest': a Documentary Slide Show Reviewed By Thora Guinn," *Akwesasne Notes*, May, 1979.
[233] Lenora Foerstel, "From Matriarchy to the Mines: American Women in the Southwest," Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 9.

radiation." Foerstel continues to recount the story of one such woman working in the "mines below", a "twenty-six-year-old woman" who labored "1200 feet underground as a pillar miner." Her account vividly describes the labor conditions in these mines in the 1970s, for women and men workers alike:

> The temperature far underground is quite cold, the air filled with dust, and she often works knee deep in water. She and the other miners eat their lunch down below, holding their food with the same hands that dig out the uranium. She worked in the mines for three weeks before she was given a "chip" to wear in her hat, a chip which measures the level of gamma radiation to which one is exposed.[234]

The uranium industry used gender equity as a frame for expanding its reach into poor, rural, and indigenous areas like the four corners region. By hiring women miners, they argued, as well as by bringing economic development and "modern technology" to these areas, the industry could improve the conditions of women's lives. As Sandie Johnson reports in *Off Our Backs* in 1980, citing another feminist journal, *Ms.*,

> Another tactic of the energy industry is aimed at helping non-Indian women "understand" the energy situation. The energy industry has begun a public "education" campaign aimed at women (see Ms. June 1980). Over 4,000 small "energy coffees" have been given in private homes since last October with a representative from the nuclear industry explaining the "facts." The argument being used in this well-financed campaign is based on the industry's concepts of women's freedom: If women want to be free, they argue, and if women want jobs, then nuclear energy is needed to run the dishwasher and washing machines and to create jobs.

The gendered implications of uranium mining, however, reach far beyond uranium widows and women workers. Uranium mining and milling unleashed environmental contamination that sprawled across the Navajo landscape, poisoning air, water, soil, and livestock with radiation and radon that caused a range of cancers and

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[234] Ibid.

respiratory diseases for humans and animals alike. When uranium companies closed their operations, they encouraged Navajo miners to take home and use contaminated and radioactive mine materials to build their homes. These homes were (and are still) prevalent enough to have earned a nickname: "hot homes."[235] As noted in a 1979 memo by a group called Women for Survival, based out of Santa Fe, New Mexico, "Many people, never told of the dangers of tailings, have constructed their homes and schools from the cement-like material" left on mining and milling sites. "Some of the miners," the memo continues, "were given 'free' truckloads of tailings to use in building new homes."[236]

The legacy of the uranium industry is not only rooted in homes, which, for all their dangers to the families occupying them, are at least fixed to one location. Quite to the contrary, the nature of uranium tailings means that it travels within ecosystems, through water, air, soil, and animal bodies. Often companies simply left mines and mill sites open without doing the clean-up work that would make them safer for the adults, children, and animals who lived, traveled, and (for children) played near the old sites. Beyond causing cancer in those immediately exposed to it, radiation is also dangerous because of the ways in which it targets reproductive systems in both women and men, leading to increased rates of birth defects, miscarriage, and infant mortality, as well as unknown implications for future generations caused by genetic responses to long term radiation exposure.

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[235] JPasternak, November 19, 2006.
[236] Women for Survival, "Church Rock, New Mexico Uranium Tailings Spill," November 1979. Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 8.

In 1974, the activist organization Women of All Red Nations (WARN) was formed primarily around the politics of reproductive rights and protection of Native women from sterilization abuse. This advocacy and activism was deeply needed; by many accounts, as many as twenty-five percent of Native North American women between the ages of fifteen and forty-four were sterilized during the 1970s.[237] By the late 1970s, WARN had begun to draw connections among these high rates of sterilization abuse, other problems of sexual violence for Native North American women, such as rape, and the reproductive health risks of the uranium industry. WARN thus adopted anti-uranium politics within this reproductive rights frame, drawing direct links between the gendered implications of uranium contamination and other manifestations of sexual violence. Members of WARN framed uranium mining as "a problem 'that is destroying our future, for our grandchildren and for the unborn,'"[238] and mounted opposition to uranium mining arising out of a "common concern that our children will be born with deformities."[239] In 1980, WARN published results of a preliminary study of uranium industry-related reproductive health problems on the Pine Ridge reservation in South Dakota. The study found that in

> one month alone during 1979, 38% of the pregnancies reported to the Public Health Service hospital in Pine Ridge, resulted in spontaneous abortions (miscarriages before the 5th month of pregnancy) and excessive hemorrhaging. Of the children who were born, 60 to 70% suffer breathing

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[237] Lawrence, 2000, p. 400.
[238] Nelkin, 1981, quoting Pat Bellanger, "On the Edge of Extinction," *Off Our Backs*, May 1979.
[239] Sandie Johnson quoting Colville activist Yvonne Wanrow Swan, in "Women of All Red Nations," *Off Our Backs*, July 1980.

> complications as a result of undeveloped lungs and/or jaundice. Children have also been born with such birth defects as clef palate and club foot.[240]

WARN links these problems with radiation in the water source at Pine Ridge, deriving from uranium mines in the Black Hills region. While this study was specific to Pine Ridge, the kinds of birth defects, reproductive anomalies, and spontaneous abortions reported among Navajo and Pueblo women in the southwest reflect similarly gendered implications of the uranium industry.

The circulation of these kinds of politics that centered on women's reproductive rights, as well as environmental harm, in anti-uranium social movements in the 1970s certainly influenced groups working in New Mexico to organize protests like Stop the Rape of Mount Taylor. One such group described the Mount Taylor action in this way, incorporating women's reproductive health as well as environmental protection and treaty rights:

> The Mt Taylor action is extremely important for Native Americans, as uranium and other natural resource exploitation on their lands is directly tied to other issues affecting their lives: broken treaty promises; violation of land and water rights; sterilization of native women; the imprisonment or killing of Indian leaders and the complete destruction of the environment and people at the hands of profit-mongering energy companies backed up by our government. For them the choice is simple—genocide or survival.[241]

In this way, the direct material implications of the uranium industry on women's lives and bodies became a central rhetorical frame through which activists presented the urgency of protecting the mountain. Connections between "uranium widows," women

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[240] "Radiation: 'Dangerous to Pine Ridge Women,' WARN Study Says," *Akwesasne Notes*, March 1980.

[241] "Anti-Nuclear Support for Native American Action Against Uranium Mining and Milling," Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 8.

workers, "hot homes," and reproductive violence became important ways in which to understand the environmental injustices of uranium mining and milling.

Mother Earth and the Maternal World

In a 1978 article titled "Uranium Genocide Sacrifice," published by the American Indian Youth Council, Herb Blatchford describes the effects of the uranium industry in a way that directly links uranium extraction and sexual violence. He does this by drawing a metaphor between the "Earth" and a woman's body:

> [I]ndustry continues to abuse the earth. They puncture and punish the breats [sic] of the Indians' Mother Earth. They gouge her tender body. Her hair is ripped to shreds. Her bowels are emptied into drill ponds. Her entrails lie drying in the sun. Her lungs are punctured and the precious life giving gases are poured out into the atmosphere. Her spleen is being ruptured. Her liver, kidneys, and bladder are contaminated with all sorts of poisons and she can no longer feed her children the nutrients that took her so long to maintain. Her milk no longer feeds her progeny.[242]

This kind of rhetoric was (and is) not uncommon in Native activist literature that resists environmentally destructive industries. In this excerpt, the environmental violence of the industry is translated directly into gendered violence against a woman's body. The imagery Blatchford employs is deliberately violent: the mines and mills "abuse," "puncture," "punish," "gouge," "rip[]," "rupture," and "contaminate." In a direct reference to the reproductive health problems associated with exposure to radiation, he notes that "her" reproductive capacity to feed and care for children is diminished. Later in the article, Blatchford extends the metaphor in ways that even more explicitly suggest rape:

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[242] Herb Blatchford, "Uranium Genocide Sacrifice," National Indian Youth Council, February 1978, Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 9.

> After the leases are signed, they put all their efforts into motion. Drill crews are sent out to have "open-season" on the Indians' sacred Mother. The monstrous drill rigs scour the landscape. The survey crews lay out a grid on Mother Earth much like a surgeon lays out a human form just before surgery. At each cross section of the grid, the drill stems are rotated into the Great Mother.

Blatchford is, of course, in considerable company in terms of evoking the land as "Mother Earth" and environmental destruction as rape. This kind of framing was nearly ubiquitous in the anti-uranium mining movement. Figure 14, for example, shows a poster that bears the inscription "one Spirit, one Mind, one Body, and one Voice, on the Great Mother—the Earth. Stop uranium mining! Defend Native American land rights!"

Figure 14 An undated poster protesting uranium mining[243]

Despite certain rhetorical overlaps, the use of the "rape" frame and the gender and sexual politics of environmental violence it invokes cannot only be seen as part of the larger context of the late 1960s (largely white) environmental movement in the US, which framed the environment as a feminized body (the ubiquitous "Mother Earth") against which masculine industry, military, and capitalism was waging a brutal war. As

[243] John Redhouse Papers, Center for Southwest Research, Box 1, Folder 2.

Annette Kolodny argues in *The Lay of the Land*, this association in the environmental movement between femininity and "Nature" drew on US hegemonic cultural traditions of framing the nonhuman environment as feminine. This association, what ecofeminists Linda Forbes and Laura Sells dub the "woman-nature connection," has become, over time, central to the ways in which both femininity and nature are co-constructed in modern western worldviews. Thus, to argue that the language deployed in the "Stop the Rape of Mount Taylor" movement and others like it draw from the language used in these white environmentalist movements is in turn to argue that this discourse likewise engages the larger woman-nature connection endemic to western worldviews.

Reducing the mapping of Mount Taylor as raped terrain to an echo of white constructions of nature and femininity would effectively erase (and elide) the complex nature of Native epistemological perspectives of gender, nature, and cosmology. Just as the woman-nature connection and its manifestations in environmental movements reveal American constructions of gender difference and the subjugation of both women and the nonhuman environment, so too does the differential gendering of land in Native environmental political discourse. While the former functions to subdue the feminized and the natural in preference for "rational" and "industrious" cultivation, emerging from a deeply patriarchal cosmology, the latter sees the world and its peoples as deriving from a source, often interpreted as maternal or womanly, of which everyone—land, peoples, animals, etc.—remains a part. The ambivalence of the *gender* of the originating source is important; as noted by Susan Scarberry, while "this vision…tends to be feminine" many (mostly male) Native authors and writers "incorporate images of land and flesh into their own ways of speaking" that do not necessarily construct the land as feminine *per se*. This

is important because the connection to land derives from the co-origination of "land and flesh" together:

> Images of land as women and people as landforms emerge, signifying that a special quality of being infuses both. These images, usually linked to a particular landscape, are more than anthropomorphic, more than metaphors or symbols for relationship; the images are a means of grasping and talking about real physical sensation and traditional tribal knowledge, as reflected through an individual's angle of vision.

From this perspective, the feminization of the maternal in indigenous discourse (or how that discourse is culturally and linguistically translated into white and English contexts) can be seen as incidental, or at least not a fixed association. This is divergent from western epistemology, wherein the social contract among white men emerges directly from gendered oppression and hierarchy, as discussed in Chapter 1, that co-constructs femininity and "Nature" as well as patriarchy and domination of natural resources. In other words, as opposed to the "woman/nature connection" of modern western worldviews, Scarberry argues that the feminization of the maternal "Mother Earth" in indigenous discourse represents a "land/flesh connection," as opposed to the "woman/nature connection." This points to important new ways of reading Native resistance to environmentally destructive industries like uranium mining, particularly when that resistance is framed in terms of protecting "Mother Earth," a "maternal world" or "stop[ing] the rape" of a mountain.

This is not to say, however, that activist framing of land as "Mother Earth," particularly by men activists, did not derive at least in part from borrowing more patriarchal perspectives on human relationships to Nature from the colonizing culture. As Andrea Smith argues, colonization of Natives entailed, to a large extent, imposition of

patriarchal gender orders and gender inequality,[244] which have, to be sure, made their way into contemporary political practices of indigenous communities. Jennifer Nez Denetdale's research illustrates how the Navajo Nation in particular has absorbed these practices of patriarchy, particularly in the form of encouraging heteronormative family structures and gender roles.[245] As attested by a number of indigenous feminists, this constitutes a major challenge for the decolonization of indigenous peoples.[246] Given this situation, there can be critique of the internal gender politics of 1970s-era activist work among anti-uranium mining organizations, and thus the deployment of the "Mother Earth" and rape discourses of resistance to the uranium industry. However, I argue that whether or not it represents a paternalistic discursive move on the part of men activists borrowing from the colonial woman/nature connection, mapping the mountain as *raped* draws critical connections between the sexual and gender violence of colonialism and the sexual and gender violence of contemporary cases of environmental racism on Native land.

More specifically for the Mount Taylor movement, the mountain is explicitly feminized in Navajo cosmology as a female mountain marked by female kinds of rain; thus the land/flesh of the mountain is explicitly feminized in many accounts of its role in the Navajo world. In his narrative of the Navajo creation story, Paul Zolbrod recounts the formation of *Tsoodzil* by *Altse hastiin*, First Man, and *Altse asdzaa*, First Woman, who

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[244] Smith, 2005.
[245] Denetdale, 2005.
[246] The internalization of patriarchy among the Native peoples subjected to US colonization, and the centrality of imposing patriarchy on them to the colonial project, has led Andrea Smith, among others, to suggest that decolonization must foreground feminist politics and praxis in order to be truly decolonial.

brought the Navajos into the Fifth World and created the four cardinal mountains, with Mount Taylor, or *Tsoodzil* in the south:

> From top to bottom through *Tsoodzil* in the south they ran a great stone knife to fasten it to the firmament. Then they adorned it with turquoise. They adorned it with dark mist. They adorned it with many different animals. They adorned it with the heavy mist that brings the slow, gentle female rain…All that they had placed on *Tsoodzil* in the south they now covered with blue sky. And from a portion of substance which they had brought with them from the world below they fashioned *Dootl'izhii nayoo'ali ashkii*, the Boy Who Is Bringing Back Turquoise. And they fashioned *Naadaa'la'I nayoo'ali at'eed*, the Girl Who Is Bringing Back Many Ears of Corn. These two they stationed there to dwell forever as the male god and as the female god of *Tsoodzil*, or Mount Taylor as it is called in the language that *Bilangaana* speaks.[247]

This excerpt illustrates not only the gendering of the mountain, but also how it is mapped in the Navajo worldview as a key geographic marker of Navajo territory, and a critical figure in Navajo ecological, stock raising, and agricultural practices.

This narration of Navajo origin stories as they relate to the mountain stand in stark contrast to the origin story of "Mount Taylor," as named by US topographers. The mountain was named after President Zachary Taylor, a major figure in the US-Mexico War. In 1849, just a year after the Treaty of Guadalupe Hidalgo ended the war and confirmed a massive annexation of nearly one half of Mexico's landmass, a topographer with the US Geological Survey declared

> This peak, I have, in honor of the President of the United States, called Mount Taylor. Erecting itself high above the plain below, an object of vision at remote distance, standing within the domain which has been so recently the theater of [Taylor's] sagacity and prowess, it exists, not inappropriately, an ever-enduring monument to his patriotism and integrity.[248]

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[247] Zolbrod, 1987, pp. 87-88.
[248] Quoted by Blake, 1999, p. 493.

This quote, laden as it is with the gendered language of US exploration and conquest, full of erect, monumental mountains that stand as important "object[s] of vision," marks the mountain in honor of not just Taylor, in all his sagacity and prowess, patriotism and integrity, but also in honor of the war itself and the qualities of Americanness we can presume it inhered in the landscape. Furthermore, marking the mountain "Mount Taylor," in the topographer's estimation, projects some of Zachary Taylor's distinctive (masculine) qualities beyond the mountain onto the "domain" or "theater" of the war itself—a domain that, at the time, was considerably unruly in the eyes of the federal government and in need of massive settlement, economic development, and racial re-ordering before being admitted into the Union.

More concretely, the connections between gender, sexual violence, uranium mining and cartographic resistance can be explicitly seen in links made by anthropologist Lenora Foerstel in her undated essay (probably written in the late 1970s) regarding Native women workers in uranium mines. Her essay reports that, in the course of doing fieldwork in San Felipe Pueblo,

> I interviewed several young Keres women from San Felipe Pueblo who dramatically illustrated the ability to create a visual map which includes the political structure of the Pueblo. One women sat me beside her on the floor of her room, and then, using magic markers on a large board in front of her, she sketched the Four Corners area, locating the territory where the Hopi and Navajo resided. Her hand moved quickly over the board, depicting the strip mines, the thirty-three uranium mines, and the mills.

This form of mapping resembles an environmental justice strategy of drawing maps that show the disproportionate targeting of certain geographies for toxic industries. Often, these maps, like the one described by Foerstel here, are hand drawn and emphasize the knowledge of local residents that their land has been disproportionately targeted for

environmental harm, and that their bodies bear the evidence of environmental toxicity in the form of disease and ill health (including cancer clusters and increased rates of reproductive anomalies). Foerstel goes on to link these hand drawn uranium industry maps, an explicit activist strategy to visually represent a case of environmental racism, to maps with deeper ideological resonance:

> The young woman wanted to make sure that I understood the relationship of her people to the earth and to the contemporary energy disputes. She showed how sixty percent of the Native Americans in the Four Corners area lived without electricity, despite the fact that power plants from the area were sending electricity to Los Angeles, Las Vegas, Phoenix and Tucson. She created a visual map with time depth, linking historical laws and treaties with the present.[249]

Although Foerstel's description here leaves a lot to be desired (what, for example, would a "visual map with time depth" have *looked* like?), she notes the emphasis placed by this unnamed Pueblo woman on mapping the uranium industry as part of a larger context of "historical laws and treaties" as well as national geographic patterns of energy consumption. Foerstel concludes her report by noting the specifically *cartographic* ways in which Native people in the southwest sought to repel not the just the uranium industry, but larger colonial patterns of land-use policy and Native assimilation in general.

> The people tore up the stakes which divided the land, they refused to put up fences, and continued to maintain collective grazing lands. But most importantly, they maintained the matrilineal society. As long as the matrilineal society exists the land will not be divided. The women and the land make up the essence of the collective concept. She owns the land, but her wealth brings her no status unless it benefits her family and clan.

In this quote, echoes of the "woman-nature connection" are redeployed in a practical, grounded sense: in the context of traditionally matrilineal Pueblo society, land rights are

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[249] Lenora Foerstel, "From Matriarchy to the Mines: American Women in the Southwest," Center for Southwest Research, Eda Gordon Papers, Box 1, Folder 9.

tied to women's rights, and therefore resisting white heteronormative land-use policies is tied directly to the protection of indigenous Pueblo gender relations.

The frame of uranium mining on Mount Taylor as "rape" was long lasting. In 1990, the Southwest Indigenous Uranium Forum Newsletter printed a timeline of the uranium industry called "A Short History of the Rape of Mount Taylor," evidencing not only the continued potency of the "rape" frame, but also the continued focus on Mount Taylor as an important site of contestation. In 2008, after four years of steadily increasing prices of uranium and attendant increases in re-development plans orchestrated by the uranium industry, Mount Taylor again became the focus on anti-uranium mining efforts. This time, the "mapping" of the mountain as indigenous terrain took a much more explicit form: creating state- and federally-recognized maps of Mount Taylor as protected "Cultural Property" due to its significance to indigenous culture, religion, and history.

Section 2 *Maps of Meaning: The Cultural Properties Listing*

> Maps are never value-free images…maps are a way of conceiving, articulating, and structuring the human world which is biased towards, promoted by, and exerts influence upon particular sets of social relations.[250]

On June 14, 2008, almost thirty years after the Stop the Rape of Mount Taylor action, the New Mexico Cultural Properties Board voted to temporarily place Mount Taylor on a list of state protected places. A result of collaboration among the "five contributing tribes," the Navajo Nation and the Laguna, Acoma, Zuni, and Hopi Pueblos, the Cultural Properties Listing (CPL) would require uranium companies, as well as other development projects, to consult with the Cultural Properties Board (CPB) before

[250] JB Harley, 2002, p. 53.

expanding their operations on the mountain. This 2008 Cultural Properties Listing was taken as a temporary "emergency" measure that would only take effect for one year, at which time the issue would be reconsidered and the CPB would vote on whether to make the listing permanent. A year later, on June 5, 2009, in a controversial decision and after much public debate (discussed below), the CPB indeed passed the permanent listing, ensuring that further development on the parts of the mountain outlined as Traditional Cultural Property (TCP) (see Figures 15 and 16) would be subject to consultation with the five contributing tribes. The final listing in 2009 creates a TCP area of 344,729 acres, including the mountain itself, the mountain's boundary markers, lakes, shrines, pilgrimage trails, blessing places, archeological sites, ceremonial sites, and grazing areas.[251] This total acreage does not include almost 90,000 acres of privately owned land on the mountain that is classified as "non-contributing" land to the TCP for the reason that land that has already been fenced off has ceased to be of religious, social, or cultural significance to the five contributing tribes.

This move to list Mount Taylor as an area of significant historical and cultural significance is widely cited as emerging from a desire among the five contributing tribes to protect the mountain from continued uranium mining. After its initial development in the 1970s, the Mount Taylor uranium mine had passed into the control of Gulf-Chevron after a merger between the two companies (Gulf Mineral Resources and Chevron) in 1984. Under Gulf-Chevron, the mine produced more than eight million pounds of uranium ore between 1986 and 1989, when it was placed on "standby" as a result of the worldwide slump in the uranium market. In 1991, the mine was acquired by Rio Grande

[251] New Mexico Cultural Properties Board

Resources, a subsidiary of a defense and energy contractor called General Atomics, based out of La Jolla, California (which also operates uranium mines in Australia). Rio Grande Resources reports that the Mount Taylor mine currently remains on "standby," although the company is clearly interested in reopening operations on Mount Taylor, particularly in light of the resurgence of the market for uranium ore since 2003 (from 2003 to 2007, uranium prices surged from twenty dollars per pound to a record 139 dollars per pound[252]).

The company's website describes Mount Taylor in ways that naturalize the uranium industry's presence on the mountain. Their description merits comparison with other ways of "mapping" Mount Taylor, provided above, because of the ways in which it situates both the mountain and the uranium industry in the space and time of New Mexico:

> The Mt. Taylor uranium mine is located in northwestern New Mexico about 60 miles (100 km) west of Albuquerque. Uranium was discovered in the Mt. Taylor area in 1968 and delineation drilling identified an ore trend extending nearly 6 miles (10 km)…Uranium mineralization in the Mt. Taylor deposit occurs within the Westwater Canyon sandstone of the Jurassic age Morrison Formation and is similar in form to trend-type deposits in the Ambrosia Lake uranium district. The deposit occurs at 3,000 feet (900 m) below the surface. Coffinite is the primary uranium mineral. Ore grades range from 0.15% to over 2.0% U3O8, and averaged 0.5% U3O8 during the production period. The Mt. Taylor mine contains an in-place resource of over 100 million pounds U3O8 (38,500 mtU). Presently, the deposit is being evaluated for development as an in situ leach operation.[253]

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[252] Kari Lydersen, "A new demand for uranium power brings concerns for Navajo groups; Mining planned at a mountain considered sacred," Washington *Post*, October 25, 2009.

[253] http://www.ga.com/riogrande.php, acccessed on November 16, 2009.

This quote illustrates the stark differences between industrial and indigenous perspectives on the mountain and its role in human life. The language used by the company, like language used in industrial geology as a whole, describes landscapes in terms of relationships between mineral deposits (e.g. "similar in form to…deposits in the Ambrosia Lake uranium district"), geologic time ("the Jurassic age Morrison Formation"), and potential yield in profitable minerals ("over 100 million pounds U308").

This kind of discursive framing maps the uranium industry *into* the very geography and history of the mountain; the industry inserts itself into the past of the region as well as its future ("the deposit is being evaluated for development as an in situ leach operation"). Tellingly, no mention is made by Rio Grande Resources of the Mount Taylor TCP listing, although the Rio Grande Resources Mount Taylor mine site is partially within the TCP boundaries.[254] This kind of mapping, steeped as it is in the seeming objectivity of scientific discourse and geologic time, is afforded more power than "other" (indigenous, feminist, Hispano) maps of the mountain that premise its immediate relevance to the culture, religion, or economy of local populations, as reflected by the statement quoted in Section 1 by Hispano land grantee Horacio Marquez, that "Gulf knows more about my land than I do."[255]

In the process of getting the Cultural Properties Listing passed, the five contributing tribes had to create maps that re-defined the mountain in the eyes of state

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[254] Personal correspondence with Michael Jensen, of Amigos Bravos and affiliated with the Multicultural Alliance for a Safe Environment (MASE), November 23, 2009.
[255] Quoted by Tom Barry in "New Mexico: Chicanos and Uranium Development," *Akwesasne Notes*, August 1980.

and federal law as a major site of indigenous cultural, religious, and historical importance. In the application for the TCP listing, the different names associated with the mountain by each of the five tribes are given considerable weight. As the application explains,

> Each Tribe begins its statement of affiliations with the Mountain by giving its traditional name for this landscape:
> • Pueblo of Acoma refers to Mt. Taylor as *Kaweshtima.*
> • The Pueblo of Laguna Pueblo knows this landscape as *Tsibina* (variously spelled *Tsipina* or *Tse-pi'na*, with some community members sometimes identifying the northeastern side of Mt. Taylor as *Kaweshtima*.
> • The Pueblo of Zuni calls the Mountain *Dewankwin Kyaba:chu Yalanne*.
> • The people of the Navajo Nation identify the landform as *Tsoodził*.
> • The Hopi Tribe names it *Tsiipiya*.[256]

In the process of this re-mapping of the mountain, the nominating tribes focused not just on the importance of these different indigenous toponyms, but also on re-mapping the *meaning* of "land," "property," and "landscape" within the apparatus of state an federal protection policy, such as the Cultural Properties Listing. The application, then, does not necessarily define the mountain as "property" of the Navajo and Pueblo peoples. Rather, it defines the TCP area on the mountain as "an *historical text* for each Nominating Tribe," (emphasis added) "communicating much about where the people come from, how they came to be who they are today, and what their continuing obligations are to the natural and cultural environment of their homelands." This notion that the mountain functions as an "historical text" emphasizes that there is knowledge inhered in the geography of the land itself; that the historical integrity of the mountain resides in its role

[256] Application for Registration New Mexico State Register of Cultural Properties, Revised 05/18/07. Accessed at http://www.nmhistoricpreservation.org/index.php on November 1, 2009.

in recording (and constructing) indigenous life and past much the way westerners presume books and archives record (and construct) theirs.

The application also describes the mountain as a "cultural landscape" in the sense of part of "a dynamic cultural process entailing interaction between relatively static representations of geographical space and dynamic cultural and social factors." Here, the application follows Keith Basso's work on the "cognitive mapping" that indigenous peoples create to understand and relate with important geographical sites.[257] The application proceeds to explore the ways in which the mountain figures as a "historical text" and "cultural landscape" for each of the nominating tribes. The Navajo, Zuni, Hopi, Laguna, and Acoma Pueblos provide separate accounts of the mountain as it figures in historical as well as current cultural practices.

The end result of this work is a map outlining the parts of the mountain included as Traditional Cultural Property. This map, approved as a reflecting a permanently recognized Cultural Property (see Figure 15), excludes "noncontributing" private landholdings but includes National Forest land and parts of privately held mining patents (including some of the patents held by Rio Grande Resources, as well as the Mount Taylor mine site).

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[257] Application for Registration New Mexico State Register of Cultural Properties, Revised 05/18/07. Accessed at http://www.nmhistoricpreservation.org/index.php on November 1, 2009. Also Basso, 1996.

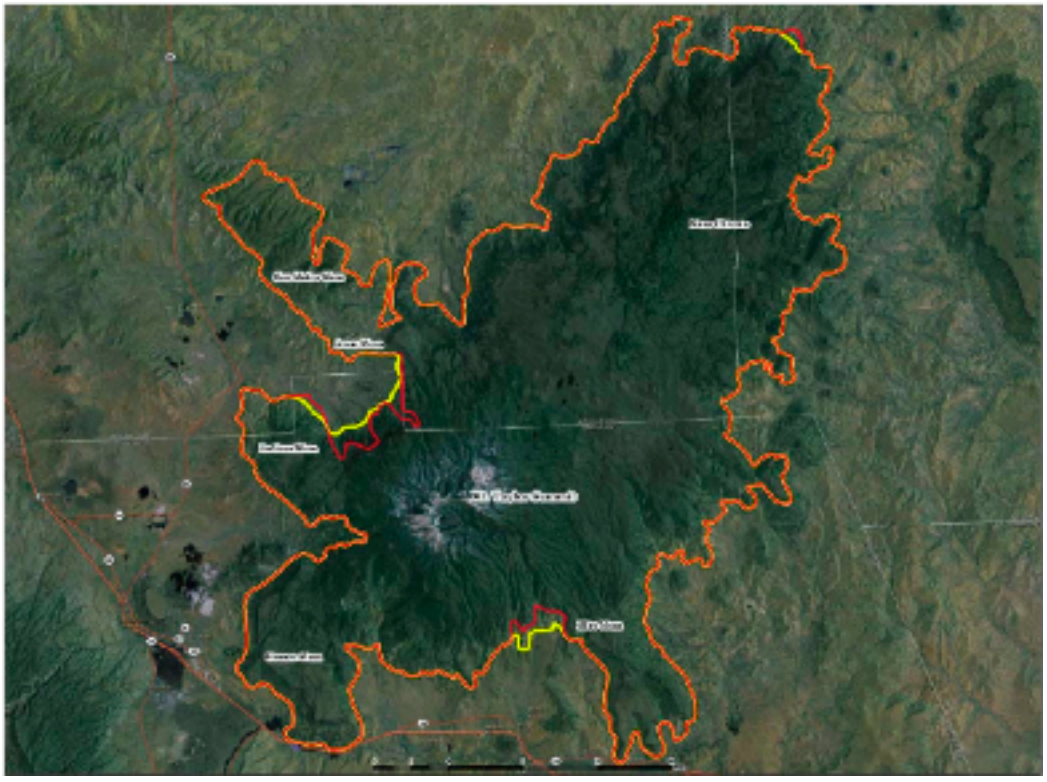

Figure 15 Traditional Cultural Property Map showing guardian peaks and boundaries[258]

This map marks the mountain's summit, as well as the outlying mesas, including San Mateo Mesa, La Jara Mesa, Jesus Mesa, Horace Mesa, Bibo Mesa, and Mesa Chivato, all of which are considered major parts of the mountain's cultural significance to at least one of the five nominating tribes. The Mount Taylor mine site is located just to the southeast of the mountain's summit.

[258] "Mt Taylor Contributing Cultural Properties," Navajo Land Department GIS Section, April 3, 2009.

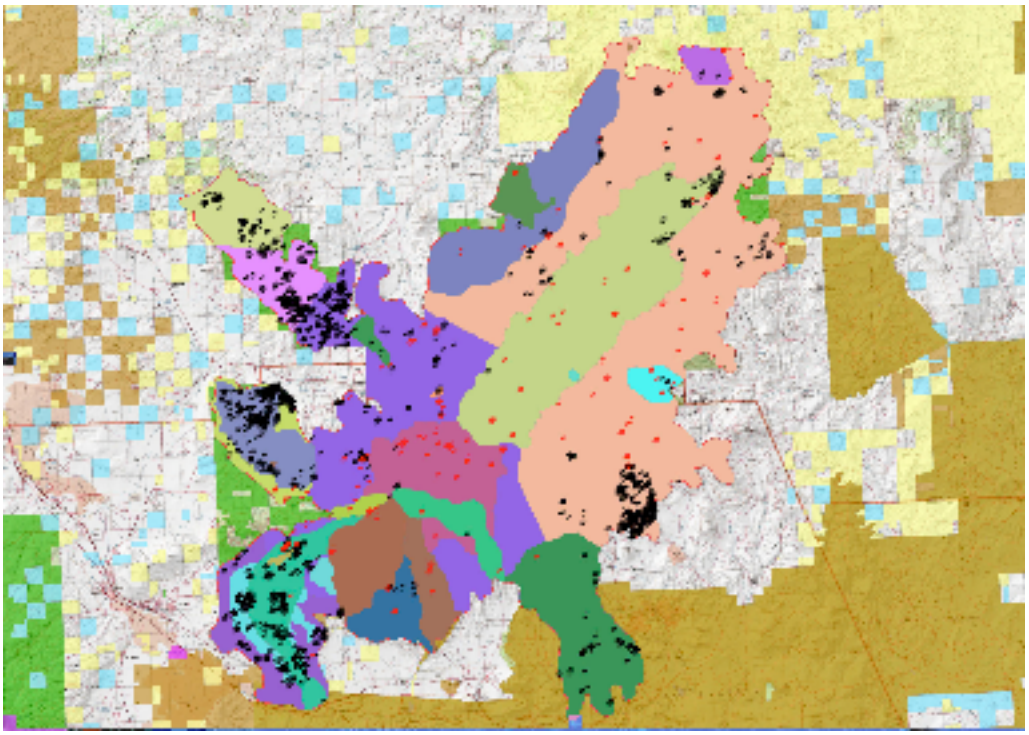

Figure 16 Final TCP Map showing "Contributing Cultural Properties" on Mount Taylor and surrounding area[259]

Figure 16 shows the same area, with the TCP outlined in red This version of the TCP map, however, marks the different kinds of land status *outside* the TCP, including Native land (in yellow-brown), private (in white), state (light blue) and BLM (light yellow). Note the Canoncito Navajo reservation to the southeast of the TCP border, the Laguna Pueblo and Acoma Pueblo to the south, and the "checkerboard region" of the Navajo reservation to the northwest. The multicolored area within the TCP boundaries shows the different kinds of contributing cultural property. Also, though unlisted in the map's legend, the map also marks areas of uranium activity, shaded with light pink, such as a tailings piles and the Jackpile Mine on Laguna Pueblo land, shown in Figure 17:

[259] "Mt Taylor Contributing Cultural Properties," Navajo Land Department GIS Section, April 3, 2009.

Figure 17 Inset of Figure 16, showing a tailings pile and the Jackpile Mine, shaded in pink[260]

This presence of uranium industry in TCP maps speaks to the omni-presence of the uranium industry in contemporary Native politics in the southwest. Notably, the map itself was published by the Navajo Land Department; the tailings piles and mines were probably featured on the base map, showing topographic and physical as well as political landmarks, before it was used to show the TCP. This makes the map a kind of palimpsest, showing not just a geographical area of immediate focus, but also whatever was previously mapped onto the landscape. Thus, just as the uranium industry has shaped Native politics around making land-claims, it has also shaped the maps that *represent* those land-claims. This is a way of visually illustrating JB Harley's notion, quoted at the outset of this section, that "maps are a way of conceiving, articulating, and structuring the

[260] "Mt Taylor Contributing Cultural Properties," Navajo Land Department GIS Section, April 3, 2009.

human world which is biased towards, promoted by, and exerts influence upon particular sets of social relations."[261]

"It's Our Mountain Too"

Between June 9 and June 18, 2009, just days after the Cultural Property Listing was made permanent, at least seven Native men were attacked and badly beaten in and around Grants, New Mexico, the former self-proclaimed "Uranium Capital of the World." Of the attackers, only one was arrested, and an anonymous phone call to the Grants Police Department reported that he had "boast[ed] of 'beating up the men because the Native Americans had got Mount Taylor and now they owned him.'"[262] The victims of these racially charged hate crimes were "barraged by rocks, struck with bats and gashed with knives and brass knuckles." This kind of racial violence constituted the extreme end of conflict in local communities resulting from the debate over Mount Taylor's listing as a cultural property. During the Review Board hearings in both 2008 and 2009, protesters in Grants attended bearing signs that declared, "Mount Taylor is Public Land, Not Reservation," and distributed green bumper stickers that read "It's Our Mountain Too,"[263] and advocates for the mining industry flooded CPB hearings on the issue. A hearing in June, 2008, drew more than seven hundred people on either side of the debate, evidencing deep division among residents of the area about the meaning of the mountain and who it "belonged" to.

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[261] Harley, 2002, p. 53.
[262] Mark Teshima, Cibola *Beacon*, "Milan Man Arrested in Beating Cases, Mountain Rights Blamed for Spilled Blood." June 29, 2009.
[263] Confusingly, both sides of the debate claimed and displayed this bumper sticker, each assuming that the other side had made claims to primary rights to the mountain.

This conflict over the TCP listing, particularly in Grants, emerged out of an immediate context of economic depression, and a deeper context of land dispossession, economic underdevelopment, and racial antagonism. Grants itself has a median household income of just over $30,000 in 2000, compared to just over $34,000 for New Mexico as a whole and just under $42,000 for the US. Almost twenty percent of families in Grants live under the poverty line, compared with nine percent nationwide. These factors plus high unemployment rates have meant that in the forced choice of what environmental justice scholars call "environment-for-jobs," wherein a community is forced to choose between environmental quality and economic subsistence, many Grants residents come down on the side of jobs. Editorials in the Cibola *Beacon* (formerly the Grants *Beacon*), as well as public commentary and debate around the 2008 and 2009 TCP listings, demonstrate the growing consternation among some Grants residents at what they see as Native attempts to block their employment opportunities, as well as a larger return to Grants' former "Uranium Capital" glory.

The uranium industry recognized the problem of joblessness, and incorporated it directly into its appeals to state and federal regulators for new mining permits. In 2004, when prices for uranium rose above twenty dollars a pound for the first time since the late 1980s, uranium companies began seeking permits to reopen their New Mexico mines and mills. They did so with strong public relations campaigns that emphasized jobs-development in this economically depressed region. For example, in late October, 2007, the year uranium prices reached a record high of one hundred and thirty nine dollars per pound, top executives from Neutron Energy and Uranium Resources Incorporated (URI) held a meeting with the New Mexico Radioactive and Hazardous Waste Committee

largely directed toward increasing public support for in-situ leach mining and traditional mining projects in and around Grants. In direct acknowledgement of local anxiety around jobs and economic development, Rick Van Horn, the chief executive officer of HRI, said his company would bring upwards of 3,000 jobs, noting that "[t]his isn't flipping McDonald's hamburgers. This is working in the uranium industry, whether you're mining, milling, hauling it, drilling for it, whatever." George Byers, vice president of Neutron Energy, appealed even more directly to the nostalgia in Grants for the uranium boom days. "New Mexico is where we place our emphasis," Byers argued, "and it's not just because of the uranium in the ground, it's because of the real corps of highly skilled workers who are here, who worked in uranium in the past, and whose sons and daughters are now ready to go to work for us."[264] And, in deference to Grants' boomtown history, the manager of the Mount Taylor mine for Rio Grande Resources chimed in on the side of a return to a boomtown economy: "[e]veryone is paying attention to the Native Americans and the environment," he said, "but where is Joe Public, that working man who comes in his car with his family from Arizona or Texas and asks, 'Are there any jobs here?' No, there's no jobs now. But we hope there will be."[265]

Beyond this basic environment-for-jobs forced choice, however, the ways in which the conflict was framed by New Mexico community members who advocated for bringing mining back to their region—that "Mount Taylor is Public Land, Not Reservation," and "It's Our Mountain Too"—point to a more complicated politics of

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[264] Quoted by Kathy Helms, "Companies hope to jump start uranium mining," Gallup *Independent*, October 31, 2007.
[265] Quoted by Kari Lydersen, "A new demand for uranium power brings concerns for Navajo groups; Mining planned at a mountain considered sacred," Washington *Post*, October 25, 2009.

race, space, and land ownership looming over the TCP issue. So too does the violent extremity of the hate crimes committed in Grants over the listing, allegedly because "Native Americans had got Mount Taylor, and now they owned" the non-Native attacker. Much of this kind of framing emerged from the fact that the land of Mount Taylor is largely comprised of a combination of state, BLM, and private landholdings, and the TCP listing was misunderstood (and misrepresented) as a Native takeover of both public and private property. In fact the listing only provides for consultation with the five contributing tribes, and only includes protection for certain, non-privately held parts of the mountain. Those that are privately held, the TCP notes, are already removed from Native access and traditional roots, and therefore no longer part of Native culture and religion. Thus they are what the TCP calls "noncontributing property" and mapped out of the protected parts of the TCP.

This removal of noncontributing properties from the TCP's protection, however, did nothing to slacken vehement protest at the CPB hearings, and vociferous public debate about whether or not the listing constituted a "land grab" orchestrated by the five contributing tribes. One opposing group circulated a newsletter, titled "TCP…What is it? Why should I care?" declared,

> Permits for drilling test holes on PRIVATE LAND (but deemed 'near' the TCP) have been held up for months by state agencies. The Pueblo's objections caused the Forest Service to deny permits to update equipment on EXISTING communication towers on the mountain. I think you get the picture. We're already seeing that government agencies won't say "No" to the tribes. If a million acres of Mt. Taylor becomes a TCP because a 'special" group of citizens claims it is sacred, what would stop them from seeking more TCPs on other big chunks of land in NM? That's right! Nothing. Using the TCP as a weapon against the rest of us, the

> tribes and their environmentalist friends will have way too much control over what is allowed on public lands.[266]

While the perceived threat to private and public land was by far the largest concern among opponents to the listing, as reflected by this quote, objections were also raised about perceived threats to religious freedoms. Postings on internet forums about the listing argue that it would give "too much power to a specific religious group (tribes) at the expense of the rest of us,"[267] that "we cannot afford to be silent about this action and the infringements…it makes on our rights to own property, practice freedom of religion, and the seperation [sic] of church and state laws."[268] Special interest groups, including various hunting and fishing organizations, the New Mexico Off Highway Vehicle Alliance, and other motorsport groups, argued that the listing would restrict access to public domain land for recreational purposes. The energy industry lobby group Citizens' Alliance for Responsible Energy (CARE[269]) chimed in, arguing that the listing was a direct attack on "free market principles," "private property rights" and "energy freedom" by "those…who think America should be more socialist":

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[266] New Mexico Off Highway Vehicle Alliance, http://docs.google.com/gview?a=v&q=cache:5g62tVXUAYcJ:www.nmohva.org/main/download_file.php%3Fid%3D26%26type%3Dissue+tcp...what+is+it%3F+why+should+i+care%3F&hl=en&gl=us&pid=bl&srcid=ADGEESieg04U7Qg3jerK4oekBQRaFvwCcOjs03vcownfOwEj1YeZhFTvSa26S2oaE0ow_nzOqGSWxK0t5IulV0Irsh-ReljvVlZE_ioagvXQnrqipipLDEl0bqHz0bIfo6LaNFznUWVv&sig=AFQjCNHIoMQbRcilfFt8O2_yURdE4CipeQ, accessed on November 16, 2009.

[267] http://www.nmohva.org/main/issues.php?id=39&archive=1

[268] http://nmtfmt.blogspot.com/

[269] It should be noted that "CARE" is also the acronym of an important indigenous environmental organization in the area, Citizens Against Ruining our Environment, which was formed in 1988 as a response to a proposed toxic waste incinerator in the Navajo town of Dilkon, Arizona. *This* CARE was the basis for the major international indigenous coalition Indigenous Environmental Network.

> They can do this because those of us who value free-market principles, believe in private property rights, and support energy freedom were sleeping--and we've been asleep a long time. Meanwhile, those who prefer government control and who think America should be more socialist have been working hard to push their agenda.[270]

Other objections to the listing were framed along more explicitly racial lines, calling the listing the result of a "wave of political correctness"[271] that posited Native land rights as more important than other non-Native rights and interests. Marita Noon, of the CARE organization quoted above, called the TCP "a sneak attack, sadly perpetrated largely by Native Americans against white men."[272] One website, "New Mexicans Together for Mount Taylor," grossly exaggerates the potential impact of the listing, arguing that it "has the potential power to require Native American precedence in all state permitting consideration, no matter how small or large, no matter if public land or your own land, from mining to personal wood cutting."[273] Many of these objections cited fears that the tribes would use the TCP designation to put casinos on Mount Taylor, seize land and property from non-Natives, and use the listing for corrupt financial gain, none of which were grounded in the reality of the listing itself.

The following comment, posted by someone using the handle "Izzy Grant" in response to an article in the Cibola *Beacon*, reflects the myriad ways in which concerns

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[270] Marita Noon, Executive Director of Citizens' Alliance for Responsible Energy, "Public's Best Interest, Disinterested Public," http://www.responsiblenergy.org/newsroom/display.asp?id=70, accessed on 11/9/09.
[271] Marita Noon, Executive Director of Citizens' Alliance for Responsible Energy, "Public's Best Interest, Disinterested Public," http://www.responsiblenergy.org/newsroom/display.asp?id=70, accessed on 11/9/09.
[272] Quoted by Shelley Smithson, "Radioactive Revival in New Mexico," *The Nation*, June 10, 2009.
[273] http://nmtfmt.blogspot.com/, accessed on November 18, 2009.

about economic development, casinos, private property rights, and racial conflict in New Mexico between Natives and non-Natives arose in the wake of the TCP issue:

> First of all if it wasn't for the mines this town would be a ghost town, not to say it is on that path now. The only people moving to this community are following there loved one that is a resident of the prison. Now I would never build a casino in front of my church or shrine. How is it right to claim someone else's private land in a equal rights country. The tribe's defiantly DO NOT share there private land with anybody, in most cases not even there own people [sic].

Here, "Izzy Grant" directly connects the *lack* of industry in Grants, other than the prisons, to the presumed privileged of Natives to not only build casinos "in front of [their] church or shrine" if they so choose, but also to "claim someone else's private land in a equal rights country." In making this connection, "Izzy Grant" implicates the TCP listing, and the limitations it could place on mining, with continuing economic depression in Grants. "Izzy Grant" continues:

> And for the citizens of Grants/Milan who support this, will you when they claim right to your house and property? It is coming next! Mt Taylor has be managed correctly by the US Forest Service and the private land owners long before my time. The TCP is based on other motive's my guess is MONEY/Payoffs [sic].[274]

In response to this posting, someone using the handle "Grants Resident" wrote:

> Excellent comment about building a Casino at the base of their so called "Shrine" It is all about the quick dollar, if it wasn't crops would have been planted, shame, shame on the tribes gaming practices. Unfortunately the more money they make they will go after more land, my best advice for people of the community. "Buy a motor home, so when your land is taken

[274] Posted by "Izzy Grant," on June 24, 2009, 10:23pm, http://www.cibolabeacon.com/articles/2009/06/22/news/doc4a3ff7b580742898929595.txt, accessed on November 9, 2009.

> away, at least you can drive your home to the casino RV park and pay cheap rent" [sic].[275]

As these comments illustrate, consternation around the Mount Taylor issue arose out of a context of deep mistrust between Natives and non-Natives, fueled by racist presumptions about tribal corruption and greed, as well as fears of the erosion of non-Native property rights.

While the stakes for major industrial and political actors were in the potential restrictions of uranium mining and other "development" projects, which the listing *would* impact, this evidence suggests that the politics that resounded with non-Native community members resided in the (largely imagined) threats to property rights and individual (non-Native) property, recreational, and religious freedoms. In New Mexico the legacy of massive divestment of land from Hispano land grantees and Natives alike for the benefit of state, private, and federal landholdings has created a deep defensiveness of land and property rights, resulting in what Jake Kosek describes as "communit[ies] united not so much by their ties to the land and shared practices of production but by their shared memories of loss and longing for the land."[276] In Grants, these kinds of land politics are complicated by the fact that, as "Izzy Grant" notes, "if it wasn't for mines this town would be a ghost town." Indeed, the uranium industry and, later, the prison industry have shaped the town of Grants more than the politics of land grants; however, defensive land politics over the Mount Taylor listing reflect this larger legacy of land loss.

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[275] Posted by "Grants Resident," on June 30, 2009, 10:56pm, http://www.cibolabeacon.com/articles/2009/06/22/news/doc4a3ff7b580742898929595.txt, accessed on November 9, 2009.
[276] Kosek, 2006, p. 32.

Outside the town of Grants, however, in the Cebolleta and Juan Tafoya land grants to the east and southwest of Mount Taylor respectively, land grant politics continue to be deeply resonant in the debate about the TCP listing and who "owns" Mount Taylor. As reported in the Gallup *Independent*, land grant heirs attended hearings to demand "why Native American culture was dictating what [they] could do with [their] land," and one speaker at a hearing in 2008, "pointed out that his family had been on the land for generations and the traditional cultural property regulations only consider Native American religious and cultural values" to the exclusion of Hispanos.[277] A member of the Cebolleta land grant, James Martinez, agrees, saying "state officials are placing Indian culture above all others,"[278] and "[w]e want the same opportunity (the Native Americans) have. We want our people to come back and prosper from the land…we've lived here since the 1700s and we never heard of no traditional cultural property."[279]

As a parting shot to the online conversation started by "Izzy Grant" and "Grants Resident," "jr" posted the following critique of their objections to the listing, connecting their comments to the politics of Hispano land grants and land loss in New Mexico:

> native americans have lost alot of their traditions and culture due to you all "civilizing" us. but if you look at the history books all the tribes involved in protecting mt taylor have been here for many many more years than any grants resident and have fought with every different government that has tried to rid us from our land and WON thats why we are still here.....so

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[277] Kevin Kilough, "Hearing draws mostly pro-uranium speakers," Gallup *Independent*, November 22, 2008.
[278] Shelley Smithson, "Radioactive Revival in New Mexico," *The Nation*, June 10, 2009.
[279] Quoted by Kevin Kilough, "Traditional impact: land grant owners want say in Mount Taylor designation."

> quit the whining about how your famlies have been here for 100 years.....try since the time you thought the world was flat [sic].[280]

Here, "jr" addresses the politics of Hispano "longing for the land" (and, peripherally, the hypocrisy of that longing in Grants, a former mining boom town, not a land grant community) by telling opponents of the listing to "quit whining about how your [families] have been here for [a] 100 years." In this way, the political terrain of the Mount Taylor issue expands to involve not just protection of a limited landscape against uranium mining, but also issues ranging from casino politics, to racist accusations of corruption and greed, to the colonial legacy of land claims (and forced assimilation of Natives) in New Mexico.

Tellingly, the most effective form of protest to stop the listing did not take the form of rallies outside the hearings, or of commentary on newspaper articles, or even of hate crimes committed against Native men in Grants. It took the form, rather, of refusal by the owners of noncontributing properties to submit maps of their landholdings to the Cultural Properties Board so that a definitive map of the protected area could be produced. During the June 2009 final hearings, the CPB

> took an innovative step by asking private property owners…to come forward within the next two weeks with a notarized legal description of their land. The information would be used to draw a semi-permanent map of the TCP within 30 days, which would modify existing maps of the TCP.[281]

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[280] Posted by "jr," on July 7, 2009, 8:00am, http://www.cibolabeacon.com/articles/2009/06/22/news/doc4a3ff7b580742898929595.txt, accessed on November 9, 2009.

[281] News Release, State of New Mexico, Historic Preservation Division, Department of Cultural Affairs, June 5, 2009.

In a seemingly organized action, landholders largely refused to comply with these requests.[282] By ignoring requests from the CPB for these surveys and land descriptions, the landholders expressed their noncompliance with the CPB's decision that the mountain (or, at least, parts of it) be mapped as indigenous land.

Conclusion *Multiple Claims*

In the aftermath of the TCP listing, Rio Grande Resources continues to assert its intention and authority to re-start mining operations at the Mount Taylor mine site. Laramide Resources, a company that owns another mine within the boundaries of the TCP, has developed speculative plans to "slant drill" into the uranium deposits from somewhere outside the TCP. Additionally, members of the New Mexico State Land Office as well as some of the affected Hispano land grantees are currently pursuing legal challenges to the listing on "administrative grounds" as well as constitutional grounds—the listing, they argue, privileges Native religions and therefore violates the separation of church and state.[283] The constitutional challenge seems to ignore the fact that Christian churches make up a large number of cultural properties listed by both the State of New Mexico and the federal government.

Thus three decades of struggle over Mount Taylor, its use, and its meanings will in no way come to a close with the TCP listing. However, seen in the context of Native re-mappings of the uranium landscape, these struggles over Mount Taylor can be seen as part of an intensely political, and intensely urgent, process of articulating how Native sovereignty can be deployed and asserted a the turn of the twenty-first century. The TCP

[282] Personal correspondence with New Mexico activists, July 2009.
[283] Personal correspondence with New Mexico activists, November 2009.

listing, like the Stop the Rape of Mount Taylor action three decades prior, sought to extend a kind of plural sovereignty over the land, made up of multiple claims to the mountain that do not necessarily compete for primacy. As the TCP application notes in its concluding statement,

> The Mount Taylor Cultural Landscape is the intersection of so many different community landscapes, and the Mountain does so many different things—economically, socially, and ideationally—for so many different people from culturally diverse backgrounds. These factors make Mt. Taylor one of New Mexico's truly exceptional landscapes. Although there is no consensus on what Mt. Taylor is, what the Mountain does for people, and what this landscape should become, all stakeholders intrinsically know that Mt. Taylor not only is a place to talk about…but warrants an emotional response even when there exists only a perception that one community's interests might somehow supersede another's.[284]

In this way, the five contributing tribes acknowledge the multiple claims the land of the mountain (as well as the vociferous debate in New Mexico over the listing) but go on to argue that the TCP does not elide these multiple claims. Instead, they argue, the reality that "there is no consensus on what Mt. Taylor is, what the Mountain does for people" is what makes the mountain "exceptional" and in need of environmental protection. The statement continues with this final comment on the issue of multiple claims:

> The often rancorous debate whether the Mt. Taylor TCP should be listed on the [State Register of Cultural Properties], however, speaks volumes of the significance of the Mountain among New Mexico's communities. Listing of the Mount Taylor Cultural Landscape protects the Mountain and each of the communities in turn by ensuring that no one community's interests will automatically take precedence over the others as humans shape the future of the Mountain.[285]

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[284] Application for Registration, New Mexico State Register of Cultural Properties, Form A, Revised 5/18/07, p. 110.
[285] Application for Registration, New Mexico State Register of Cultural Properties, Form A, Revised 5/18/07, p. 110.

In her discussion of the interconnections between environmental politics and the politics of Native sovereignty, Justine Smith argues, "Native rights activists reject a single-issue framework in favor of a framework of sovereignty" which in turn "enables Native peoples to recognize and address various issues in a comprehensive manner."[286] The ways in which Mount Taylor has been posited as a central landmark in the struggle over uranium mining demonstrates this kind of comprehensive framework. In the late 1970s, uranium activity on the mountain was framed not only as environmentally destructive, but also as a form of sexualized violence against Native bodies and lands. In 2008, the protection of Mount Taylor was the centerpiece of a nexus of politics involving Native claims to the land and Native religion, history, and culture as well as environmentalism and resistance to industrialism. In either instance, Smith's "sovereignty framework" outlines how Native land claims (as well as, in many cases, non-Native land claims such as those of Hispanos) can function as a means by which environmental protection can take place.

As I discuss in Chapter 3, the TCP listing was in no way a perfect articulation of Native sovereignty over Mount Taylor. But it is also just one part of the uranium landscape, and one part of the larger project of "uproot[ing] the settler maps" that facilitate the uranium industry. Less than fifty miles to the west, near Church Rock, New Mexico, the legacy of uranium milling runs deep, but not as deep as Navajo claims to the land—land that, like Mount Taylor, has never been recognized on "settler maps" as part of any reservation, but is being re-mapped as "Indian Country" nonetheless.

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[286] Smith, 1999, p. 202.

Chapter 4

Origin Stories and Indian Country

The boom and bust uranium industry hit a wall in the early- to mid-1980s; surpluses of uranium reserves for both nuclear weapons and nuclear energy programs combined with growing anti-nuclear sentiment and activism nationwide led to a sharp decline in prices for uranium ore. Most uranium mining and milling companies closed their operations. In New Mexico, the Navajo Nation and Grants Uranium Belt were left with a burden of radioactive pollution for which neither the uranium industry nor the federal government would take responsibility. Uranium miners suffered catastrophic rates of early death, [287] and, increasingly, Navajos who lived near mine and mill sites but had never worked in the mines experienced skyrocketing rates of respiratory diseases, cancers, reproductive disorders, miscarriages, birth defects, and kidney diseases.[288]

In partial recognition of these aftereffects of the uranium booms, Congress passed the Radiation Exposure Compensation Act (RECA) in October of 1990. RECA offered limited compensation to Navajos under two important conditions. First, that they could provide proof that they worked in uranium mines and mills, a relative rarity in an industry that often employed laborers inconsistently and informally. Second, that they provide proof that they had been diagnosed with diseases with established links to radiation exposure, a challenge in areas with limited access to health clinics and medical professionals, often only offered on an inconsistent basis by the Indian Health Service. Despite the compensatory nature of RECA, meager though it was, no action was taken to

[287] Roscoe, et al, 1995.
[288] Shuey, 2007.

do significant clean-up work in the uranium districts of northern New Mexico, and virtually no studies were conducted to determine the extent of the public and environmental health problems associated with the now dormant uranium industry.

In 2000, prices for uranium ore began to rise, and uranium companies began to explore renewing their permits and leases in former uranium boom regions. Some companies, like those owning permits on Mount Taylor, would plan to conduct open-pit and underground mining very similar to the mining techniques of the 1950s through the late 1970s. Other companies, however, turned their focus to in-situ leach mining. While in-situ leach mining was originally developed as a cost-cutting process, less expensive than either open-pit or underground mining, companies presented it to the government and to the public as being less dangerous for the environment and virtually benign for workers. In-situ leach (ISL) mining technology pumps an acidic solution into the rock layer and then back out again in a liquid that carries the uranium ore as "leachate." Thus this process requires no interaction between miners and the ore as it is brought to the surface. Environmentalists are quick to note, however, that this ISL process carries with it the threat of radioactive solution and leachate escaping the mine pumps and seeping into the ground and groundwater. Also, the ore that is recovered from the leachate is sent to mills to be processed in the same way as any other yellowcake ore, with the same implications for environmental contamination and worker health, and the same limitations on safe disposal of radioactive waste. These new proposals for ISL mining have become, to a large extent, the focus of uranium mining debates in the checkerboard region to the southeast of the Navajo Nation, where the legacies of the previous uranium

booms takes the form of unreclaimed mine and mill sites, and an epidemic of radiation-related human and environmental health problems.

Introduction *Politics in the Complex Present*

> Abstaining from politics is like turning your back on a beast when it is angry and intent on ripping your guts out.[289]

Early in the morning on July 16, 1979, a mill tailings pond upstream of the Church Rock Chapter of the Navajo Nation burst through its barriers to spew 1,100 tons of radioactive tailings waste, ushered along by over 100 million gallons of radioactive water, into the Rio Puerco. That morning, local residents and United Nuclear employees reported seeing a three-foot high rush of water in place of the normally quite modest river, and it has been estimated that the water flowed as far as ninety miles downstream, well into Arizona, leaving behind reservoirs of radioactive water on and near the riverbank.[290] Because mill tailings retain up to eighty percent of uranium's radioactivity, the size and scope of this spill make it the largest radioactive accident in US history, and one of the largest in the world, outstripped only by the Chernobyl nuclear accident in 1986. Church Rock and other predominantly Navajo communities nearby, technically outside the boundaries of the Navajo reservation but populated almost exclusively by Navajo families, were exposed to a highly contaminated water supply that was their only source of water for their homes, their lands, and their livestock. While Navajo miners and their families had seen dramatic increases in lung cancers, respiratory diseases, and early deaths, the Rio Puerco spill was the first large-scale evidence of the disastrous

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[289] Alfred, 2005, p. 20.
[290] Shuey, 2007.

implications of the uranium industry for environmental and human health *outside* the mines and mills themselves.

In this chapter, I explore social and political movements that arose in the Church Rock area to contest and resist the uranium industry in the years since the Rio Puerco spill in 1979. As in Chapter 3 regarding Mount Taylor, these social movements have sought to re-map land as under the sovereignty of the Navajo Nation in order to extend protection over it from the uranium industry. In this chapter, this has involved legal strategies to have the Church Rock area designated "Indian Country" under federal law. If this designation were to be made, the area would come under the protection of a 2005 Navajo Tribal Council moratorium on uranium mining and milling, which I discuss at length in Section 2 of this chapter.

These re-mapping projects that I outline in Chapter 3 and here in Chapter 4 each involve indigenous peoples making claims to land *outside* "official" (US-imposed) reservation boundaries, in order to protect that land from the devastation of the uranium industry. In the case of the Mount Taylor TCP listing, the "five contributing tribes" utilized a framework of indigenous cultural, historical, and religious connections to the landscape in order to gain state recognition of indigenous rights to the terrain of the mountain. In this sense the TCP listing movement can be counted as a successful campaign. These "rights" and the protections afforded the mountain by the TCP listing, however, are notably limited. The earlier Stop the Rape of Mount Taylor campaigns, on the other hand, utilized a framework of genocide, racial-sexual violence, and colonialism to protest the uranium industry's activities on the mountain. Because of this larger, quite

ambitious, framework of contestation, the Stop the Rape of Mount Taylor campaigns had significantly less immediate measurable success.

Both kinds of anti-uranium mining work, those with limited but measurable success (TCP listing) and those with grand-scale and possibly immeasurable goals (global decolonization) are necessary within the framework of indigenous struggles for sovereignty and environmental justice. While the struggle for the TCP may indeed be limited in its impact, and makes appeals to the colonial state through the potentially problematic (and often deeply racialized) frames of "tradition" and "culture," the TCP represents one form of environmental justice work that confronts, to cite my opening quote by Taiake Alfred, "the beast when it is angry and intent on ripping your guts out." Likewise, while the immediate legal goal of having the Church Rock Chapter designated Indian Country under US federal law requires an appeal for recognition from a colonial state, and thus to some extent limits the practice of indigenous sovereignty as not having to derive its power from a colonizer's consent, the direct material gain for Navajos living in the area is too important to ignore. As illustrated by the Rio Puerco spill, the immediate implications of the uranium industry are too deeply material, too bodily, and too dire to go uncontested. In this and other cases of environmental injustice, people living in and around uranium sites cannot afford to "abstain[] from politics" and must, rather, engage the beast on every level, and at every opportunity.

These opportunities often present themselves in the form of making appeals to the colonial power from the positions to which it relegates indigenous peoples; the two primary positions indigenous peoples have occupied in the eyes of the US have been as "cultural"/traditional or as legal objects. Thus the project of "uprooting settler maps that

shape our everyday reality and materiality" necessarily works on multiple fronts, including those that make indigenous peoples legible to the colonial power, presenting themselves in forms that "the beast" recognizes. Both the TCP listing, with its deployment of "tradition" and cultural memory, and the Indian Country designation, with its recognition of federal law as an authority in meting out indigenous land claims, are designed with material, measurable goals in mind to limit the impact of the uranium industry on the reality and materiality of land, lives, and bodies.

Significance and Chapter Outline

This chapter focuses on a central part of the uranium landscape: the checkerboard region of northwestern New Mexico, on the southeastern borderlands of the Navajo Nation. The checkerboard is both the symbolic and material home of the uranium industry, as well as the setting for the most defining moments in the industry's past, present, and future. The checkerboard region is where Paddy Martinez's discovery of uranium ore catalyzed the first mining and prospecting boom; it is where a majority of uranium claims, mines, and mills were located from 1950 to the 1980s, which led to its being dubbed "Grants Uranium Belt"; it is where the largest radioactive accident in US history occurred; and it is where companies have chosen to locate their future in-situ leach mine projects. It is also home to current legal battles over whether parts of the checkerboard can be considered "Indian Country" under US law. Therefore it is fitting that my final chapter is situated in this region, exploring the origin stories of the uranium boom, rooted as they are in the checkerboard region, the catastrophic human and environmental health problems in the region, and the ways in which the region has become a focal point of anti-uranium mining activism.

This chapter explores the politics of mapping in this part of the uranium landscape, not only the production of actual maps, but also the production and circulation of discourses that map the landscape, its peoples, and the uranium industry. Together, these sections provide an exploration of the politics of the uranium industry, and how the relationships between the industry, the landscape, and the people of this region are mapped in different, often conflicting, ways. Section 1 examines the role of the uranium industry in the checkerboard region, beginning with the story of Paddy Martinez's discovery of uranium ore on Haystack Mountain. Here, I argue that narratives about Paddy Martinez communicate important knowledge about the origins of the uranium boom in New Mexico, about the conflicts surrounding land ownership and occupancy, and about the role of the Navajos in the development of the uranium industry. Specifically, I argue that these narratives of Martinez's story map the uranium industry *into* the checkerboard region in ways that construct Navajos as enablers to the industry, construct the uranium industry as "at home" on the checkerboard, and construct the checkerboard land ownership pattern as natural. In the second part of this section I outline the events surrounding the 1979 Rio Puerco tailings spill—the largest accidental[291] release of radioactive contamination in US history. The nature of land status in the checkerboard region has deeply shaped Navajos' experience with the uranium boom; in this section, I explore the ways in which land status issues in the checkerboard

[291] I use "accidental" here with reservation. While it is an apt descriptor to differentiate between decidedly deliberate atomic tests, which certainly constitute releases of radioactive contamination, and the perhaps less deliberate spills and leaks of Rio Puerco and Three Mile Island, it remains an insufficient word to use in this context. As I describe below, the Rio Puerco spill was predicted by any number of environmental regulators and activists; the company and the government were well aware that a breach was possible, if not probable. Thus, calling the spill "accidental" is only partially true.

region served to "naturalize" uranium industry activity just outside the boundaries of the official Navajo reservation.

In Section 2, I move on to a very contemporary struggle to protect part of the checkerboard region from new uranium mining activity by designating that land as "Indian Country" under US federal law. As in Chapter 3, I argue that Navajos and their allies are here exerting a form of cartographic resistance—using mapping as a technology of anti-uranium mining activism—to protect land, people, and animals from new exposure to the uranium industry (particularly in an area where clean up from the previous uranium booms has yet to occur). Additionally, a monitoring project sponsored by the Church Rock Chapter of the Navajo Nation, called the Church Rock Uranium Monitoring Project or CRUMP, has worked since 2003 to demonstrate that new technologies of mapping the radioactive contamination in the Church Rock area can help provide different cartographies of the implications of the uranium industry.

Section 1 *Origin Stories and the Checkerboard Region*

> Paddy Martinez, a Navajo Indian, was sitting on a ledge on Haystack Mountain in northern New Mexico. He reached back of him for the bottle of stuff it was illegal to sell Indians in 1950, and glanced around to see a yellow-colored rock near his bottle.[292]
>
> Martinez was merely riding in for cigarettes when his keen eye fell on something his Indian memory for color told him was the same substance Government geologists had been trying to get the Navajo to take more interest in.[293]
>
> No one would expect a Navajo subchief who lives in a hogan to be expert in the operation of a Geiger counter. And certainly Paddy Martinez, the big man around Haystack Mountain in New Mexico, is not.[294]

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[292] "Paddy Finds Yellow Rock, It's Rich Claim," Grants *Beacon*, August 13, 1953.
[293] "Slaves to the Unconventional," *The Age*, June 4, 1955.
[294] "Paddy's Big Strike," Los Angeles *Times*, December 12, 1950, p. A4.

Paddy Martinez haunts the uranium landscape. Or, more accurately, his *story* haunts the uranium landscape, told in various forms and versions (wide-ranging in their accounts of his discovery, as my opening quotes illustrate) as a way of explaining how the uranium industry came to be located in and near Navajo land in New Mexico. Accounts of Paddy Martinez's 1950 uranium find credit Martinez with instigating the first uranium boom, and easing fears in the federal government, particularly in the AEC, as discussed in Chapter 2, that the US had no domestic uranium reserves. As such, his story became perhaps the most definitive origin story of the uranium landscape, in part because of how his story (or the telling of his story) crystallizes important and complicated issues involved in the early years of uranium prospecting and mining.

As reflected in my opening quotes to this section, versions of this origin story are wide-ranging, often describing the discovery, its implications, and Martinez himself in strikingly different ways. These differing accounts leave considerable question as to what the "truth" of Martinez's story might be, and whether that truth can even be known (or, more provocatively, whether the "truth" of Paddy Martinez is even the point). The consistent presence of Martinez in articles about the uranium boom suggest that his story organizes the uranium landscape in compelling ways for mainstream journalists and readers, providing a frame through which the complicated politics of the uranium industry, particularly in the checkerboard region of New Mexico, can be understood and communicated.

In this section, I analyze these accounts in order to understand how they have served, since 1950, to construct knowledge about the uranium boom, about the politics of

land ownership and occupancy in the checkerboard region, and about the relationship of the Navajos to the uranium industry. I argue that these "tellings" of Paddy Martinez's story play an important role in naturalizing the activities of the uranium industry in this region of New Mexico, and situating the Navajos as ambivalent actors in the uranium story—present, but only for the purpose of their racialized role as enablers to the industry, and often under erasure as the vanishing supporting cast in the story of this industrial development. These accounts tend to produce (or, just as frequently, elide) information that would provide their audiences with a sense of what was at stake in the complicated, material realities of the uranium boom.

Narrative accounts of Martinez's discovery are often more interesting in their difference than in their similarities. As reflected by my opening quotes to this section, there is little agreement among these stories about how the discovery happened, and what Martinez's intentions or agency may have been. Accounts of his discovery include a range of different versions:

> Paddy Martinez, a Navajo Indian, was sitting on a ledge on Haystack Mountain in northern New Mexico. He reached back of him for a bottle of the stuff it was illegal to sell Indians in 1950,[295] and glanced around to see a yellow-colored rock near his bottle….Paddy took a chip of the yellow rock to town and put it near a geiger counter. The needle "went crazy," says Paddy. He had stumbled into what is proving out to be one of the Colorado Plateau's richest uranium bodies.[296]

This telling of Martinez's story not only resurrects the racist trope of the "drunk" Native, a particularly strong racialization of Natives in New Mexico, but declares his discovery to be accidental: he "stumbled" on the uranium, and "put it near" a Geiger counter, both of

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[295] It was legal to sell liquor to Natives beginning in 1947.
[296] "Paddy Finds Yellow Rock, It's Rich Claim," Grants *Beacon*, August 13, 1953.

which imply his lack of agency or intention in finding the uranium ore. Similarly, a 1976 article about the uranium boom describes how "one day in 1950 a Navajo shepherd named Paddy Martinez, wandering through nearby Poison Canyon, picked up some peculiar yellow rocks and brought them into town."[297] And in a particularly unflattering account published in 2006, attesting to the staying power of Martinez's story, an online trade journal called StockInterview.com reported that

> New Mexico hasn't had a uranium boom since 1950. After Navajo shepherd Paddy Martinez woke up from his nap, beneath a limestone ledge with a handful of funny looking yellow rocks, only to be later told that he had discovered New Mexico's first uranium, the state was swarmed with thousands of prospectors hoping to cash in on the nuclear metal.[298]

Other accounts differ quite strikingly in regard to Martinez's intentions (or not) of finding uranium. One story published in the Los Angeles *Times* in December, 1950, declares:

> A Navajo Indian, riding horseback through a pinon forest, has made a discovery which could bring victory to the United States in the event of all-out atomic war…He didn't make the uranium strike by accident. Last summer, while waiting for a bus, he saw two men, just arrived from Colorado, who carried some yellow rock.

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[297] Robert Locke, "Boom and Bust Uranium Town Bustles Again," Los Angeles *Times*, November 15, 1976, p. D13.

[298] James Finch, "New Mexico Joins the Nuclear Renaissance," StockInterview.com, June 2006, http://74.125.155.132/search?q=cache:4zFdrc3v3J0J:www.stockinterview.com/Article_pdf_files/newmexico1.pdf+stock+interview+uranium+paddy&cd=1&hl=en&ct=clnk&gl=us&client=firefox-a, accessed on February 3, 2010. A year earlier, the same author writing for the same online journal wrote instead that Martinez had discovered "yellow rocks on his property, mistaking them at first for gold." James Finch, "Investors Chasing Uranium Mining Stocks Again: A Favorite Emerges," StockInterview.com, November 2005, http://docs.google.com/viewer?a=v&q=cache:ST1-QgNu7_AJ:www.stockinterview.com/News/11232005/uranium-investors.pdf+stock+interview+uranium+paddy&hl=en&gl=us&sig=AHIEtbTmWe8FJcPvag66scTeIK50RPqdyA, accessed on February 3, 2010.

> Moving just close enough to the strangers to hear what was said, he learned that the rocks were specimens of ordinary carnotite and that the government was offering $10,000 for the discovery of certain types of uranium ore.
>
> "So," Paddy explained in good English, "I decided to keep my eyes open. Late in July, I went to my hogan up on the side of Haystack Mountain…My tobacco ran out and I climbed on my horse to ride six miles to a store. I'd only gone a little way when I saw a small yellow streak in the gray rocks…[My boys and I] filed claims and some friends wanted me to go in with them to lease the land from the Santa Fe."[299]

Similarly, other accounts describe Martinez's prior knowledge of uranium, usually due to overhearing conversations about it. In 1968, an article in the Albuquerque *Journal* writes, "Martinez became famous after it was announced that he was the man who brought some buff colored rocks to Grants to determine if they were the uranium that he had heard about in conversations for years."[300] And another 1950 Los Angeles *Times* account again cites the bus station incident:

> …Paddy is smart. He keeps his ears and his eyes open. He is alert. One day he saw two men at a bus station. They had specimens of a yellow rock. Paddy heard them say that the government made a present of $10,000 to anyone who found ore like that. Which was enough for Martinez. During his rambles through his country, he did find some interesting rock, and now the experts say it probably is the real stuff…

Time Magazine reported yet another version in 1950:

> Last July, as [Martinez] walked into a trader's store at Rattlesnake, N Mex to buy cigarettes, he saw two men examining a fist-sized, yellow streaked piece of rock. He heard them say, in Spanish, that it was a sample of uranium ore…Paddy decided to try finding some and that same day, as he rode his horse homeward, he spotted an outcropping of the odd-looking

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[299] William S. Barton, "Navajo Finds Great Atom Ore Deposit," Los Angeles *Times*, December 11, 1950, p. 1

[300] Albuquerque *Journal*, "Paddy Who Started Uranium Boom in NM Released from Hospital," July 12, 1968.

> rock. He broke off some. Next day he took it to Grants, gave it to the mayor, and asked him to get it analyzed.[301]

While some versions of Martinez's story represent him as "stumbling" upon the ore in his "rambles" in the mountains, others report that he overheard conversations about uranium and the government's promised monetary reward, and deliberately set out to find the uranium ore. These seemingly incommensurable versions of the story offer conflicting perspectives on Martinez himself; his uranium discovery is recounted as both "accidental"[302] and "no accident,"[303] the result of his propensity to drink liquor and nap *or* deriving from "his keen eye [and] Indian memory for color."[304] In finding the uranium ore, he was reaching for a "bottle of the stuff it was illegal to sell Indians in 1950,"[305] or perhaps "he was merely riding in for cigarettes."[306] Once he had the uranium in his possession, the story is again variable: suggesting Martinez's incapacity to deal with paperwork and bureaucracy, one article recounts, "a farmer helped him fill in forms for claims and lodge them properly."[307] On the other hand, another article reports, "he took it to Grants, gave it to the mayor and asked him to get it analyzed."[308] Avoiding specificity (and also Martinez's own agency), other articles simply state that he "put it near a geiger counter,"[309] offering ambivalent evidence of his intentions, or that he was "later informed" that the rocks he found were uranium. Martinez himself is variously described

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[301] *Time* Magazine, "How to Find Uranium," December 25, 1950.
[302] "Paddy Finds Yellow Rock, It's Rich Claim," Grants *Beacon*, August 13, 1953.
[303] "Study Uranium Find, Perhaps Richest in US," Chicago *Daily Tribune*, December 11, 1950.
[304] "Slaves to the Unconventional," *The Age*, June 4, 1955.
[305] "Paddy Finds Yellow Rock, It's Rich Claim," Grants *Beacon*, August 13, 1953.
[306] "Slaves to the Unconventional," *The Age*, June 4, 1955.
[307] "Slaves to the Unconventional," *The Age*, June 4, 1955.
[308] "New Mexico: How to Find Uranium," *Time* Magazine, December 25, 1950.
[309] "Paddy Finds Yellow Rock, It's Rich Claim," Grants *Beacon*, August 13, 1953.

in these and other articles as "a well-rounded man,"[310] "part Navajo and part Spanish,"[311] "a Navajo shepherd," "a Navajo Indian,"[312] a speaker of "good English,"[313] "a very smart man,"[314] "unofficial chief among the large Indian colony,"[315] "the patriarch of all Navajos in the Grants area,"[316] "a Navajo subchief who still lives in a hogan,"[317] and "a dead shot with a rifle [and] also canny."[318] He is credited with having "fourteen children,"[319] "fifteen children," and "twenty children."

The apparent fiction of many of these narratives suggests the strength of the desire to narrate Navajo people (particularly Navajo men) in very distinct ways in relationship to the uranium industry, and, more largely, to "civilization" itself. Martinez becomes a figured "Indian," occupying the liminal space of the uranium landscape, and "truth" of his life is rendered subordinate to larger questions of how his story enables the uranium industry and makes it seem like a natural or inevitable part of the checkerboard region. In different tellings of his story, then, he can easily be presented as an alcoholic (a vitriolic and racist representation of Natives in any context) *or* as an "unofficial chief" and "patriarch" among Navajos; either way, Martinez's racialized identity and role in the

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[310] "New Mexico: How to Find Uranium," *Time* Magazine, December 25, 1950.
[311] Ibid.
[312] Williams Barton, "Navajo Finds Great Atom Ore Deposit," Los Angeles *Times*, December 11, 1950, p. 1.
[313] Ibid.
[314] Ibid.
[315] Ibid.
[316] "Paddy Martinez, Uranium Finder on Haystack Mountain, Dies at 78," Albuquerque *Tribune*, August 27, 1969.
[317] "Paddy's Big Strike," Los Angeles *Times*, December 12, 1950, p. A4.
[318] "New Mexico: How to Find Uranium," *Time* Magazine, December 25, 1950.
[319] "New Mexico: How to Find Uranium," *Time* Magazine, December 25, 1950.

discovery of uranium (whether intentional or no) maps the Navajo into, and simultaneously to one side of, the uranium industry in New Mexico.

Thus Navajos in general, through this telling of Martinez's story, become collectively constructed as supporting cast to the uranium industry, the temporal *and* spatial background upon which this industry is built and, subsequently, upon which a modern militarized America is constituted (due, in no small measure, to conflations of a thriving uranium industry with national strength, as discussed in Chapter 2). This notion is illustrated most explicitly in the 1950 Los Angeles *Times* article that begins: "A Navajo Indian, riding horseback through a pinon forest, has made a discovery which could bring victory to the United States in the event of all-out atomic war."[320] In this description, Martinez becomes a universal "Navajo Indian." The image of an "Indian" riding a horse "through a pinon forest" is juxtaposed harshly against the technological and political immediacy of atomic warfare and bomb technology. Through this juxtaposition, the story engages the complex temporality of the checkerboard region, land that is constructed (like the frontier in general) as caught somewhere in the gears of history, inclined by its pastoral and primitive nature toward the past but providing the raw materials for the progressive industrialism of the future.

In particular, Martinez's story serves to explain away the colonial/spatial violence inhered in the history of the checkerboard region. In narrations of his story, the reality of the checkerboard area as "Indian Country," populated largely by Navajos who have long lived in this region outside the official Navajo reservation, is quickly elided by sharp

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[320] William S. Barton, "Navajo Finds Great Atom Ore Deposit," Los Angeles *Times*, December 11, 1950, p. 1.

recognitions of the land as belonging to the railroad—thus definitively, it would seem, *not* Indian Country. As in the case of Mount Taylor, the fact that government maps of the Navajo reservation do not include this area is used to place Native claims to that land under erasure. The fact that Paddy Martinez found the uranium (and probably also lived) on land that is outside the official boundaries of the reservation is dealt with in these articles with quick, narrative strokes, assuaging the colonial spirit that everything is as it should be, despite the articles' cursory recognition of the realities of land occupancy—that Navajos are the primary occupants, yet not the formal "owners," of the land.

In one representative passage, the Grants *Beacon* article from 1953 reports, "[f]or his find, Paddy now receives $250 a month from the Santa Fe railroad which *happens to own* a big chunk of the uranium rich land on Haystack Mountain" (emphasis mine). Likewise, the Los Angeles *Times* writes, "[t]he Navajo doesn't expect to become a millionaire. His discovery was made on lands to which the Santa Fe Railroad holds all mineral rights." These excerpts and similar passages imply that the politics of land ownership on the checkerboard are matters of coincidence and little consequence; to the contrary, the railroad does not simply "happen" to own land in this part of New Mexico. Quite the opposite: the history of land divestment for the industrial development of railroads has been an important part of the process of settling and colonizing the southwest and West regions of the US.

In short, Paddy Martinez's story is one recorded by rote because it ushers the indigenous inhabitants of this stolen, colonized space into the uranium story, and then straight back out again. Martinez himself rides horseback (or naps) his way into the uranium industry (described as though it always already *would* exist in the region) and

then seems to melt away, his fictionalized and unstable story left behind to ghost the uranium landscape. In December of 1950, *Time* Magazine offered a (strikingly premature) eulogy of Martinez's role in the uranium story. "Paddy still yearned to get rich," *Time* reports, (absent any evidence of such yearning on Martinez's part),

> but meantime, harried by friends who already want to borrow money from him, he scooped up his family, padlocked his hogans, leaving only the pigs, and headed for the hills. He left behind a crudely lettered cardboard sign: 'Please don't take anything out of my place and leave alone my pig…From Paddy Martinez.'

This account of Martinez's story communicates a number of things, subtle and not so subtle, about Martinez and the legacy of his encounters with the uranium industry; being paid $250 dollars a month by the Santa Fe Railroad, it would appear, has brought him more harm than good, as his friends "harried" him for money to an extent that he felt obliged to "head[] for the hills." This escape to the proverbial "hills" implies an ungrounded, immaterial evaporation that does not reflect real life, particularly real life on the checkerboard. What hills might he have fled to? Where? Owned by whom? Was it so easy to "scoop[]" up a large family, deeply rooted as they no doubt were in their home, community and life?

This quote communicates important information about the Navajos and the uranium industry to the reader: it tells us that economic development of Native life, the "civilizing mission" itself, is an always already failed project. Natives in general, the quote suggests, like Martinez's harrying "friends who already want to borrow money from him," have irrational relationships to "modern" forms of currency and commerce, those most civilized elements of civilized white life. In this vein, the assertion that "Paddy still yearned to get rich," but could not because of the demands of Navajo

community life suggests to the reader that Martinez's leave-taking, his evaporation from the Native scene, better serves his purposes of "get[ting] rich." thus, this story inheres the larger themes of federal Indian policy at the time and public sentiment *vis a vis* the reservation system: namely, termination of the federal-Indian trust relationship, and relocation. In the echo chamber of hegemonic discourses about Natives and Indian policy, even Martinez's (fictionalized) story of discovering uranium translates into a parable for termination and relocation.

In 1992 Martinez was inducted into the Mining Hall of Fame, despite the fact that he was not a miner. The description of his story in the Hall of Fame reflects the ways in which Martinez is brought into the uranium story as Native enabler to the industry, and, as this next quote purports, "to mankind":

> This native New Mexican, a Navajo, made the initial discovery of uranium in the San Juan Basin, the most important uranium-producing area in the United States. The region yielded in excess of $25 billion in uranium and contained 60 percent of the known uranium resources in the nation…In an era when research is proving many peaceful uses of the atom, Patricio (Paddy) Martinez is respected and remembered for his contribution to mining and to mankind.[321]

In this quote, the Navajo nature of the area around Haystack is nullified in favor of a description of the region as "the most important uranium-producing area in the United States," effectively naturalizing the uranium industry as indigenous to this terrain. Martinez himself becomes the (presumably unwitting) midwife to the industry and, by extension, to "peaceful uses of the atom," "to mining and to mankind."

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[321] "Martinez, Paddy," Mining Hall of Fame Inductees Database, http://www.mininghalloffame.org/inductee.asp?i=80&b=inductees.asp&t=n&p=M&s=, accessed on February 4, 2010.

The Checkerboard and the Spill

All of these accounts of Paddy Martinez and the checkerboard differ in important ways from one offered in 2004 by Melton Martinez, and organizer for the Eastern Agency Uranium Office in Thoreau, New Mexico. According to an article in the Gallup *Independent*, Melton Martinez tells the story in this way:

> Back in 1950 there were two trails that crossed near Haystack Butte, or "Red Mountain" as it's known in Navajo. Paddy Martinez used to take one of those trails to Brook's store to get groceries. Sometimes he's follow other trails into Grants.
>
> It was on one such occasion at the Greyhound Bus Station in Grants that Paddy noticed some folks talking to people in the station, saying "Have you guys seen this type of rock around here anywhere?"…"He just kind of peeked in there and noticed the color of the rock," [Melton] Martinez said. Then Paddy went back to his home in Haystack, NM, and found a similar rock. "He took that rock out and he took it back to a guy named Gunnerson, the only white person he could trust. Gunnerson sent it to Santa Fe Railroad. They went back up in there and they found out that it was uranium. Within a week, man, there were so many people out here looking for this stuff!"[322]

Melton Martinez, in addition to being an organizer working to clean up uranium mine and mill sites in the Church Rock area, is Paddy Martinez's grandson. His version of the story, while not necessarily more authentically "truthful" than the media accounts explored above, reflects a different kind of politics and positionality to Martinez and to the uranium industry. His description of Martinez's story echoes many of the others on some points; but it also diverges in different and important ways. For example, while accounts analyzed above relay that Martinez "put" the uranium "near a geiger counter," gave it to the mayor of Grants, or even that he was helped by a farmer to get it analyzed

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[322] Kathy Helms, "Living in the Valley of Death: Grandson of Paddy Martinez recalls Uranium Days," Gallup *Independent*, April 16, 2004.

all present an important difference from taking it to "the only white person he could trust."

This seemingly subtle difference radically remaps Paddy Martinez's story, as well as the politics of Native-white relations in the area, as does Melton Martinez's accounts of Navajo relationships to the uranium industry. Rather than narrating the Navajos as passive enablers to the industry, who contribute, with their "Indian memor[ies] for color" to both industry and "to mankind" before "head[ing] for the hills," Melton Martinez maps the relationship between Navajos and uranium in this way:

> My mother died of kidney failure. My uncle died of kidney failure. My father got to the stage where his kidneys started to give up. His lungs were already giving up. Two of my sisters, they can't have babies I'm not sure what's wrong with them. Two of my brothers are disabled. One is real bad. He's been in rehabilitation in Tohatchee. He can't really talk good…
>
> I lost my mom when she was 60. My dad couldn't walk. Something happened to his leg. A big old infection started on the side. He was only like 42 when he started going to the hospital. He spent most of his time in the hospital 10 years straight. They couldn't figure out what was wrong with his leg and they never healed it. At first they thought it was contagious…We lived right there in Haystack. We've been living right by the mines all our lives, and we've noticed that we've been coming down with different types of sickness mainly respiratory problems, kidney failure, and the sores on the skin, the rash. We've been getting a lot of that. We know for a fact now that it's coming off of the mining, and the more we do studies on this, we're finding out radiation can affect.[323]

In this quote, the implications of the uranium industry on human health get inscribed on the bodies of the Martinez family; clearly, Paddy Martinez's story extends long past the (possibly fictional and certainly fictionalized) moment when "padlocked his hogans…and headed for the hills."

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[323] Kathy Helms, "Living in the Valley of Death: Grandson of Paddy Martinez recalls Uranium Days," Gallup *Independent*, April 16, 2004.

Melton Martinez's organizing work is grounded in the human and environmental toll of the uranium industry on one of the most greatly impacted parts of the uranium landscape: the checkerboard region of the Grants Uranium Belt, called the "checkerboard" because of a land ownership pattern that resembles a checkerboard when mapped (see Figure 18). In the area northwest of Mount Taylor, ranging from Grants to Gallup, this checkerboard region has seen some of the most significant, and environmentally destructive, incursions from the uranium industry. During the initial uranium boom of the 1950s, this area was dubbed "Grant's Uranium Belt" in recognition of the multiple uranium claims made there, and the proliferation of mines and mills in a relatively small geographic area.

The checkerboard saw such intense development of uranium mines and mills in no small part because, under the General Mining Act of 1872, mining claims could be staked on the sections of public domain land that had been scattered among private and tribal trust sections. In their 1942 analysis of the stock reduction and soil erosion program on the Navajo reservation, Clyde Kluckhohn and Dorothea Leighton described the process of checkerboarding in this way:

> lands have also been taken away [from the Navajo Reservation] and use-rights thrown into doubt. One complication dates back to the building of the Santa Fe Railroad in the [eighteen]eighties, when all odd-numbered sections…on each side of the right of way to a depth of 40 miles were granted to the railroad. Thus a "checkerboard strip" was created in the region which had the heaviest concentration of Navaho population. On many of the sections Navaho families had lived or run their sheep for years.[324]

[324] Kluckhohn and Leighton, p. 43.

This history of the manipulation of land-ownership for the benefit of US industry and westward expansion, to the detriment of Navajo families, economic practices, and land-use, stands in stark contrast to narrative accounts of Paddy Martinez's uranium find being located on land which "happened to be owned" by the Santa Fe Railroad.

Figures 18 and 19 show the close correlation between the checkerboard region and "Grants Uranium Belt." These Figures are two different maps of the same area within the checkerboard region, both published in 1958 and prepared by the New Mexico Bureau of Mines and Mineral Resources. Figure 18, part of a "New Mexico Land Ownership Status" map, shows land status in the checkerboard area between the cities of Gallup and Grants, with Native land indicated by horizontal stripes, public domain (federal) land in light blue, private land in white, state land in yellow, and national park land in dark green. The checkerboard pattern is easy to pick out. The Navajo reservation constitutes most of the shaded area to the north, northeast, east, and southeast portions of the map. Figure 19 is part of a "New Mexico Energy Resources Map," and it shows active uranium deposits, marked by red dots inside red circles.

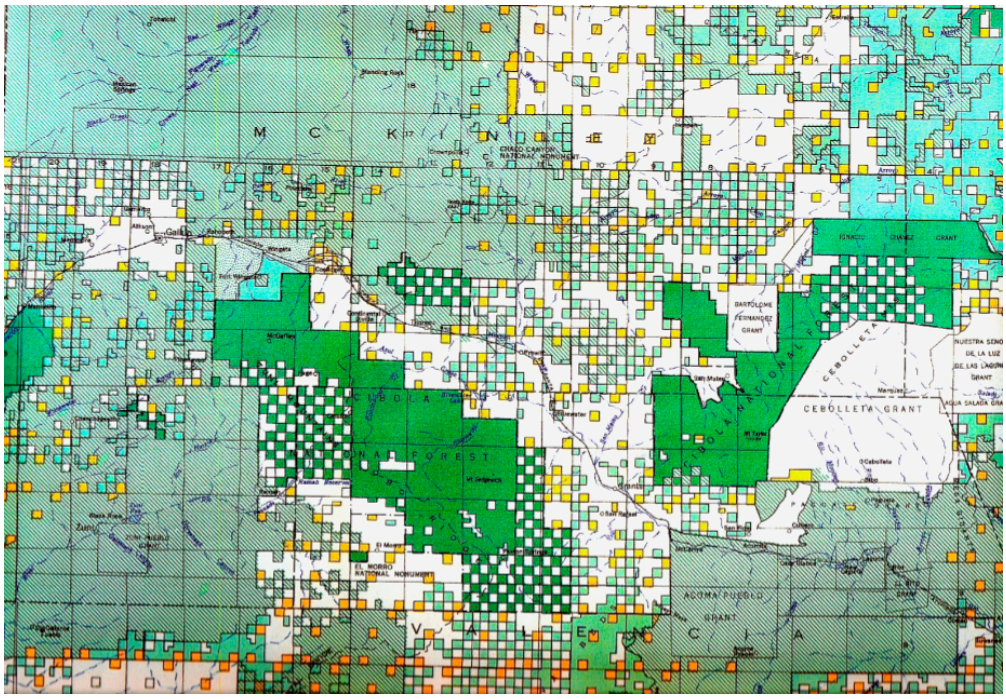

Figure 18

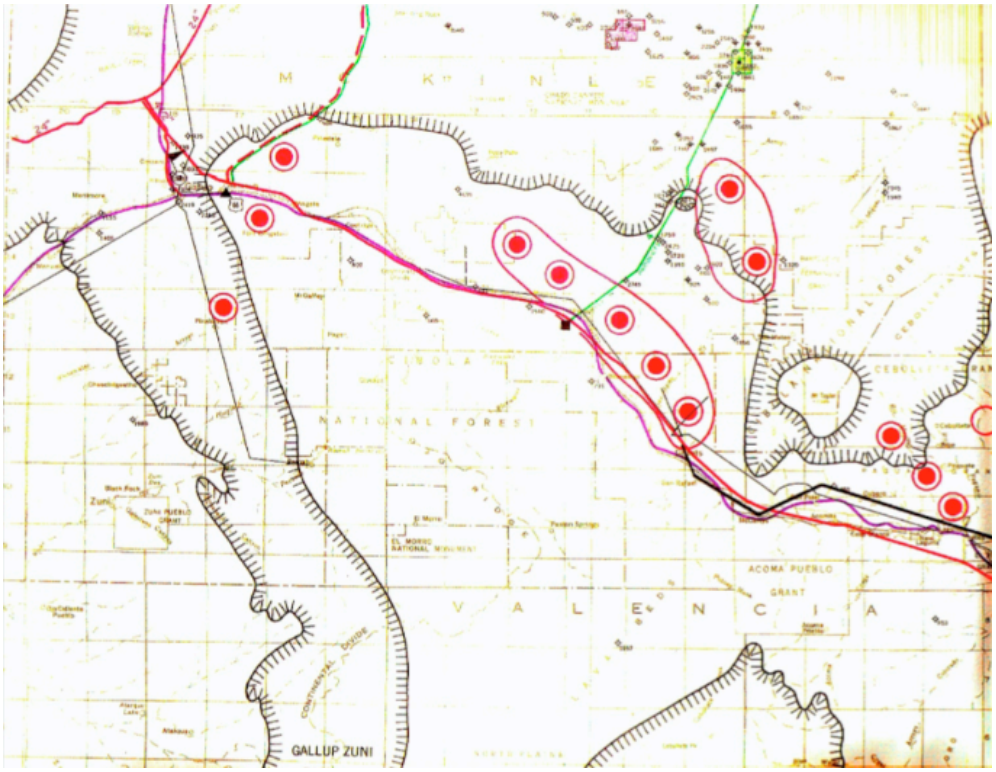

Figure 19

Together, these maps illustrate the overlay of the uranium industry on the checkerboard, despite the fact that the map shown in Figure 19 does not acknowledge land ownership—a visual reminder that, in the eyes of industry and the federal government alike, industrial development need not accommodate itself to particularities of land status and land rights, particularly those rights of indigenous nations. As illustrated by these maps, the checkerboard juxtaposes a highly dangerous mining industry with Navajo communities already marginalized by living off-reservation and thus vulnerable to being shunted off their land or exposed to toxic harm without the protection of the Navajo Tribal Council. It is this checkerboard pattern that allowed uranium claims to be made and developed most frequently on either corporate-owned or federal land, and thereby open to uranium exploration, claims-staking, and mill construction.

Despite the size of the 1979 Rio Puerco spill, it went largely unreported outside of New Mexico, in what Douglas Brugge calls a "muted" response that was "particularly striking" given the size and extent of the spill.[325] To illustrate, a search for news articles published in US newspapers and news magazines in the year after the Rio Puerco spill yields eleven articles, only two of which are over one hundred words in length, and the first of which did not appear until five days after the spill occurred. In contrast, a search for articles about Three Mile Island, also in the year after it occurred, yields almost four thousand articles, the first of which was more than twelve hundred words in length and appeared the morning after the accident.[326] When the Rio Puerco spill *was* covered in

[325] Brugge, 2002.
[326] Search conducted in the database Pro Quest with search terms "Puerco" and "Three Mile Island," on January 9, 2010.

national press, articles were quick to note that the contaminated area was "remote" and "sparsely populated."

Clean-up efforts at the spill site were middling at best. At a hearing about the spill and its aftermath, Paul Robinson of the Southwest Research and Information Center (SRIC) noted that there were more United Nuclear employees at the hearing than had been engaged in clean-up efforts in the weeks following the spill.[327] SRIC's own analysis concluded in 1979 that the radioactive liquid probably seeped as deep as thirty feet into the soil. In 2007, almost thirty years later, lifelong Church Rock resident Larry King offered the following testimony in an attempt to get the waste from the spill finally cleaned up:

> the biggest spill of radioactive wastes in United States history occurred in our community on July 16, 1979 — only about two miles from where I live. The contaminated fluids that escaped from the UNC uranium mill tailings pond ran right through our property, in the Puerco River, where we watered our livestock. I remember the foul odor and yellowish color of the fluids. I remember that an elderly woman was burned on her feet from the acid in the fluid when she waded into the stream while herding her sheep. Many years later, when water lines were being installed in the bed of the Puerco, I noticed the same odor and color in a layer about eight feet below the stream bed. To this day, I don't believe that contamination from the spill has gone away.

The Rio Puerco spill, and the slow and inadequate response from the federal government and the uranium industry alike, had a catalyzing effect on anti-uranium mining activism, for the obvious reasons that uranium industry was now proven to be extremely dangerous, and that regulation of the industry and prevention of radioactive accidents were a low priority of both government and industry. Rio Puerco quickly became a rallying point for anti-uranium mining politics, particularly as it revealed the

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[327] Brugge, 2002.

implications of the uranium industry for water and soil quality, human health, and the health of livestock, as well as the failures of the federal government to regulate the industry. The health problems of uranium miners and their families could no longer be seen as the only implication of the uranium industry. Instead, whole communities and regions were vulnerable to widespread releases of radioactive waste from unregulated mines and mill sites.

Section 2 *Navajo Indian Country*

> The term "Indian country"…means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.[328]
>
> The old folks were going up against the state of New Mexico with only the stories.[329]

In 2005, Navajo Nation President Joe Shirley signed the Dine Natural Resources Protection Act (DNRPA) into law, preventing uranium mining and milling in "Navajo Indian country." The DNRPA declares that "[n]o person shall engage in uranium mining and uranium processing on any sites within *Navajo Indian Country*" (emphasis added). This wording in the act is important; rather than stipulating a ban on uranium mining within the boundaries of the federally determined Navajo reservation, the DNRPA implicitly acknowledges that "Navajo Indian Country" might be something quite apart

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[328] 18 US Code Service 1151, 1948, as quoted in Getches, et al, 1993, pp. 460-1.
[329] Silko, writing about Laguna Pueblo land claims case against the state of New Mexico, 1997, p. 18.

from the official Navajo reservation. The first of my opening quotes is taken from federal Indian law regarding the designation of "Indian Country" in areas that could be outside formal reservation boundaries, including "dependent Indian communities." In choosing the wording of the DNRPA, the Navajo Nation probably had in mind the inclusion in this Indian Country definition what it considered the dependent communities in the Church Rock area.

In any case, no matter the Tribal Council's intent, the acknowledgement of the federally recognized category of Indian Country became a central way in which the uranium industry has been contested in the borderlands of the Navajo Nation. The wording of the DNRPA is particularly relevant because the uranium industry has operated both on and very near to the reservation proper, and stakes its claims so close to the reservation boundary line that "if you plot current uranium claims on a map of the Four Corners, they mass on the reservation's borders like troops waiting to charge."[330] Currently, these uranium claims "mass[ing] on the reservation's borders" are in various states of development, but many are being actively contested on multiple fronts (including the Mount Taylor TCP listing discussed in Chapter 3). In this section, I outline an ongoing legal battle over uranium claims in Indian Country, where contestation has largely occurred over boundary lines, patterns of stock grazing, and "old folks going up against the state...with only the stories."

Specifically, I explore the complex nature of land status and land occupancy issues in the Church Rock area in general, and in two sections in particular, in part through the legal conflict over Indian Country status. As I outline below, the history of

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[330] Cindy Yurth, "New Life for the Yellow Ore?" The Navajo *Times*, March 19, 2009.

land occupancy, land status, and land leasing in sections 8 and 17 has produced what state and federal actors see as a highly complex problem of determining jurisdiction. From the point of view of Navajo occupants of the area, however, long histories of land occupancy and land use make this area quite clearly *home*, no matter the competing claims made upon it by private, state, federal, and tribal authorities. These legal battles unfolding in the Church Rock area reveal the ways in which different ways of mapping "Navajo land," and the ontological premises built into those mappings, have significant implications for environmental justice.

In the late 1990s, the distinction between the official reservation and Navajo "Indian Country" came to a head over two adjacent sections[331] located in the vicinity of the Church Rock Chapter of the Eastern Navajo Agency in the checkerboard area[332]: sections 8 and 17, where the uranium mining company Hydro Resources Incorporated (HRI), a subsidiary of Uranium Resources Incorporated (URI), began seeking renewals of its mining permits on these sections.[333] The federal Environmental Protection Agency (EPA) intervened, and in 1997 declared that the status of these lands was "disputed Indian Country," and proper environmental regulations of the mining process would need to be enacted and overseen by EPA, rather than the New Mexico Environmental

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[331] "Section" refers to a plot of surveyed land, roughly one square mile containing 640 acres. This method of mapping land was instituted under the US Public Land Survey System as a means of mapping the vast expanses of land in the Western territories.

[332] See Figures 3 and 4 for orienting maps of sections 8 and 17, the Church Rock Chapter, and the surrounding checkerboard area.

[333] URI and HRI both specialize in in-situ leach mining, a uranium mining technology that, the companies assert, is environmentally "safe" and poses none of the same threats of radioactive contamination as open-pit and underground uranium mining. Local residents, the Navajo Nation, anti-uranium mining organizations, and environmentalists have all pointed out the dubious (and untested) nature of these assertions.

Department (NMED), which had previously been considered the jurisdictional authority by HRI, and the entity with which HRI filed for its mining permits. EPA disagreed with both HRI and NMED, and considered itself the proper jurisdictional authority because the land in question could be considered Indian Country under federal law. The jurisdictional problem involved in this case, in the eyes of the EPA, was whether NMED or the federal EPA would regulate drinking water standards during the mining process.

In making this decision, the EPA was not necessarily interested in protecting the land from uranium mining *or* having it declared "Indian Country" for the purposes of Navajo jurisdiction or authority (or, for that matter, sovereignty). In fact, as they wrote in a 1997 letter explaining their decision, the EPA stipulated that

> [o]ur decision to treat the status of Section 17 as in dispute does not require NMED to concede jurisdiction, nor does it grant the Navajo Nation jurisdiction. Rather, EPA has determined only that there is a dispute such that EPA will issue the permit until the status of Section 17 is resolved.

However, the implications of the decision remain the same, no matter the EPA's intent; to resolve the dispute would mean to decide whether or not sections 8 and 17 could be designated Indian Country under federal law. Under the DNRPA, an Indian Country designation would prevent uranium activity on sections 8 and 17. The matter then came before the US Tenth Circuit Court of Appeals, which ruled in favor of the EPA's jurisdictional authority, and therefore in favor of Indian Country status; this decision is still tenuous, however, as HRI has requested a review of the decision by the court *en banc*.

The complex nature of land status in the checkerboard as a whole is reflected in the history of land status in this relatively small Church Rock area. The official status of

this land has changed dramatically over time, due to fluctuating bureaucratic and industrial priorities, even if the fact of Navajo occupancy and use has not. Sections 8 and 17, which are adjacent to one another (see Figure 20), are in a part of the checkerboard sometimes described in legal documents as the "EO 709/744 area," referring to two Executive Orders (EOs) establishing those areas as part of the Navajo reservation by President Theodore Roosevelt.[334] However, the area was subsequently removed from the reservation under Executive Order 1000 in 1908 by President Roosevelt, and Executive Order 1284 in 1911 by President Taft; a result of "opposition from non-Navajo ranchers and their influence in Congress."[335] These latter orders (1000 and 1284) declared that all unallotted land in the EO 709/744 area would be removed from the reservation and placed in the federal public domain (although the language of the Executive Orders refers to this process as "restoring" the land to the public domain, effectively naturalizing US "ownership" of the land and erasing a whole history of Native occupancy). "It is hereby ordered," reads EO 1000,

> that the unallotted lands…withdrawn from sale and settlement, and set apart for the use of the Indians as an addition to the Navajo Reservation by Executive Orders dated November nine, nineteen hundred and eight, be, and the same are hereby, restored to the public domain...[336]

EO 1284, signed by Taft three years later, likewise declares

> It is hereby ordered that all lands not allotted to Indians or otherwise reserved within the townships in New Mexico added to the Navajo

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[334] *Pittsburg & Midway Coal Mining Co. v. Yazzie*, 909 F.2d 1387, 1388-1392, 10th Cir. 1990, as cited by the Tenth Circuit Court of Appeals, Docket No. 97-9556; see also J. Lee Correll and Alfred Dehiya, *Anatomy of the Navajo Indian Reservation: How it Grew*, 1978 [1972].
[335] Klara Bonsack Kelley and Harris Francis, *Navajo Sacred Places*, 1994, p. 56.
[336] Executive Order No. 1000 of December 30, 1908, J. Lee Correll and Alfred Dehiya, *Anatomy of the Navajo Indian Reservation: How it Grew*, 1978 [1972].

> Reservation by Executive Orders of November nine, nineteen hundred and seven, and January twenty-eight, nineteen hundred and eight…be and the same hereby are restored to the public domain.[337]

Whether or not the land continued to be mapped as officially within the borders of the reservation, however, was little matter to the Navajos living and grazing their sheep in the Church Rock area. As noted in Chapter 1, as much as a third of the Navajo population has consistently lived in areas not included in the official reservation, but acknowledged by the Tribal Council through the formation of Agencies and Chapters. The Church Rock Chapter is thus included within the Eastern Navajo Agency. The issue of tribal jurisdiction over the land is further complicated by the allotment that took place under the Dawes Act, privatizing parcels of land in this and other areas as owned by individual Navajo families rather than by the tribe. These kinds of overlaps in jurisdiction that characterize the checkerboard as a whole (state land, public domain, private, or tribal) would later cause considerable legal conflict in debates over issuing permits to the uranium industry in the Church Rock area, as I discuss below.

Sections 8 and 17 are "disputed" for different reasons, owing to very different problems of legal land status. HRI's claims on section 8 are owned by the company in "fee simple"; the rest of the land in section 8 are of ownership by the federal government as part of the public domain (see Figure 20). HRI's claims on section 17, although directly adjacent to those on section 8, are subject to a different set of contingencies. The claims in section 17 are all on tribal trust land, which is held for the Navajo Nation by the federal government. *However*, this trust designation only applies, in this case, to the

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[337] Executive Order No. 1284 of January 16, 1911, J. Lee Correll and Alfred Dehiya, *Anatomy of the Navajo Indian Reservation: How it Grew*, 1978 [1972].

land's surface rights. The mineral rights were sold to the Santa Fe Railroad in 1959, which then passed the rights on to HRI. Thus section 17 is a "split estate," divided between private interests and the Navajo Nation via the federal government.[338]

Opposition to the Indian Country designation comes on four fronts: first, from HRI; second, from a range of mining and energy industry promotional organizations; third, from the State of New Mexico and from McKinley County, which overlaps the Church Rock Chapter; and fourth, from the Navajo allottees who own property in the Church Rock area. The reasons for opposition vary somewhat according to different interests of each of these parties, but arguments against the Indian Country designation tend to cite similar legal arguments, ranging from assertions that section 8 "is not currently, nor has it ever been part of an Indian reservation,"[339] to the argument that the Church Rock chapter does not satisfy the two-pronged "*Venetie* test." As outlined by McKinley County Attorney Douglas Decker in a 2005 letter to David Albright of the EPA,

> In *Venetie*, the Supreme Court held that, in order to have a "dependent Indian community," the property in question must meet two requirements: (1) it must be set aside by the federal government for the use of Indian tribes and (2) the land must be under federal superintendence. Private land such as Section 8 has not been set aside by the federal government, nor is the land in question under federal superintendence. Since the federal set-aside and federal superintendence requirements are not satisfied on Section 8, the property is not "Indian Country."[340]

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[338] United States Tenth Circuit Court of Appeals, HRI Inc. v. Environmental Protection Agency, filed March 30, 2000.
[339] Letter from Katie Sweeny, Associate General Counsel to the National Mining Association, to David Albright, Groundwater Office Manager, US EPA, January 31, 2006, accessed at http://www.epa.gov/region09/index.html, February 11, 2010.
[340] Letter from Douglas Decker to David Albright, Groundwater Office Manager, US EPA, December 15, 2005, accessed at http://www.epa.gov/region09/index.html, February 11, 2010.

Furthermore, McKinley County (as represented here in Decker's letter) and the State of New Mexico, as well as Navajo allottees in the area, argue against the designation by citing that all property taxes in the area are paid to the County, and that "in recognition of their tax payments, fee landowners within the County are provided essential services such as road maintenance, fire and police protection, emergency medical services and public schools and school transportation."[341] Based on these grounds, the County and state (and allottees) argue that the Church Rock Chapter is decidedly not a "dependent community" of the Navajo Nation, and therefore that Church Rock does not satisfy the "*Venetie* test."

After outlining these arguments regarding the "Venetie test," Decker goes on to address what might be the more fundamental questions at hand, those of land occupancy and land use, and of "the old folks…going up against the state of New Mexico with only the stories":

> The New Mexico Supreme Court has embraced the *Venetie* two-prong test noting that it redirects "our attention to land and its title and *away from the more nebulous issue of community cohesiveness*."[342]…McKinley County has always treated the land and its title as the sole guide for jurisdictional determination.

Here, the position of McKinley County and the State of New Mexico is distinctly opposed to the idea that "community cohesiveness" could serve as a viable counter to the legal fact of "land and its title."

This notion of "community cohesiveness" referred to the grounds for arguments in favor of the Indian Country designation, as put forward by the Church Rock Chapter,

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[341] Letter from Douglas Decker to David Albright, Groundwater Office Manager, US EPA, December 15, 2005, accessed at http://www.epa.gov/region09/index.html, February 11, 2010.
[342] Emphasis mine.

Navajo residents of the area, SRIC, and the New Mexico Environmental Law Center. *Venetie* requires that a community be considered a "dependent Indian community" in order to be declared an appropriate test for Indian Country status. In order to suit the requirements of this *Venetie* test, a community must "1) have been set aside by the Federal Government for the use of the Indians as Indian land; and 2) they must be under federal superintendence."[343] Attorneys arguing in favor of the Indian Country designation point out that "Given that 90% of the land within Church Rock's boundaries is set aside for the occupation and use of Navajo tribal members, the remaining 10% of the land within the Chapters' boundaries must also be considered Indian country."[344] Furthermore, the remaining "10%" of the land that remains in the public domain is characterized by almost exclusive use by Church Rock Navajos, who have depended on that land for generations for water, livestock grazing, and other uses.

Figure 20 shows a section map for the Church Rock area, including sections 8 and 17, with the HRI License Area surrounded in a solid black line, overlapping the tribal trust land shaded in yellow, and also indicating the King Grazing Permit Area, which is described in this way:

> The King family holds a valid grazing lease for the east ¼ of Sec. 17 and west ½ of Sec. 16. Sections 3, 5, 6, 7, 9, 10, 15, 17, 18, 19, 20, and 21 are tribal trust or Indian allotted lands, in whole or in part. Sections 4, 8

[343] Letter from Eric Jantz, Staff Attorney, New Mexico Environmental Law Center, to Mr. David Albright, Ground Water Office Manager, United States Environmental Protection Agency, Region 9, January 30, 2006.
[344] Letter from Eric Jantz, Staff Attorney, New Mexico Environmental Law Center, to Mr. David Albright, Ground Water Office Manager, United States Environmental Protection Agency, Region 9, January 30, 2006.

(except SE ¼), 18 (NE ¼) and 22 (partial) are BLM lands; Section 16 is state land leased to BIA for Navajo grazing.[345]

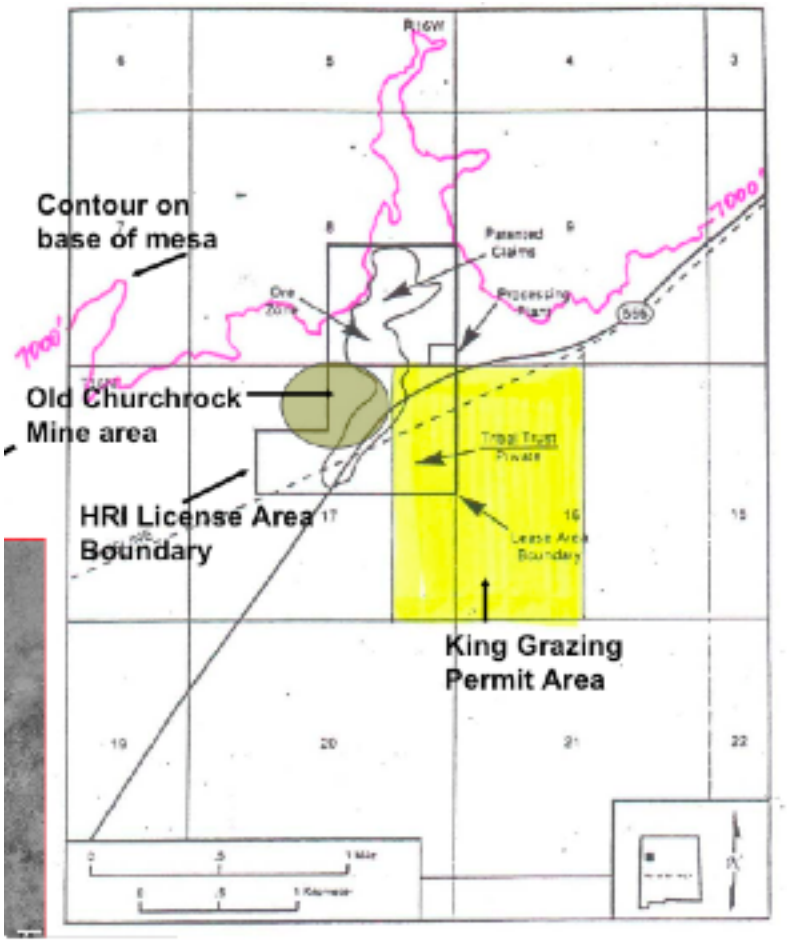

Figure 20 Church Rock area section map

The quote and Figure 20 together reflect the reality that the land-use patterns of the Church Rock Navajos are not complicated because of inconsistent Navajo use and occupancy, but rather by the inconsistent land ownership pattern inherent to the checkerboard itself.

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[345] "Eastern Navajo 'Indian Country' Tour for NMED Secretary Ron Curry," Church Rock Chapter, Navajo Nation, assisted by Church Rock Uranium Monitoring Project, and Southwest Research and Information Center, November 28, 2005. Accessed in the SRIC archives, June, 2009.

CRUMP

> I think many of us knew in our hearts that we lived in a contaminated area. But it wasn't until 2003 when the Chapter started the Church Rock Uranium Monitoring Project, or CRUMP, that we found out how bad the problem was, and still is. With the assistance of many outside organizations and agencies, we sampled our air, water, and land.[346]

In 2003, the Church Rock Chapter of the Navajo Nation formed the Church Rock Uranium Monitoring Project (CRUMP) in order to "assess impacts of past uranium mining in [the Church Rock] community."[347] Part of the reason behind this project was a nine hundred home housing project proposed by the Church Rock Chapter in 2001; in order to complete this kind of housing development, intended to make room for natural community growth, the Church Rock Chapter needed environmental data for its community planning efforts.[348] CRUMP's stated goals are to: "Assess contaminants in water, on land, in air in residential areas near abandoned uranium mines; Establish human exposures for future health studies; Train, involve local people in assessments…; Ensure community oversight of mine cleanup;" and "Educate, [and] report findings."[349] With the support of various technological grants and with the help of organizations such as SRIC, CRUMP proceeded to use radiation-detection equipment to map radiation levels in nearby air, soil, and water. The area in question is shown in Figure 21, with uranium mines and mill sites marked in red circles and shaded areas.

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[346] Testimony of Larry King on behalf of the Indian Country Designation, SRIC archives.
[347] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.
[348] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.
[349] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.

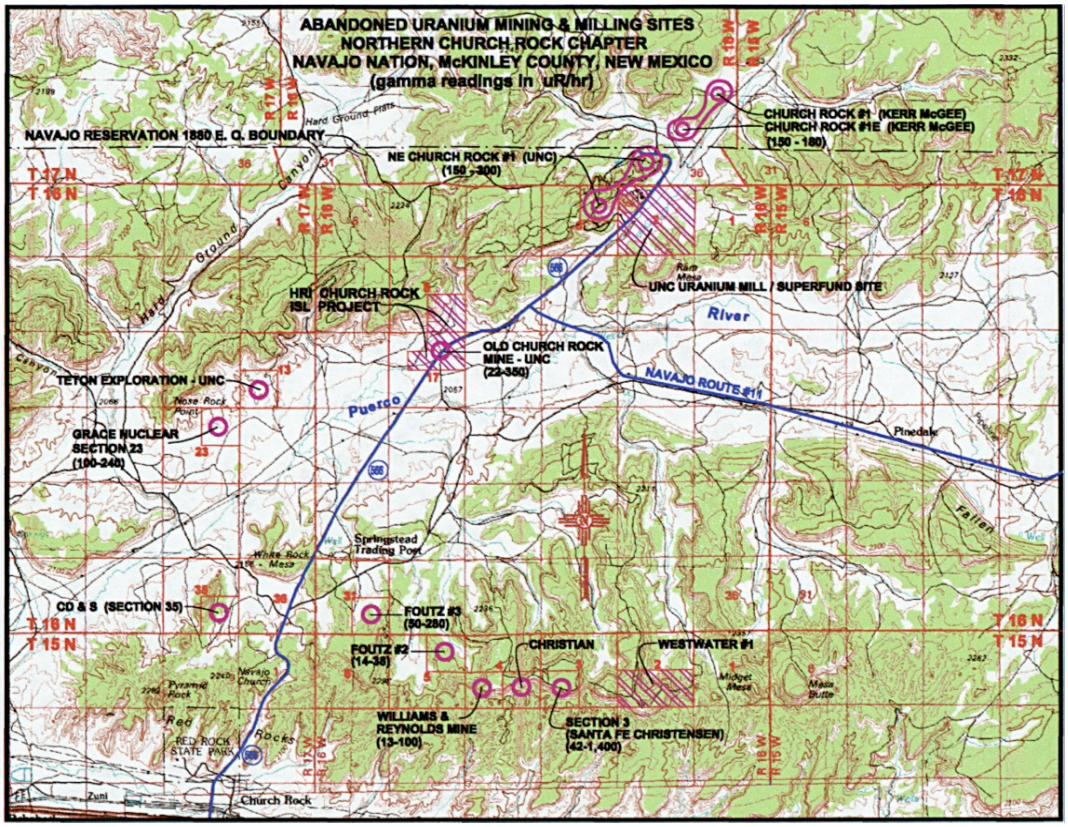

Figure 21 Abandoned Uranium Mining and Milling Sites, Northern Church Rock Chapter[350]

As this map shows, the Church Rock area is littered with uranium mine and mill sites, including the Superfund cleanup site at the United Nuclear Corporation Rio Puerco dam break. The town of Church Rock is located on the southeastern edge of the map. Figure 22 is an inset of Figure 21, showing sections 8 and 17, with the uranium claims on those sections shaded in red. Sections 8 and 17 are also downstream from the United Nuclear Uranium Mill Superfund site, where the aftereffects of the Rio Puerco spill have yet to be adequately cleaned.

[350] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.

Figure 22 Inset of Figure 21, showing sections 8 and 17, as well as the Rio Puerco spill site (the UNC Superfund site) to the northeast (and upstream of the sections).[351]

Members of the CRUMP team set out to map radiation levels in the air, soil, and water in the parts of this Church Rock area most exposed to uranium mine and mill sites. As a result of their work, CRUMP has produced a number of maps and images that function as counterpoints to the hegemonic construction of the uranium landscape as empty or sparsely populated terrain given over to the uranium industry as part of the post-Cold War national sacrifice. The CRUMP team has used these maps and images in a variety of public lectures and presentations to politicians. The maps and images have become central to the ways in which CRUMP seeks out environmental justice for Navajo residents of this part of the checkerboard.

CRUMP's presentations include evidence of radiation pollution in the environment, but they also include strong images that reveal the deeply human problem

[351] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.

posed by abandoned mines and mill sites for Navajos living in this area. Figure 23 shows one of these CRUMP images, an aerial shot of the United Nuclear Corporation/General Electric mine site, abandoned in 1982, on a mesa directly above at least five residences. CRUMP has indicated on the photograph the startling proximity of residences to radioactive waste dumps, abandoned mine sites, and mill facilities.

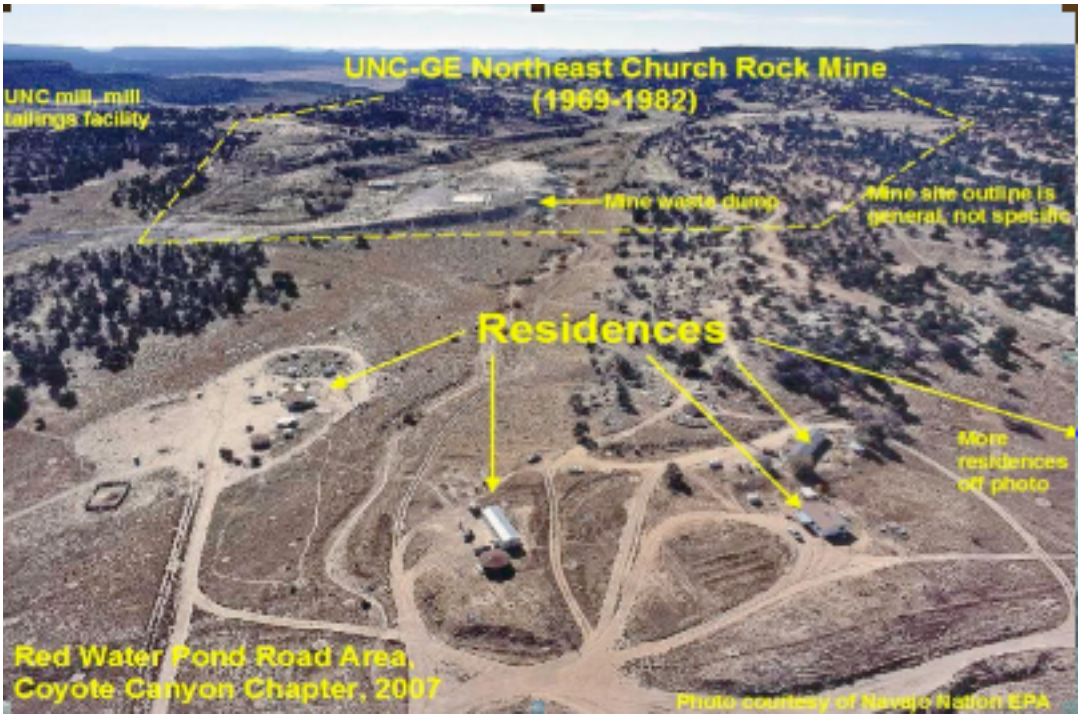

Figure 23 Photo used by CRUMP, showing proximity of residences to uranium mine and mill sites

While aerial photos such as this one are used by CRUMP in its presentations to visually indicate proximity of the uranium industry to Navajo people, the direct result of CRUMP's monitoring efforts produced maps of radiation levels as monitored by CRUMP's radiation detection team as they studied the area. Figure 24 shows one such map, with high radiation marked in red, moderate to high marked in yellow, and low or zero radiation marked in green. This map again shows the proximity of uranium industry

sites to Navajo land, in this case the official Navajo reservation boundary, ominously traversed by the red line that indicates high levels of radiation. These maps were produced by members of the CRUMP team mounting radiation detection devices to the tops of CRUMP vehicles, and driving through contaminated areas while meticulously recording levels of radiation in the air.

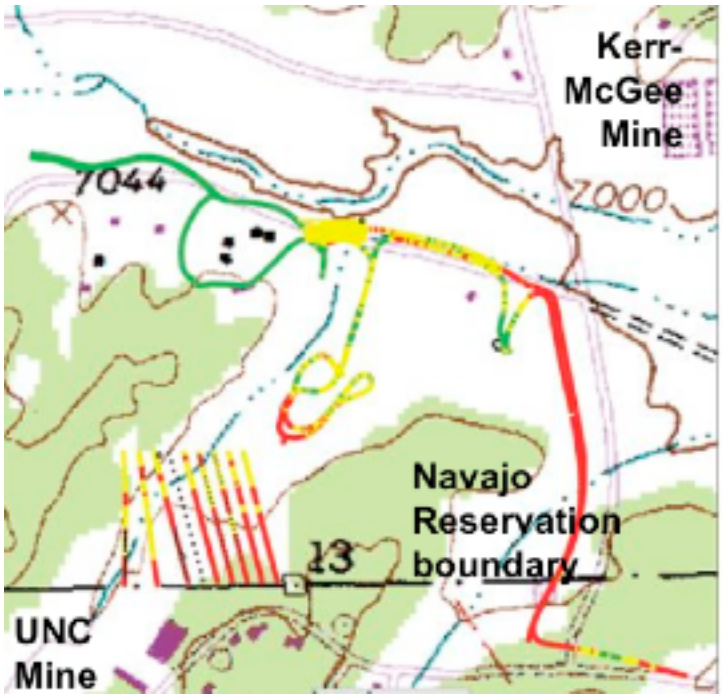

Figure 20 Map showing results of CRUMP radiation study[352]

CRUMP maps and images, including Figures 22, 23, and 24, work to reveal patterns of disproportionate and unjust exposure of Navajo residents to ambient radiation poisoning, mill tailings, and other forms of toxic uranium industry detritus. In this sense, they are directly engaging the problem of environmental racism and seeking immediate material response in the form of government-sponsored cleanup. As mentioned in Chapter 3, the production of "toxic maps" are a common enough practice for

[352] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.

communities mobilizing against environmental injustices; maps are powerful political tools and serve the important purpose of visually indicating grossly disproportionate exposure of communities of color to environmental harm.

However, I argue that these CRUMP maps, and the practice of producing them, are engaged in a much more complex kind of cartographic practice: a practice of subverting hegemonic constructions of the uranium landscape as empty of human importance, of the checkerboard as a natural and uncontested pattern of land status, and of Navajos as reservation-bound peoples who, as in narratives of Paddy Martinez, have been enablers to the uranium industry who then "head[] for the hills." CRUMP's maps, collectively, can be seen as part of a regenerative project that works to produce maps of *presence* and complex Navajo life in the face of extreme environmental injustice. In Figure 24, for example, the map is accompanied by text that reads, "14 Navajo residences located between two abandoned uranium mines," "*local kids played in arroyos sands having gamma levels 5 to 10x background!*" and "cattle, sheep drank mine discharge water."[353] This quote emphasizes the quite dire implications of radiation poisoning for local children in particular.

CRUMP, then, can be seen as a project that maps the uranium industry in relationship *to* Navajo bodies, lives, and spaces, working against the obliteration inherent in maps that render these bodies, lives, and spaces, as dead, gone, removed, and/or never-there. It denaturalizes the checkerboard by pointing out the fact that many Navajos and Navajo families live outside the reservation boundaries, and thus the reservation itself

[353] Emphasis in original, Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.

should not be the most salient marker of where and how the uranium industry gets limited in its activities. Figure 25, for example, is an aerial photograph of a tailings pile, with a line indicating the boundary of the Navajo reservation:

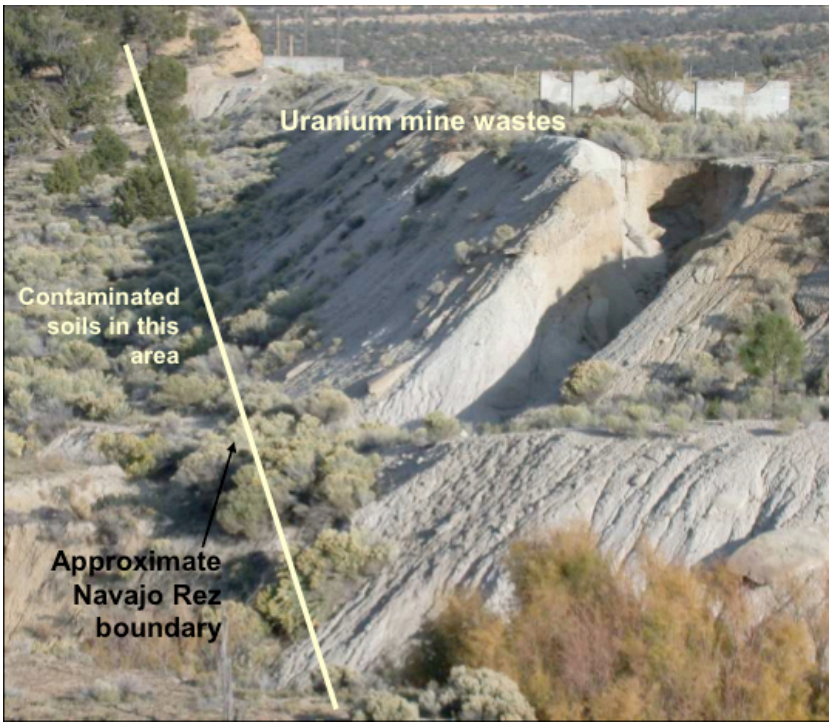

Figure 21 Photo of an abandoned tailings pile overlapping the Reservation boundary line[354]

Like the red line that traverses into the Navajo reservation in Figure 24, this image indicates the ways in which "the drawing of lines"[355] on maps cannot have power over the mobility of environmental hazards in the real-world context of wind, rain, soil erosion, water tables, aquifers, and other ecological agents that bear no respect for political borders.

Conclusion *Mobility and Territoriality*

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[354] Church Rock Area Uranium Monitoring Review, Orientation for Chapter Officials, Church Rock Chapter House, February 5, 2009.
[355] Limerick, *Cycles of Conquest*, p. .

The political moves to mark out terrain and extend some protection to it from the uranium industry that I explore in Chapters 3 and 4, however limited they are or seem to be, emerge from a context of colonization that places land dispossession, and forced removal, as among the colonizer's greatest and powerful technologies of genocide, control, and racial violence. This decenters and to some extent destabilizes the entrenched, racializing narrative that indigenous peoples have a hyper*emotional*, rather than political and anticolonial, connection to certain landscapes (even though they might). I do not mean here to deny that indigenous peoples, including the Navajos, have emotional, historical, or cultural connections to particular landscapes; they most certainly *do*. Instead, I suggest that more productive political frames for indigenous territoriality emerge from viewing forced removal from territory as a violent technology of the "civilizing mission."

This is true whether that forced removal is of people from their homes, or of the forced removal of the land from within the boundaries of the Navajo Nation, or, for that matter, the rhetorical removal of Paddy Martinez from the uranium scene. The nature of the checkerboard region provides a powerful symbolic *and* political context for these notions of territoriality and mobility. The colonial notion that mobility = progress, as well as the colonial practice of forcing removal of indigenous peoples, is the very reason for the checkerboard in the first place; the land was purchased on behalf of railroads for the penetration of American empire into its newly acquired western regions, which involved massive divestment of indigenous land to the public domain and removal of indigenous bodies to restricted reservations. This land, then, was vivisected on the altar of mobility,

progress, and conquest, the results of which are the complex issues of land status, land ownership, and Navajo presence outside the reservation.

The uranium industry, particularly as it was framed as a means of bringing the Navajo economy into the industrial present, likewise inheres the temporal "progress" of the colonial project. By mapping it into the spaces of their homes, their children's bodies, and their future community plans, the CRUMP team confronts the conflicting temporalities of uranium as the metal of the future and the Native as dead, dying, and relegated to the past. In doing so, they also make a firm call for environmental justice in the form of cleaning up the mines, mills, and spills, and for territorial sovereignty in the form of insisting on legal recognition of the checkerboarded land as Indian Country.

Conclusion

Environmentalism, Sovereignty, and Trying to Map the "Heart" of Navajo Country

In 1946 the US Congress established the Indian Claims Commission to hear and litigate land claims made by Natives, and settle those claims with monetary compensation for land lost as a result of the Dawes Act and other land dispossessing US policies. A major part of the work in Claims Commission cases involved gathering maps of Native land and reservations, and deciding which maps would be considered valid for use in court in order to referee conflicting land claims. Figure 26 shows a map that was produced for the Claims Commission "delineating the boundaries of Navajo Country…as described in various documents."

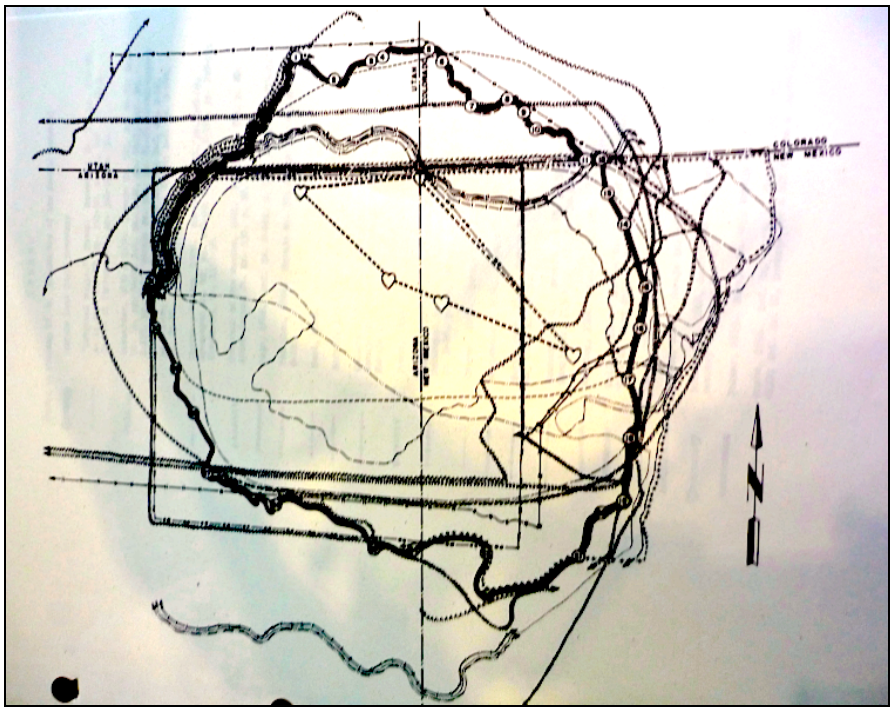

Figure 22 Map of "Navajo Country...as Described in Various Documents."[356]

[356] "Composite Map Delineating the Boundaries of Navajo Country as Described in Various Documents," Robert Young Papers, Center for Southwest Research, University of New Mexico, MSS 672 BC Box 2 Folder 37.

The map reveals the deeply contested, chaotic, and frenetic nature of colonial attempts to rationalize "Navajo Country" into a clearly bounded geographic space. In many ways this map unwinds the hegemonic logic, used successfully by the uranium industry, that "Navajo Country" is something limited to contemporary reservation borders, and that anything "outside" those official borders has never been mapped as Native land. This map shows multiple boundary lines, many of which are unconnected, not contiguous, or otherwise irrational to modern notions of what political boundaries should look like; the map shows modern colonial epistemologies attempting, and failing, to corral Navajo life, land, and bodies to something orderly and, at least on paper, well-managed. The map is left in the archives as evidence of that failure, attesting to the complexities of the colonial project, admitted here even by the colonial regime of knowledge production itself.

I conclude with this map as a way of segueing from the content of the dissertation to questions of where studies of environmentalism, sovereignty, and politics can go from here. As I argue in the Introduction, environmental justice and indigenous activists and scholars have given us new ways of mapping *beyond* the black-and-white signifiers of political boundaries and land: mapping "environment" or territory as one's own body, or sovereignty as inclusive of the ecological factors of what toxins penetrate sovereign land. These new ways suggest that territoriality, sovereignty, and ecology might work together to give us new maps of how to achieve environmental justice *and* decolonization in a toxic world. As human skin is the permeable, breathing, living boundary that regulates our relationships with what is not-us, so are the boundaries between peoples, and the boundaries between ecological systems permeable, silted, breathing, and relational. This

perspective on "boundaries" makes the drawing of maps, and the articulation of environmental politics in a modern world, deeply complex.

Negotiations between Native sovereignty and environmentalism are fraught with political conflict. The uranium case on Navajo land is relatively straightforward (at the moment) on this point: the Navajo Tribal Council supports the moratorium on uranium mining, and throws its political weight behind attempts to block the uranium industry. Thus the Tribal Council is a political ally to environmentalists, who generally see uranium as an environmental "bad." Other environmental issues raise different challenges to these political alliances, however. For example, the case of coal mining on Navajo and Hopi land is notorious for cleaving "environmentalist" politics from ones involving "sovereignty." This came to a head in 2009, when the Hopi Tribal Council passed a resolution declaring that environmental organizations working against the coal industry, including the Sierra Club, would "no longer [be] welcome" on Hopi land because, as the resolution argued, this anti-coal work subverted the sovereignty and self-determination of the Hopi government. The resolution was supported by Navajo Nation President Joe Shirley, who called environmental organizations "among the greatest threat to tribal sovereignty."[357] It was opposed by a number of indigenous and non-indigenous individuals and organizations. Opposition to the resolution certainly came under the rubric of protecting the environment from the ravages of coal mining, but also came from indigenous interests who argued that profit from the coal industry was not a productive means to achieve sovereignty and assert independence from US colonization.

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[357] "Shirley Supports Hopi Tribe's Opposition to Environmental Groups," Navajo Hopi *Observer*, September 30, 2009.

In this case, tribal sovereignty is pitted against environmentalist politics, and each political project is seen as antagonistic to the other. Political common ground might be found, however, if sovereignty is seen as an agent and an end of environmental justice, what Andrea Smith calls a "right to be responsible" over community, environmental, and political issues, rather than as a limited political project of indigenous governments. In the Hopi case, recognition by the Tribal Council that resource extraction industries, not just the US government, are colonizing forces involved in colonial "resource sovereignty," would yield perhaps different political alliances. Large environmental organizations, on the other hand, should take seriously charges from the Tribal Council that their work is paternalistic and counter-productive to the project of imagining decolonized futures for the Hopi people. Collaborative organization against colonial resource sovereignty, and promotion of Hopi sovereignty (over resources and otherwise) has the potential to bring together both projects.

When viewed in the context of the arguments presented in this dissertation about mapping new political terrain for environmental justice, and particularly of redrawing political boundaries that respect the permeation of ecological systems, the political terrain shifts significantly. Following Andrea Smith's directive that we begin to look for new ways that "unlikely alliances" can be made in the pursuit of decolonization, sovereignty, and justice, I would like to suggest that the work this dissertation undertakes to unmap and remap the uranium landscape can help untangle some of these kinds of major stumbling blocks to building alliance between environmental and indigenous politics, using environmental justice and sovereignty as the moderators. As in the Chippewa case discussed in the Introduction, wherein spearfishing rights were framed as treaty rights in

order to protect larger river ecosystems from mining, the "boundaries" of sovereignty are as blurred and impossible to map as the boundaries of ecosystems themselves.

What this suggests is that sovereignty does not end anywhere; it is unchartable in the system of signifiers that mark political boundaries in "lines drawn on maps." There is no black-and-white border marking the limits of the responsibility humans owe one another and owe to what is nonhuman. This disrupts the political philosophy underlying the nation-state, and thus modernity itself, by suggesting that sovereignty and responsibility radiate *out* from bodies and peoples rather than responsibility radiating *in* from the state and capitalist industries. In the case of uranium mining, wherein the stakes of these questions about responsibility, sovereignty, and environmental justice are of deadly significance, this requires unmapping the uranium landscape and decolonizing the hold colonial cartographies maintain on Native land that renders it a bleak, deserted, bounded wasteland.

The map shown in Figure 26 has one particular boundary line that draws the eye to the center of the image: one marked with hearts. The map's legend explains that this boundary line charts out one cartographer's notion of "the heart of Navajo country." The limited size and boundedness of this small part of larger Navajo territorial land claims belie the assertion that the cartographer has marked out the "heart" of Navajo land. I hope this dissertation shows the *richness* and the *rootedness* of that lie, and the work it and maps like it have done to perpetuate colonial authority over indigenous bodies and lands. I also hope that the dissertation points to the stark implications of rendering bounded anything that is deeply unmappable, whether what is "unmappable" is the boundary of

sovereign land or the reach of radiation into the physical, social, and political lives of those living in the uranium landscape.

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