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Indigenous Peoples and Epistemic Injustice: Science, Ethics, and Human Rights

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INDIGENOUS PEOPLES AND EPISTEMIC INJUSTICE: SCIENCE, ETHICS, AND HUMAN RIGHTS

Rebecca Tsosie*

Abstract: This Article explores the use of science as a tool of public policy and examines how science policy impacts indigenous peoples in the areas of environmental protection, public health, and repatriation. Professor Tsosie draws on Miranda Fricker’s account of “epistemic injustice” to show how indigenous peoples have been harmed by the domestic legal system and the policies that guide the implementation of the law in those three arenas. Professor Tsosie argues that the theme of “discovery,” which is pivotal to scientific inquiry, has governed the violation of indigenous peoples’ human rights since the colonial era. Today, science policy is overtly “neutral,” but it may still be utilized to the disadvantage of indigenous peoples. Drawing on international human rights law, Professor Tsosie demonstrates how public policy could shift from treating indigenous peoples as “objects” of scientific discovery to working respectfully with indigenous governments as equal participants in the creation of public policy. By incorporating human rights standards and honoring indigenous self-determination, domestic public policy can more equitably respond to indigenous peoples’ distinctive experience. Similarly, scientists and scientific organizations can incorporate human rights standards into their disciplinary methods and professional codes of ethics as they respond to the ethical and legal implications of their work.

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INTRODUCTION

Scientists and scientific organizations are increasingly challenged to

incorporate human rights standards into their disciplinary methods and professional codes of ethics and to explore the impact of their work on indigenous peoples. In particular, indigenous knowledge and benefit-sharing are vital considerations for contemporary biomedical researchers.¹ These concepts are also relevant to adaptation planning in an era of climate change.² In many ways, these fields of research are at the cutting edge of scientific inquiry relative to human health and the environment, and they will continue to be of vital importance to our collective future. In the United States, public policy often promotes certain forms of scientific research, for example, by providing grant initiatives from government entities such as the National Institutes of Health or Department of Energy. However, this research often implicates many legal and ethical controversies, indicating that there is still a great deal of work to be done at the intersection of scientific ethics and human rights.

This Article discusses the use of science as a tool of public policy and examines how science policy impacts indigenous peoples. More specifically, this Article focuses on three areas of public policy in which science has disregarded indigenous human rights: environmental protection, public health, and the repatriation of ancestral human remains. Ignoring indigenous rights in setting policy over these three areas impairs tribal interests in protecting their land, identity, and cultural heritage. These interests are all key components of the right to self-determination recognized by the U.N. Declaration on the Rights of Indigenous Peoples,³ which provides important standards to improve domestic public policy. Today, federally-recognized Native Nations within the United States operate as separate sovereign governments.⁴ They exercise jurisdiction over their members, as well as their territory, including nonmembers who enter tribal lands or enter transactions with the tribe or its members.⁵ Although contemporary tribal governments have a growing presence in the domestic political arena, prevailing

1. See Rebecca Tsosie, *Cultural Challenges to Biotechnology: Native American Genetic Resources and the Concept of Cultural Harm*, 35 J. L. MED. & ETHICS 396 (2007) (discussing biomedical research).

2. See Rebecca Tsosie, *Climate Change, Sustainability and Globalization: Charting the Future of Indigenous Environmental Self-Determination*, 4 ENVTL. & ENERGY L. & POL'Y J. 188 (2009) (discussing energy development and adaptation planning).

3. U.N. Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, ¶ 3, U.N. Doc. A/RES/61/295 (Oct. 2, 2007) [hereinafter Declaration].

4. *Montana v. United States*, 450 U.S. 544, 564 (1981); *United States v. Wheeler*, 435 U.S. 313, 322–23 (1978).

5. *Id.* at 564–66.

federal policies governing environmental protection, public health, and the repatriation of ancestral human remains, continue to impact them heavily. Historically, the federal government did not consider the interests of the tribal governments in shaping domestic policy in these three areas. Consequently, the application of these policies has often harmed Native peoples.⁶

Unfortunately, standard legal theories cannot redress many of these harms because the existing frameworks of property, torts, and contract law often fail to adequately account for the indigenous peoples' interests. Of course, that does not mean that the harm did not exist. Drawing on Miranda Fricker's account of "epistemic injustice," this Article argues that indigenous peoples have been harmed by the domestic legal system in their capacity as "giver[s] of knowledge" and in their capacity as "subject[s] of social understanding."⁷ In particular, the theme of "discovery," which is pivotal to scientific inquiry, has governed the violation of indigenous peoples' human rights since the colonial era.

This Article takes the position that science policy can promote effective partnerships and facilitate the realization of human rights if guided by appropriate ethical constructs. Too often, public policy discourse portrays the interests of scientists as being opposed to those of indigenous peoples. This is a false dichotomy. Scientific knowledge can be used for broad public benefit, thereby serving indigenous peoples as well as others. All this requires is that the relevant harms are identified and addressed. International human rights law presents an array of principles that can structure a more positive collaboration between scientists and Native peoples on issues of mutual concern, thereby leading to positive changes in domestic law and policy.

Part I of this Article will discuss the history of science policy as it has impacted indigenous peoples. Part II of the Article draws upon Miranda Fricker's account of epistemic injustice to illustrate the nature of indigenous peoples' claims and the harms that have arisen through the legal system's inability to recognize these claims. In Part III, the Article discusses three areas of policy development that have created conflicts between indigenous peoples and scientists. Finally, Part IV discusses several principles of international human rights law relevant to future policy development in these three areas and suggests how existing scientific and legal frameworks can be transformed to better reflect

6. *See infra* Part III.

7. MIRANDA FRICKER, EPISTEMIC INJUSTICE: POWER AND THE ETHICS OF KNOWING 7 (2007).

contemporary human rights norms.

I. NATIVE NATIONS AND THE JURISPRUDENCE OF “DISCOVERY”: INDIGENOUS PEOPLES AND NINETEENTH CENTURY SCIENCE

Commentators often mischaracterize the interests of Native Americans as being in opposition to those of scientists.⁸ It is more productive to examine how science policy reflects certain principles of thought and a particular research methodology. This methodology may be used for beneficial or harmful purposes. In some cases, conflicts between indigenous peoples and researchers arise because the two groups have disparate systems of thought. In other cases, the conflicts arise because the dominant society has different goals than the indigenous peoples do, and there is disagreement over the concepts of “benefit” or “harm.” As this section demonstrates, these two sets of conflicts have persisted in U.S. society since the nineteenth century. In the text below, the Article first discusses the differences between Western and indigenous thought as to the categories of knowledge that inform human experience. This provides the foundation necessary to understand “epistemic” forms of injustice. The Article will then discuss the impact of nineteenth century science policy upon indigenous peoples, and its continuing legacy in modern public policy discourse.

A. *The Differences Between Western and Indigenous Thought*

Western thought, at least since the Enlightenment era, has worked to separate science, ethics, and religion into separate domains and to create distinctive principles to govern each of them.⁹ Ethics is generally placed within the discipline of philosophy.¹⁰ The analytical tradition of Western philosophy has developed a secular form of rationalism to test the normative aspects of specific policies, thereby determining whether certain actions—like human subject research—are beneficial or harmful

8. See, e.g., Editorial, *Who Owns the Past?*, SCI. AM., (Mar. 27, 2012), available at <http://www.scientificamerican.com/article.cfm?id=who-owns-the-past> (arguing that repatriation rules are too favorable to American Indian communities and jeopardize the interests of science).

9. Professor Daniel Wildcat describes this separation as a “schizophrenic” approach to metaphysics, comparing the holistic frameworks of Native epistemologies. See VINE DELORIA, JR. & DANIEL R. WILDCAT, *POWER AND PLACE: INDIAN EDUCATION IN AMERICA* 47–55 (2001).

10. See generally THOMAS A. MAPPEL & DAVID DEGRAZIA, *BIOMEDICAL ETHICS* 1–2 (6th ed. 2005) (discussing ethics as a philosophical discipline devoted to the study of morality).

to human beings.¹¹

The analytical tradition of Western philosophy is quite complementary to scientific thought, as science is devoted to generating hypotheses that can be confirmed or disproved, and generating a factual basis for what we understand as the truths of our natural world.¹² These truths include our world's structure, form, and mode of operation.¹³ Religion once served as both the dominant force within Western European thought and as the basis to assess ethical action.¹⁴ However, today it has been segregated into the domain of "faith."¹⁵ Consequently, within secular American democracy, religion is formally excluded from public life and relegated to the area of "personal conscience."¹⁶ A principle of "toleration" pervades, rather than any robust attempt to marry religious and secular precepts.

In comparison, most traditional Native societies did not separate their systems of thought into separate domains of "religion," "philosophy," and "science," although their epistemologies contain all of those functions.¹⁷ To the contrary, many Native societies operate within a holistic understanding of the rules and responsibilities that govern the relations between people and all components of the natural world, whether human or non-human.¹⁸

This functional interdependency often influences tribal governance structures.¹⁹ Some Native peoples were and are governed by

11. *See id.*

12. *See generally* KARL POPPER, *THE LOGIC OF SCIENTIFIC DISCOVERY* (2d ed. 1968) (characterizing effective scientific method as disproving hypotheses through inductive processes: each time a prediction based upon a theory is correct, the theory survives).

13. *See* Frederick Suppe, *The Search for Philosophic Understanding of Scientific Theories, in THE STRUCTURE OF SCIENTIFIC THEORIES* 3–8 (Frederick Suppe ed., 2d ed. 1977).

14. WILLIAM WISHART, *THAT CERTAIN AND UNCHANGEABLE DIFFERENCE BETWIXT MORAL GOOD AND EVIL: A SERMON PREACH'D BEFORE THE SOCIETIES FOR THE REFORMATION OF MANNERS, AT SALTERS-HALL; ON MONDAY THE 3D OF JULY, 1732, 33–34* (1732).

15. *See* Letter from Thomas Jefferson to Nehemia Dodge, Ephraim Robbins & Stephen S. Nelson, Comm. Members, Danbury Baptist Ass'n (Jan. 1, 1802), *in* JEFFERSON: WRITINGS 510 (Merril D. Peterson ed., (1984)) ("[T]he whole American people [have] declared that their legislature should 'make no law respecting an establishment of religion, or prohibiting the free exercise thereof,' thus building a wall of separation between Church and State.").

16. Of course, religion continues to have a significant "informal" impact on public policy, as the recent controversy over women's reproductive rights demonstrates. *See* Rachael N. Pine & Silvia A. Law, *Envisioning a Future for Reproductive Liberty: Strategies for Making the Rights Real*, 27 HARV. C.R.-C.L. L. REV. 407, 432 (1992).

17. *See generally* DONALD L. FIXICO, *THE AMERICAN INDIAN MIND IN A LINEAR WORLD* (2003).

18. *See* Sarah B. Gordon, Note, *Indian Religious Freedom and Governmental Development of Public Lands*, 94 YALE L.J. 1447, 1449 (1985).

19. *See generally* DUANE CHAMPAGNE, *AMERICAN INDIAN SOCIETIES: STRATEGIES AND*

theocracies.²⁰ Others maintain secular and religious forms of government that interact to regulate the group's domestic affairs.²¹ Similarly, the group's overall identity expresses itself both culturally and politically, and is closely associated with the group's traditional lands and resources.²² Indigenous communities generally possess a great deal of "scientific" knowledge about their local environments due to the length of time they have lived on the lands and their subsistence-based traditional lifeways.²³ This "traditional ecological knowledge," however, is often inseparable from the ethical commands of appropriate resource use.²⁴ For example, many Native peoples in the Pacific Northwest maintain an impressive scientific knowledge of the wild salmon runs and their cycle from ocean to inland waterways.²⁵ However, they also consider salmon to be one of their First Foods and a sacred resource, describing salmon within their indigenous language as a distinct "people."²⁶ Thus, the salmon harvest may be viewed "scientifically" as a set of management strategies designed to promote sustainability of a "resource." But, it would be equally accurate to view tribal salmon management as an ethical system with corresponding rights and duties between the human and non-human "peoples" that affects systems of governance.

Indigenous identity is intergenerational.²⁷ This means that the contemporary people honor duties and obligations to their ancestors and to the future unborn generations.²⁸ Although these categories of human beings are not currently lives in being, they nonetheless have an identity and are deserving of respect and protection.²⁹ The essence of these relationships—with land, ancestral or future generations, or other living beings—is sometimes described as a "spiritual" connection between the

CONDITIONS OF POLITICAL AND CULTURAL SURVIVAL (1985).

20. See CAROLE E. GOLDBERG ET AL., *AMERICAN INDIAN LAW: NATIVE NATIONS AND THE FEDERAL SYSTEM* 383 (6th ed. 2010).

21. See CHAMPAGNE, *supra* note 19, at 51

22. Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge*, 21 VT. L. REV. 225, 282–85 (1996).

23. See generally GREGORY CAJETE, *NATIVE SCIENCE: NATURAL LAWS OF INTERDEPENDENCE* (1999).

24. See Tsosie, *supra* note 22.

25. JAMES A. LICHATOWICH, *SALMON WITHOUT RIVERS: A HISTORY OF THE PACIFIC SALMON CRISIS* 37 (2001).

26. VINE DELORIA, JR., *GOD IS RED: A NATIVE VIEW OF RELIGION* 90 (2d ed. 1994).

27. See Tsosie, *supra* note 22, at 286–87.

28. See *id.*

29. See *id.*

indigenous peoples and the various components of the universe.³⁰ The spiritual nature of these relationships represents a fundamental metaphysical understanding about life and the source of animation, which is understood as energy or movement.³¹ Such a concept cannot be neatly distilled into contemporary scientific principles associated with a mechanistic understanding of the universe, such as the laws of physics or chemistry.³²

However, these thought systems should not be conflated with a particular “religious view” about “God” or divine commandments. Each indigenous people maintains its own religious system, with a unique set of ceremonial and ritual practices. Yet, indigenous peoples throughout the world are unified by a particular understanding of the natural world, which the late Vine Deloria, Jr., termed a distinct “metaphysics.”³³ As Vine Deloria noted, this understanding does not correspond to any existing category within Western thought.³⁴

These fundamental differences in epistemology must be acknowledged in order to truly understand the conflicts between scientists and indigenous peoples. In addition, as Professor Leroy Little Bear has observed, the concept of science itself is one that is culturally relative.³⁵ What is understood as “science” depends upon the cultural worldview of the definer.³⁶ Little Bear contends that “Western paradigmatic views of science are largely about measurement using Western mathematics” as a model for what constitutes “reality.”³⁷ This model, of course, omits “the sacredness, the livingness, the soul of the world.”³⁸ It treats these qualities, which indigenous peoples know to be real based on their own observations over centuries, as non-existent.

Little Bear defines science on a more fundamental level as the “pursuit of knowledge,” and claims that Native peoples and Western peoples equally participate in this pursuit.³⁹ However, they do so in

30. *See id.*

31. *See id.*

32. *See generally* DELORIA & WILDCAT, *supra* note 9 (discussing the differences between Western and indigenous metaphysics).

33. *Id.* at 1–6.

34. *Id.*

35. Leroy Little Bear, *Foreword* to GREGORY CAJETE, *NATIVE SCIENCE: NATURAL LAWS OF INTERDEPENDENCE*, at ix (1999).

36. *Id.*

37. *Id.* at ix.

38. *Id.* at ix–x.

39. *Id.* at xi.

different ways and with different understandings of the universe.⁴⁰ In this way, the effort of Western scientists to define the parameters of a *valid* “pursuit of knowledge” may negate alternative accounts that would reveal valuable information. Another danger is that Western scientists will seek an incomplete form of knowledge and perhaps unwittingly endanger the environment or human health. This is one problem with contemporary scientific innovation that seeks to mine indigenous “traditional knowledge” but rejects the ethical constraints that indigenous cultural norms place on such knowledge.⁴¹

In sum, many conflicts between scientists and indigenous peoples result from fundamental differences on what “science” encompasses and what forms of knowledge might be used to access information for society’s benefit.⁴² A second set of conflicts arises from the use of science as a tool of public policy. In the public policy sense, science becomes a tool to effectuate a particular set of interests. As the following discussion demonstrates, conflicts between Western scientists and indigenous peoples typically arise because indigenous peoples are treated as the “objects” of Western scientific discovery rather than as equal participants in the creation of knowledge or public policy (as a shared endeavor). This is not the fault of science or scientists. It is largely the fault of a public policy discourse that uses terms such as “knowledge” and “benefit” as though they are neutral and fully capable of intercultural exchange. In fact, the terms are often used as political devices to advance or suppress particular interests and values.

B. The Impact of Nineteenth Century Science Policy upon Indigenous Peoples

Although science policy has experienced normative shifts over the past two centuries, the practice of using science to privilege particular

40. *Id.*

41. For example, there is an active international effort underway to gather indigenous environmental knowledge for use in adaptation planning. The thought is that traditional knowledge can be “tested” under Western scientific standards to determine whether it is “accurate,” and if it is, it can be incorporated into adaptation plans to deal with the problem of climate change. Panels on Indigenous and Local Knowledge for Adaption, at the Climate Adaptation Futures: Second International Climate Change Adaptation Conference (May 29, 2012). *See also* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE REPORT (forthcoming 2013) (this report will contain a chapter on this subject).

42. I will intentionally differentiate “information” from “knowledge.” There are many ways to access information. However, systems of knowledge are necessary to assemble and categorize that information in ways that are useful to human societies.

social interests continues.⁴³ In addition, the policies of past eras continue to impact Native peoples.⁴⁴ This claim is best understood in relation to the genesis of American science as a public policy tool in the nineteenth century. It was this era that had the most enduring impact on the rights of indigenous peoples in the United States. Indeed, the frameworks developed in the nineteenth century continue to influence contemporary domestic policies, sometimes in ways that policymakers do not see or appreciate.

The nineteenth century was America's enlightenment era, and the scientific quest for "new knowledge and understanding" was pivotal to the formation of a new nation, as demonstrated by the Lewis and Clark Expedition of 1803. The Lewis and Clark Expedition is generally understood as an undertaking to map the lands that the United States acquired through the Louisiana Purchase. However, for indigenous peoples, the expedition meant much more than that. The Lewis and Clark Expedition incorporated the Doctrine of Discovery in a literal sense to claim the aboriginal homelands of indigenous nations as the sovereign territory of the United States.⁴⁵ However, in a symbolic sense, the Lewis and Clark Expedition used the trope of discovery to legitimize the acquisition of new knowledge about particular subjects, including indigenous peoples.⁴⁶ Discovery has remained a dominant theme of scientific inquiry and one that is protected by the United States Constitution, which is the foundation for property rights in technology and innovation.⁴⁷ Thus, for indigenous peoples, "discovery" is a theme that has operated continuously within American policy to impair their rights to land and cultural heritage.⁴⁸

The history of the Lewis and Clark Expedition proves these points. On January 18, 1803, President Thomas Jefferson sent a confidential message to Congress recommending a Western exploratory expedition to give the United States the information necessary to acquire these uncharted lands.⁴⁹ At that time, other European sovereigns had claimed

43. *See infra* Part III.

44. *See infra* Part III.

45. James V. Fenelon & Mary Louise Defender-Wilson, *Voyage of Domination, "Purchase" as Conquest, Sakakawea for Savagery: Distorted Icons from Misrepresentations of the Lewis and Clark Expedition*, 19 WICAZO SA REV. 85, 87 (2004).

46. *See* Rebecca Tsosie, *Who Controls Native Cultural Heritage? Art, Artifacts, and the Right to Cultural Survival*, in CULTURAL HERITAGE ISSUES: THE LEGACY OF CONQUEST, COLONIZATION, AND COMMERCE 3, 11 (James A.R. Nafziger & Ann M. Nicgorski eds., 2009).

47. U.S. CONST. art I, § 8, cl. 8.

48. Tsosie, *supra* note 46, at 11.

49. Confidential Message from Thomas Jefferson to Congress Recommending a Western

the lands through “discovery.”⁵⁰ The popular mythology of the day posited that these remote lands were the home of woolly mastodons, erupting volcanoes, and “men of a savage race.”⁵¹ Jefferson’s message to Congress was less imaginative and much more instrumental. Jefferson specifically identified a need to acquire further information about the Indian tribes residing in these areas.⁵² Jefferson noted that Indian tribes were generally becoming very dissatisfied with the diminution of their territories by European settlement and were actively resisting further land transfers.⁵³ Jefferson advised that federal Indian policy should incentivize Indians to adopt a “civilized” agricultural lifestyle, which required less land than hunting.⁵⁴ In addition, Jefferson encouraged the use of trading houses, which would invoke within the Indian people a desire to acquire trade goods and ideally would also place them in debt.⁵⁵ Jefferson theorized that this debt would force them to enter land exchanges as a means of paying off their debts.⁵⁶ Congress quietly approved Jefferson’s request on February 28, 1803, allocating the sum of \$3000 to fund the Corps of Discovery, which would be led by Meriwether Lewis and William Clark.⁵⁷

A few months later, on April 30, 1803, Jefferson signed a treaty with France, concluding the Louisiana Purchase, which effectively doubled the United States’ territory.⁵⁸ Rather than being a covert expedition through foreign territory, the Lewis and Clark Expedition was publicized

Exploring Expedition (Jan. 18, 1803), in RACE AND RACES: CASES AND RESOURCES FOR A MULTIRACIAL AMERICA 184, 184 (Juan F. Perea et al. eds., 2000); see also Rebecca Tsosie, *How the Land was Taken: The Legacy of the Lewis and Clark Expedition for Native Nations*, in AMERICAN INDIAN NATIONS: YESTERDAY, TODAY, AND TOMORROW 247 (George Horse Capture et al. eds., 2007).

50. *Id.*

51. Tsosie, *supra* note 49, at 247.

52. See Hope M. Babcock, *A Civic-Republican Vision of “Domestic Dependent Nations” in the Twenty-First Century: Tribal Sovereignty Re-Envisioned, Reinvigorated, and Re-Empowered*, 2005 UTAH L. REV. 443, 536–38 (2005); Robert J. Miller, *The Doctrine of Discovery in American Indian Law*, 42 IDAHO L. REV. 1, 79 (2005) (noting Jefferson granted 3000 land patents in his two years as governor).

53. Jefferson, *supra* note 49, at 190.

54. *Id.*

55. Tsosie, *supra* note 49, at 247.

56. *Id.*

57. David P. Currie, *The Constitution in Congress: Jefferson and the West, 1801-1809*, 39 WM. & MARY L. REV. 1441, 1462 (1998). See Act of Feb. 28, 1803, ch. 11, §3, 2 Stat. 206.

58. Colin Elman, *Extending Offensive Realism: The Louisiana Purchase and America’s Rise to Regional Hegemony*, 98 AM. POL. SCI. REV. 563, 568

as a survey of “American-owned land.”⁵⁹ In this way, the Lewis and Clark Expedition epitomized the “Enlightenment” thinking that Jefferson espoused: “the triumph of reason, the rightness of nature, and the improvement of society through knowledge.”⁶⁰

Jefferson asked Lewis and Clark to find a navigable waterway from St. Louis to the Pacific Ocean.⁶¹ Jefferson also asked them to make contact with the Indians they encountered and document their habits, both to record examples of human beings living in a natural state and to ascertain the best mode of transacting business with them to further the interests of the United States.⁶² Furthermore, he instructed Lewis and Clark to scientifically document all the plant and animal species they encountered and map the landscape’s key features.⁶³ This scientific expedition had a direct and enduring effect on indigenous peoples. They were studied as objects of scientific inquiry, much like the region’s plants and animals.⁶⁴ Although tribal lands were annexed to the United States through the treaty with France,⁶⁵ the Indian Nations had no right as nations to consent or object.⁶⁶ The European Doctrine of Discovery only pertained to “civilized nations” that could acquire “title” to newly discovered lands merely by virtue of being the first to “discover” the lands and establish a minimal settlement upon them.⁶⁷

The Doctrine of Discovery may have originated in the international law authorizing European colonialism, but it was ultimately incorporated into domestic law.⁶⁸ In the 1823 case *Johnson v. M’Intosh*,⁶⁹ Chief

59. *Lewis and Clark, Inside the Corps, Circa 1803*, PBS, http://www.pbs.org/lewisandclark/inside/idx_cir.html (last visited July 12, 2012) [hereinafter *Lewis and Clark, Inside the Corps*].

60. Michael Mooney, *Foreword* to STEPHEN DOW BECKHAM, *THE LITERATURE OF THE LEWIS AND CLARK EXPEDITION: A BIBLIOGRAPHY AND ESSAYS* 7 (2003).

61. *Lewis and Clark, Inside the Corps*, *supra* note 59.

62. President Thomas Jefferson’s Instructions to Captain Meriwether Lewis (June 20, 1803), available at <http://www.library.csi.cuny.edu/dept/history/lavender/jefflett.html> (last visited Aug. 10, 2012).

63. *Id.*

64. *See id.*

65. ROBERT J. MILLER, *NATIVE AMERICA, DISCOVERED AND CONQUERED: THOMAS JEFFERSON, LEWIS & CLARK, AND MANIFEST DESTINY* 71–73 (2006).

66. *Id.* at 10.

67. The Doctrine of Discovery was applied to dispossess Native peoples of their lands in the U.S., Canada, New Zealand, and Australia, albeit with some key distinctions. Aboriginal people in Australia, for example, were not recognized as having any right to occupy their lands until the historic *Mabo* decision in 1992. *Mabo v. Queensland (No. 2)* (1992), 175 CLR 1 (Austl.).

68. *See* ROBERT A. WILLIAMS, JR., *THE AMERICAN INDIAN IN WESTERN LEGAL THOUGHT: THE DISCOURSES OF CONQUEST* (1990).

Justice John Marshall held that the United States acquired the title by discovery as the successor to Great Britain, and that the Indian Nations had only a “title of occupancy,” which could be extinguished by the United States through “purchase or by conquest.”⁷⁰ At the material level, the Lewis and Clark Expedition gave the United States the information it needed to extinguish Native land titles and promote westward expansion by white settlers⁷¹—the only group entitled to U.S. citizenship at the time.⁷²

At the level of ideology, the Lewis and Clark Expedition appropriated Native places and identities to give birth to the United States as a modern nation. In the process, Native lands, cultures and political identities were claimed, discarded, or transformed into those of “America.” While the material impact of this “voyage of discovery” is visible in the tangible appropriation of Native lands that followed the Expedition, its ideological impact is more subtle. For example, as Lewis and Clark mapped the mountains, valleys and rivers of the region, they discarded the names already given to these places by Native peoples and substituted names of importance to them, for example, “Clark’s Fork.” This re-naming process constitutes a form of “cultural trespass,” in which indigenous understandings of place are transformed into American understandings. Specifically, this occurs when the Native stories attached to place names—including stories about the creation of the people, their migrations, and their experiences over time—are lost or

69. 21 U.S. (8 Wheat.) 543 (1823).

70. *Id.* at 587.

71. See, e.g., William Nichols, *Lewis and Clark Probe the Heart of Darkness*, 49 AM. SCHOLAR 94, 94, 96 (1979–1980). Professor Nichols quotes Jefferson’s instructions to Lewis and Clark to gather from the Indians:

- the names of the nations & their numbers;
- the extent & limits of their possessions;
- their relations with other tribes or nations;
- their language, traditions, monuments;
- their ordinary occupations in agriculture, fishing, hunting, war, arts & the implements for these;
- their food, clothing, & domestic accommodations;
- the diseases prevalent among them, & the remedies they use;
- moral & physical circumstances which distinguish them from the tribes we know;
- peculiarities in their laws, customs & dispositions;
- and articles of commerce they may need or furnish & to what extent.

Id. at 96. In addition, Jefferson urged Lewis and Clark “to learn what they could of ‘the state of morality, religion & information among them’ so that those who set out to ‘civilize & instruct them’ would be able to adapt their methods to the customs of the societies they proposed to change.” *Id.*

72. See Indian Citizenship Act, ch. 233, 43 Stat. 253 (1924).

subsumed within the “American” narrative of creation.⁷³

This “remapping” process significantly impacted Native identity.⁷⁴ The United States annexed tribal lands and renamed them as the lands of the United States. Native American peoples inhabiting these lands were involuntarily incorporated into the United States not as citizens, but as “wards” of the federal government.⁷⁵

This “guardian/ward” relationship is a cornerstone of federal Indian law. This is represented in the Cherokee cases, which, like *Johnson v. M’Intosh*, are also authored by Chief Justice John Marshall.⁷⁶ The Cherokee cases stated that as the “guardian,” the United States had the power to coerce Native peoples into accepting the “arts of civilization.”⁷⁷ Thus the United States maintained the exclusive power of regulating trade with them.⁷⁸ Because all other purchases were excluded, this power to regulate trade resulted in the maximum transfer of land to the United States. The United States carefully employed a combined policy of war and peace to coerce the tribes’ submission as “dependents” of the United States.⁷⁹ The Lewis and Clark Expedition actually followed a formal protocol in which the “captains would explain to the tribal leaders that their land now belonged to the United States”⁸⁰ and that President Jefferson was their new “great father.”⁸¹ The captains would then give the Indian leader a “peace medal,” with Jefferson on one side and two hands clasping each other on the reverse side, as well as trade goods.⁸² The Corps men would then march in uniform, shooting their guns, in a parade of military strength and unity.⁸³

The journal entries made by Lewis and Clark documented the Indian

73. See generally KEITH H. BASSO, *WISDOM SITS IN PLACES: LANDSCAPE AND LANGUAGE AMONG THE WESTERN APACHE* (1996); RODNEY FREY, *STORIES THAT MAKE THE WORLD: ORAL LITERATURE OF THE INDIAN PEOPLES OF THE INLAND NORTHWEST* (1995).

74. The theme of “remapping” was the subject of the recent Federal Bar Association’s annual Indian law conference. Mapping Indian Law and Policy, Panel at the Federal Bar Association Thirty-Seventh Annual Indian Law Conference (Apr. 19–20, 2012).

75. *Cherokee Nation v. Georgia*, 30 U.S. (5 Pet.) 1, 17 (1831).

76. See *Worcester v. Georgia*, 31 U.S. (6 Pet.) 515 (1832); *Cherokee Nation*, 30 U.S. (5 Pet.) 1.

77. *Worcester*, 31 U.S. at 557.

78. *Id.* at 553, 556.

79. See Eric Kades, *The Dark Side of Efficiency: Johnson v. M’Intosh and the Expropriation of American Indian Lands*, 148 U. PA. L. REV. 1065 (2000).

80. *The Native Americans*, PBS, <http://www.pbs.org/lewisandclark/native> (last visited July 12, 2012).

81. *Id.*

82. *Id.*

83. See *id.*

peoples' "moral character" by listing the Native peoples' perceived traits and comparing those traits with the traits of "civilized men."⁸⁴ In fact, Thomas Jefferson was a proponent of the view that white Europeans were at the apex of civilization by virtue of their moral and intellectual superiority.⁸⁵ Jefferson posited that Indians had the natural capacity to adopt the habits of civilization.⁸⁶ He distinguished the Indians' ability to "adopt civilization" from what he saw as the more primitive African-Americans, who were so far below the moral capacity of a white man that they had little hope for anything beyond the status of slaves to the white race.⁸⁷ Lewis and Clark identified categories of good and bad Indians in reference to whether they had the ability to be friendly to whites and adopt the habits of civilization.⁸⁸ This ultimately became the touchstone for U.S. Indian policy, which encouraged treaty cessions with compliant Native leaders (the "Peace Policy") and used military expeditions to forcibly appropriate tribal lands from resistant Native leaders (the "War Policy").⁸⁹

Although the Lewis and Clark Expedition seems quite distant in the United States' collective memory, the theme of discovery is alive and well in contemporary science policy. Indigenous peoples have been uniquely harmed by this theme of discovery. Of all the groups that may have been disadvantaged within American society as a historical matter, indigenous peoples are the group that continues to be treated as "objects" of scientific inquiry, rather than co-creators in the categories of knowledge that inform scientific inquiry.⁹⁰

84. Nichols, *supra* note 71, at 96.

85. Tsosie, *supra* note 46, at 15.

86. *Id.*

87. See Notes of Thomas Jefferson on the State of Virginia, Query XIV (1787), in RACE AND RACES: CASES AND RESOURCES FOR A MULTIRACIAL AMERICA 100, *supra* note 49, at 100–02 (excerpting notes written by Jefferson in 1787 offering his perception of the fundamental moral attributes of black slaves and Indians). Jefferson's line of thinking was ultimately incorporated into the Supreme Court's infamous *Dred Scott v. Sandford* case, 60 U.S. (19 How.) 393 (1856), which found that Native peoples could be "naturalized" to citizenship if they gave up their tribal relations and became civilized, while African-Americans lacked the fundamental capacity to ever become "citizens." *Id.* at 403–06 (distinguishing Indians as a "free and independent people," despite their "uncivilized" nature, who could be naturalized to U.S. citizenship if Congress took the requisite steps to do so).

88. See Tsosie, *supra* note 46, at 16.

89. Donald Fixico, *Federal and State Policies and American Indians*, in A COMPANION TO AMERICAN HISTORY 379, 382–83 (Philip J. Deloria & Neal Salisbury eds., 2004).

90. See generally Debra Harry, *Indigenous Peoples and Gene Disputes*, 84 CHI.-KENT L. REV. 147 (2009) (discussing legal battle of the Havasupai Tribe for improper usage of medical data and Oxford University's failure to gain informed consent of the Nuu-cha-nulth Tribe to utilize blood samples for research).

C. *Contemporary Science Policy and the Legacy of the Past*

Most modern scientists have rejected the overt scientific racism of the nineteenth century, which differentiated the moral and intellectual capacity of the different races.⁹¹ The point of the discussion above is not to resurrect an embarrassing history, but to show how prevailing notions of what is scientifically “true” become central to the development of specific laws and policies. For example, the scientific racial hierarchy of the nineteenth century validated the differential treatment of human beings within American society in the exercise of fundamental rights. Such differential treatment occurred with the right to become a citizen through naturalization, the right to marry, the right to enter contracts, and the right to hold property.⁹² Although the post-Civil War constitutional amendments banned slavery and called for African-Americans to enjoy “equal” citizenship, state governments relied upon the Supreme Court’s perverted logic in *Plessy v. Ferguson*,⁹³ which distinguished between “political” and “social” rights, to maintain the second-class status of African-Americans until the 1960s.⁹⁴ Scientific studies of gender differences validated policies according women different standards for civil rights—such as voting rights—and employment.⁹⁵ It took the Civil War, a set of constitutional amendments, and a century of legal efforts to vindicate the civil rights of African Americans and other minorities to equal citizenship. However, the political status of Indians as “wards” and their exclusion from U.S. constitutional citizenship (though the 1924 Indian Citizenship Act naturalized Indians to citizenship by virtue of federal law) has complicated the notion of equal citizenship for Native peoples.⁹⁶

91. ELAZAR BARKAN, *THE RETREAT OF SCIENTIFIC RACISM: CHANGING CONCEPTS OF RACE IN BRITAIN AND THE UNITED STATES BETWEEN THE WORLD WARS* 2–3 (1993).

92. *See, e.g., Loving v. Virginia*, 388 U.S. 1 (1967) (holding that state statutes banning miscegenation between the races were unconstitutional, but observing that states justified such statutes on a perceived need to prevent the “corruption” of the white race through interbreeding with “inferior” races).

93. 163 U.S. 537 (1886) (holding that the Fourteenth Amendment ensures “legal” equality between the races, not social equality, and upholding a Louisiana law that required separate railway carriages for “white and colored races”).

94. *See* Robert L. Hayman, Jr. & Nancy Levitt, *The Constitutional Ghetto*, 1993 WIS. L. REV. 627, 635–66 (1993).

95. *See, e.g., Miller v. Oregon*, 208 U.S. 412 (1908) (upholding an Oregon law that imposed a maximum hours limit upon women employees and finding that the physical and emotional differences of men and women, which were medically substantiated, justified the restriction upon women in their individual capacity to contract for employment).

96. *See* Rebecca Tsosie, *The Challenge of “Differentiated Citizenship”*: *Can State Constitutions*

Significantly, several American philosophers at the turn of the century rejected the scientific racism of the nineteenth century as unethical and immoral.⁹⁷ This led to a shift in scientific ethics that persisted until the McCarthy Era of the 1950s.⁹⁸ At that time, many progressive scientists, including Albert Einstein, were targeted as “communists,” and had their careers and livelihoods placed in jeopardy.⁹⁹ The impact of science as a tool of social justice was minimized as research funding became conditioned upon scientists adhering to an apparent “neutrality” of perspective.¹⁰⁰ Research funding continues to play an important role in promoting scientific inquiry. Today, private industry often funds scientists to assess the environmental and health risks of products and industrial development. Activist organizations may also employ scientists to generate studies to contest these findings.¹⁰¹ The disparity between the two sets of studies often mystifies consumers and complicates the work of public policymakers.

Although the active scientific racism of the nineteenth century was ultimately rejected as a tool of social policy, it remains an important dynamic for Native peoples. Few people would deny that the 1868 Surgeon General’s Order directing U.S. military personnel to collect Indian crania and other body parts from deceased Indians and ship them to the Army Medical Museum for scientific study constituted racism.¹⁰² However, as of 2012, that original historic injustice has now resulted in over 118,000 sets of Native American remains being housed in federal agency and museum collections under the label of “culturally unidentifiable” human remains.¹⁰³ Many of these remains are the bodies of Indian people that were murdered, dismembered, and had their

Protect Tribal Rights?, 64 MONT. L. REV. 199 (2003).

97. Dr. Kristin Shrader-Frechette, Lecture at Arizona State University (Jan. 20, 2012) (citing SHARON BEDER, *GLOBAL SPIN: THE CORPORATE ASSAULT ON ENVIRONMENTALISM* (1998); KRISTIN SHRADER-FRECHETTE, *TAKING ACTION, SAVING LIVES: OUR DUTIES TO PROTECT ENVIRONMENTAL AND PUBLIC HEALTH* (2007)).

98. *Id.*

99. JESSICA WANG, *AMERICAN SCIENCE IN AN AGE OF ANXIETY: SCIENTISTS, ANTICOMMUNISM, AND THE COLD WAR* 125 (1999).

100. *Wittmer v. Peters*, 87 F.3d 916, 920 (7th Cir. 1996) (“If academic research is required to validate any departure from strict racial neutrality, social experimentation in the area of race will be impossible despite its urgency.”).

101. Studies of the impact of nuclear power plants are a good case in point.

102. See Jack F. Trope & Walter R. Echo-Hawk, *The Native American Graves Protection and Repatriation Act: Background and Legislative History*, 24 ARIZ. ST. L.J. 35, 40 (1992).

103. WALTER ECHO-HAWK, *IN THE COURTS OF THE CONQUEROR: THE 10 WORST INDIAN LAW CASES EVER DECIDED* 258 (2010) (documenting the number of culturally unidentifiable human remains in the custody of federal agencies and museums as 118,833 as of 2008).

personal belongings plundered by U.S. servicemen on the battlefield.¹⁰⁴ The military shipped the human remains to Washington, D.C. in crates without any way to identify the names or, in many cases, even the tribal nations of the deceased.¹⁰⁵ Their personal objects became the “property” of the very men who plundered their bodies.¹⁰⁶ Museums collected many of these pieces over time through purchase and donations.¹⁰⁷ This gruesome history underlies today’s Native American repatriation movement. The scientists who seek to study the deceased Indian peoples’ bones assert that such study may produce new knowledge that will provide a broad public benefit.¹⁰⁸ This argument is akin to the arguments “craniologists” made in the nineteenth century. The “craniologists” argued that the measurement and dissection of human heads could lead to important knowledge about the fundamental capacity of the different races.¹⁰⁹

As Section III discusses, the themes of nineteenth century science policy continue to shape domestic environmental policy, health policy, and repatriation policy. The theme of discovery is more apparent in some areas of public policy than others, and this Article does not attempt to argue otherwise. The central point is that all of these areas of national policy are informed by science, and all of them significantly impact indigenous peoples. Because of this, contemporary science policy often manifests as “injustice” to Native peoples. Of course, the terms “justice” and “injustice” are used loosely, frequently serving as mere polemical tools in modern social discourse. Therefore, the next section of this Article will construct an argument about the specific nature of the injustice before discussing several legal controversies that illustrate the point.

II. SCIENCE AND ETHICS: THE PROBLEM OF EPISTEMIC INJUSTICE

Many contemporary philosophers have invoked the principle of justice to examine potential unfairness in the distribution of goods, such

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.*

108. See, e.g., *Who Owns the Past?*, *supra* note 8 (arguing that culturally unidentifiable human remains are the “shared patrimony of all Americans and, indeed, all peoples everywhere”).

109. Reginald Horsman, *Scientific Racism and the American Indian in the Mid-Nineteenth Century*, 27 AM. Q. 152, 159 (1975).

as information or education, that are necessary to ensure the full realization of liberties by all citizens within civil society.¹¹⁰ However, it is not always clear what “justice” entails. Under the pervasive utilitarian calculus that has informed many of our policies, substantial benefits to a large segment of society are asserted to justify some disadvantages to a few. For example, in the 1970s, the American Academy of Sciences designated Navajo lands in the Four Corners region as a “national sacrifice area,” acknowledging the permanent damage and pollution caused by coal strip mining.¹¹¹ Those lands are home to hundreds of Navajo residents,¹¹² and the health impacts of the mining industry have been severe and ongoing.¹¹³ Is this an instance of “injustice”?

It is not easy to reach a conclusion on the issue because tribal governments often depend upon the jobs and revenues that come to the reservation through mining operations.¹¹⁴ In many other parts of the country, the impacts of environmental degradation on particular communities inspired the “environmental justice” (EJ) movement.¹¹⁵ The EJ movement found significant environmental impacts concentrated among many poor and often minority communities.¹¹⁶ The EJ movement asserted that these disadvantaged groups faced a disproportionate amount of the burdens that toxic industry causes, such as nearby landfills and air pollution, while affluent communities receive most of the benefits.¹¹⁷ One could call this a form of “racism,” but of a type far more subtle than its nineteenth century counterparts. For this reason, the term “environmental justice” seems to be preferred to that of “environmental racism.”¹¹⁸ Today, the U.S. Environmental Protection Agency (EPA) has incorporated environmental justice concerns into the policies that determine whether a given industry may build and operate a toxic or

110. See, e.g., MICHAEL J. SANDEL, *JUSTICE: WHAT’S THE RIGHT THING TO DO?* (2009).

111. Rebecca Tsosie, *Indigenous Peoples and Environmental Justice: The Impact of Climate Change*, 78 U. COLO. L. REV. 1625, 1630 (2007).

112. *History*, NAVAJO NATION, <http://www.navajo-nsn.gov/history.htm> (last visited July 12, 2012).

113. See, e.g., Susan E. Dawson, *Navajo Uranium Workers and the Effects of Occupational Illnesses: A Case Study*, 51 HUM. ORG. 389 (1992).

114. See Tsosie, *supra* note 2.

115. Alice Kaswan, *Environmental Justice: Bridging The Gap Between Environmental Laws And “Justice,”* 47 AM. U. L. REV. 221, 225–27 (1997).

116. See *id.* at 223.

117. See KATHRYN MUTZ ET AL., *JUSTICE AND NATURAL RESOURCES* (2002).

118. The federal policy uses “environmental justice,” and not “environmental racism,” indicating that this is the preferred term in policymaking. See *Environmental Justice*, EPA, <http://www.epa.gov/environmentaljustice> (last visited July 12, 2012).

dangerous facility within a community.¹¹⁹

The EPA's response to the EJ movement represents an attempt to mitigate social inequities through domestic law and policy. The theoretical work on justice, however, is more provocative and promotes a more nuanced analysis of the public policy response. For example, John Rawls' influential theory of justice specifically rejects the utilitarian calculus, asserting that "in a just society the liberties of equal citizenship are taken as settled; the rights secured by justice are not subject to political bargaining or to the calculus of social interests."¹²⁰ Rawls' account would argue in favor of a public policy that ensured an equal distribution of risks and benefits. However, society can only achieve this model of justice if it truly appreciates and understands the interests and rights particular social policies might impair, despite a fair and neutral appearance under prevailing standards.

This section of the Article draws upon Miranda Fricker's philosophical work¹²¹ to explain how "epistemic" forms of injustice—those injustices relating to the categories of knowledge and experience that law and public policy sanctions—affect indigenous peoples. This Article will also discuss why the resulting harms caused by epistemic injustice are often invisible within the domestic legal and public policy arenas. Section II provides the foundation for Section III's analysis of specific case studies. Section II first describes the problem of epistemic injustice and then explores two forms of epistemic injustice that indigenous peoples have experienced within domestic law and public policy. Section II then associates the key components of Fricker's theory of epistemic injustice with the Rawlsian claim for equal citizenship, which is the predominant focus of justice theory.

A. *Understanding Epistemic Injustice*

As demonstrated above, many of the conflicts between indigenous peoples and scientists revolve around fundamental differences in their respective systems of thought, particularly as these concern the categories of experience that are relevant to understanding the natural world. These epistemological differences, in turn, heavily influence the formation of public policy and can operate to cause forms of "epistemic injustice" for the affected groups.

Within the United States, domestic policymaking is dependent upon a

119. *Id.*

120. JOHN RAWLS, A THEORY OF JUSTICE 4 (1971).

121. FRICKER, *supra* note 7.

model of secular pluralism.¹²² Secular pluralism privileges Western European understandings of science, economics, and technology as the appropriate constructs for domestic public policy.¹²³ Although indigenous peoples have analogous concepts, such as traditional ecological knowledge,¹²⁴ these understandings are routinely disregarded within public policy discourse.¹²⁵ Policymakers and jurists tend to understand indigenous cultural worldviews as “religious beliefs” and marginalize these interests as matters of “private conscience.”¹²⁶ To the extent that Western society excludes indigenous worldviews from important social interactions within domestic policy structures, indigenous peoples are likely to suffer epistemic forms of injustice. In most cases, these harms will not be seen or appreciated by others, meaning that the legal system will be unable to provide any redress. Miranda Fricker’s account of “epistemic injustice” facilitates an understanding of the subtle ways in which indigenous peoples have been excluded from full participation in shaping domestic law and public policy. Although Fricker’s account is potentially illuminating for all societies, this Article discusses its utility for understanding the effect of U.S. public policy upon Native peoples in this country.

Fricker’s work examines the impacts of our basic social interactions, many of which center on knowledge and social experience.¹²⁷ She maintains that there are “ethical aspects of two of our most basic everyday epistemic practices: conveying knowledge to others by telling them, and making sense of our own social experiences.”¹²⁸ These practices, in turn, implicate the operation of social power in epistemic interactions, promoting an inquiry into the “politics of epistemic practice.”¹²⁹ The politics of epistemic practice determine how social power—or social disadvantage—operates to produce injustice in our everyday epistemic practices.

Social power, of course, is a fact of social discourse. In that sense,

122. I discuss secular pluralism in relation to environmental policy in Tsosie, *supra* note 22, at 255–68.

123. *Id.*

124. *Id.*

125. *Id.*

126. I discuss this in relation to public lands management in Rebecca Tsosie, *The Conflict Between the Public Trust and the Indian Trust Doctrines: Public Land Policy and Native Nations*, 39 TULSA L. REV. 271 (2003).

127. FRICKER, *supra* note 7, at 1.

128. *Id.*

129. *Id.* at 2.

Fricker argues, we need not describe social power as “bad.”¹³⁰ Instead, Fricker encourages us to notice when social power is being exercised and then ask “who or what is controlling whom, and why.”¹³¹ Moreover, some social interactions will hinge upon the participants’ mutual understanding of their social identity, which might indicate that some form of “identity power” is at work.¹³² For example, this could occur when a man makes some use of his male identity to influence a woman, perhaps by patronizing or otherwise intimidating her.¹³³ This subtle form of domination requires an explicit focus, and Fricker’s theory of epistemic injustice provides such a lens.

Fricker’s account of epistemic injustice has critically important implications. The law is a social institution that broadly invokes power relations between the government and its citizens and between the U.S. and Native Nations. In the former case, the government and its citizens share a sense of identity within civic society, although they may also depart from this shared conception in the exercise of pluralism or multiculturalism. In the latter case, however, the essential interaction of the two groups (U.S. and Native Nations) does *not* rest upon a shared conception of identity. In fact, the principle of indigenous self-determination depends upon the ability of an indigenous people to express its own identity as an autonomous group and to negotiate the terms of its political relationship with the given nation-state. Identity-power is perhaps the single most important dynamic of this relationship. Thus, one must carefully ascertain when epistemic injustice operates to suppress an indigenous group’s ability to define its own identity. According to Fricker, this can occur in the form of “testimonial” or “hermeneutical” injustice.¹³⁴ As the following discussion demonstrates, testimonial injustice arises when someone is wronged in his or her capacity as a giver of knowledge, while hermeneutical injustice arises when someone is wronged in his or her capacity as a subject of social understanding.¹³⁵

B. Testimonial Injustice

Of the two forms of epistemic injustice, testimonial injustice is

130. *Id.* at 14.

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.* at 4, 7.

135. *Id.* at 7.

perhaps more basic to legal theory and practice. After all, lawyers commonly invoke testimony as “proof” that something did or did not take place. However, it is necessary to examine why we qualify some persons as “capable” of giving testimony while we exclude others from this privilege. It is also necessary to understand that we may accord this privilege as a matter of institutional practice, or it may become part of less formal social interactions. In either case, these epistemic practices can impair indigenous peoples’ rights and interests. According to Fricker, testimonial injustice commonly arises from a dysfunction in a testimonial practice that is related to identity.¹³⁶ For example, listeners may evaluate some speakers as more credible due to the speaker’s gender, age, class, income, accent, or appearance. Conversely, others will experience a “credibility deficit” due to the same factors.¹³⁷

Many of these practices exist at the level of informal social interaction, but others are formalized into our legal, social or political structures, which leads to “systemic testimonial injustice.”¹³⁸ An accepted practice within the American legal system is to qualify a witness before they may give “expert testimony.”¹³⁹ The implications of this can be significant for indigenous peoples. For example, an indigenous group petitioning for political recognition through the “federal acknowledgement process” must obtain credible testimony that the group is, in fact, an “Indian tribe” that merits political recognition.¹⁴⁰ Similarly, if an indigenous group claims that a particular sacred place should be protected as a “Traditional Cultural Property” (TCP) pursuant to the National Historic Preservation Act, it must secure expert testimony sufficient to prove this status.¹⁴¹ In either case, a successful outcome will likely depend upon the “expert” testimony of a trained academic who has studied the group and can determine whether the group constitutes “an Indian tribe” or whether the place constitutes a TCP under the particular statutory or regulatory criteria.¹⁴²

136. *Id.* at 4, 14–16.

137. *Id.* at 17.

138. *Id.* at 28.

139. *See, e.g.*, *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993).

140. 25 C.F.R. § 83 (2012).

141. *See, e.g.*, *Pueblo of Sandia v. United States*, 50 F.3d 856 (10th Cir. 1995) (describing process for identifying traditional cultural properties under the National Historic Preservation Act).

142. *Id.* at 860–61 (describing affidavits of anthropologists who documented the existence of TCPs). Also, the required criteria to be acknowledged as a “federally-recognized Indian tribe” are listed at 25 C.F.R. § 83.7. The National Historic Preservation Act is codified at 16 U.S.C. § 470 (2006) and was amended to include “traditional cultural properties,” in addition to the more conventional historic buildings and monuments that were originally associated with that statute.

Courts are unlikely to recognize tribal members as having the same credibility as an “expert witness,” although certain tribal cultural practitioners, including tribal historians and traditional healers, may have recognized cultural expertise in specific areas. Tribal language, oral tradition, and ceremonial practice are all areas that may contain esoteric knowledge beyond the comprehension of even the most experienced academics. The categories of knowledge that cultural practitioners hold are often invisible within the U.S. legal system. This is because most of these individuals do not possess formal academic credentials to “prove” that they possess relevant knowledge for purposes of giving “expert testimony” in legal proceedings.¹⁴³

Some might argue that we can overcome testimonial injustice by increasing our awareness of how the court system treats Native witnesses or by committing to modify our legal structures to minimize the unfairness that might result from differential power relations. For example, the legislative branches can specifically authorize Native cultural testimony as a form of “expert” testimony, or courts can interpret evidentiary rules to sustain this practice. However, even when the law explicitly allows such testimony, the courts must still be willing to consider this testimony as probative of a specific claim. For example, the Indian Claims Commission Act of 1946 authorized tribal claimants to give testimony on traditional patterns of land use to sustain their claims against the United States for the appropriation of tribal property without consent of the tribe.¹⁴⁴ Under the statute, such testimony could be admitted under a variety of theories in order to sustain, for example, a claim against the government’s taking of a group’s aboriginal title or its treaty-guaranteed lands.¹⁴⁵ However, a common threshold issue might be whether the group merits compensation as a matter of constitutional right under the Fifth Amendment Takings Clause, or whether it is merely entitled to a lesser form of statutory payment designed to extinguish the

Pub. L. No. 102-575, 106 Stat. 4600 (1992).

143. See, e.g., *Tee-Hit-Ton Indians v. United States*, 348 U.S. 272, 277–78 (1955) (dismissing the testimony of a traditional leader about the property claim of the Tee-Hit-Ton Indians).

144. The Indian Claims Commission Act of 1946 authorized tribes to bring five categories of claims against the United States to redress historic wrongs, including treaty violations and takings of land, so long as they did so within the statutory time period. Tsosie, *supra* note 49, at 256–58. The claims were first processed by the Indian Claims Commission, and then appeals could be taken to the United States Court of Claims. See *id.* The statute also authorized tribal claimants for the first time to use the Court of Claims to obtain relief for wrongs that occurred after the effective date of the statute, as did the taking of timber in the *Tee-Hit-Ton* case. See GOLDBERG ET AL., *supra* note 20, at 1022–24.

145. *Id.*

legal claim. Only the constitutional claim would offer parity with the legal treatment extended to non-Native claimants when the government takes their property interests.¹⁴⁶

In *Tee-Hit-Ton Indians v. United States*,¹⁴⁷ the tribe brought a Fifth Amendment takings claim against the United States in connection with the government's decision to authorize timber harvesting from the tribe's traditional lands in Alaska.¹⁴⁸ The United States acquired Alaska through a treaty with Russia, which, unlike Great Britain, had not colonized its American territories, casting doubt on whether it had effectively settled the lands for purposes of claiming title under the Doctrine of Discovery.¹⁴⁹ The Tee-Hit-Ton Indians maintained that they were the rightful owners of these lands and thus had a property interest in the timber that sustained their takings claim.¹⁵⁰ The Supreme Court disagreed, noting that the testimony offered by the tribal member selected to be the group's expert witness merely proved the tribe's "group" claim to the area in accordance with the tribe's "hunting and fishing stage of civilization."¹⁵¹ The Court saw this "primitive" form of land use as merely establishing the group's claim to "aboriginal title" on the same level as other Indians but not establishing a true "property interest" within the meaning of the U.S. Constitution.¹⁵² Instead, the Court employed the Doctrine of Discovery to find that the taking of "Indian title" does not require "just compensation" under the U.S. Constitution because:

Every American schoolboy knows that the savage tribes of this continent were deprived of their ancestral ranges by force and that, even when the Indians ceded millions of acres by treaty in return for blankets, food and trinkets, it was not a sale but the conqueror's will that deprived them of their land.¹⁵³

The Supreme Court's interpretation of the testimony provided by the tribal witness was based on a shared social experience of "property rights" informed by Western thought, and it had no resonance with the

146. U.S. CONST. amend. V.

147. 348 U.S. 272.

148. *Id.* at 314.

149. *See generally Tee-Hit-Ton Indians*, 348 U.S. at 316, 320–21 (describing evidence as Russia not "settling" the lands in Alaska, but merely engaging in sporadic trading with the Native peoples).

150. *Id.*

151. *Id.* at 287.

152. *Id.* at 284.

153. *Id.* at 289–90.

experience of the Native claimants.¹⁵⁴ In that respect, *Tee-Hit-Ton* raises Fricker's second category of epistemic injustice, namely "hermeneutical injustice." As the following discussion demonstrates, the dynamic of hermeneutical injustice is more subtle than testimonial injustice because it engages the *interpretation* of social experience. While this may seem tangential to the law, it is actually quite important for indigenous peoples because the law reflects the dominant society's interpretation of relevant social experience. Not surprisingly, the dominant society's interpretive norms routinely exclude indigenous categories of experience.

C. *Hermeneutical Injustice*

According to Fricker, hermeneutical injustice is "the injustice of having some significant area of one's social experience obscured from collective understanding" because the group is structurally prejudiced and cannot participate on an equal basis in creating a shared meaning for the social experience.¹⁵⁵ Hermeneutical injustice raises difficult questions because prevailing relations of power can destroy or constrain the ability of a group to understand its own experience.¹⁵⁶ Fricker draws on the work of feminist scholars to show how the concept of "sexual harassment" that now constitutes a claim under federal and state antidiscrimination laws was, for many years, not a visible category of social experience, let alone a legal cause of action.¹⁵⁷ Women lacked equal power in the workplace, and in that sense, they were "hermeneutically marginalized" from creating a shared experience of social meaning.¹⁵⁸ Thus, female subordinates had no way to make a claim for harm based on their experience of "discomfort" at being patted, kissed, groped, or propositioned by male superiors.¹⁵⁹ The harm simply was not seen or understood by others outside this experience.¹⁶⁰

Hermeneutical injustice is what occurs with many Native American claims to protect aspects of their cultural identity from harms that are not recognized standard categories of law. In particular, there is currently not a recognized category within American law to redress cultural harm,

154. *Id.* at 284.

155. FRICKER, *supra* note 7, at 7, 153–54.

156. *See id.* at 7.

157. *Id.* at 148–52.

158. *Id.*

159. *Id.*

160. *Id.*

as the following cases demonstrate.¹⁶¹

Following the Exxon Valdez oil spill, several Native Alaskan communities sued Exxon for the destruction of their traditional subsistence ways of life caused by the massive oil spill because the spill decimated the fish and wildlife upon which they depended.¹⁶² The Ninth Circuit declined to find a cause of action, distinguishing the tangible harms to natural resources, which were actionable, from the “intangible” harms to culture, which were not.¹⁶³ The Ninth Circuit perceived culture as merely an “internal” state of mind, positing that “one’s culture—a person’s way of life—is deeply embedded in the mind and heart. . . . [C]atastrophic cultural impacts cannot change what is in the mind or in the heart unless we lose the will to pursue a given way of life.”¹⁶⁴ Of course, it is unclear how a group can preserve a cultural “way of life” when the essential components are destroyed.

Similarly, the Ninth Circuit, sitting en banc, refused to halt a National Forest Service development plan authorizing a ski facility to pump treated sewage effluent from Flagstaff to generate artificial snow on a mountain held sacred by the Navajo Nation, Hopi Tribe, and several other tribes in the Southwest.¹⁶⁵ The Tribes had filed their claim under the Federal Religious Freedom Restoration Act (RFRA),¹⁶⁶ which purports to restore the compelling interest test for any federal action that places a substantial burden upon religion.¹⁶⁷ However, the court found that the standard under RFRA incorporates existing Supreme Court case law defining what constitutes a “substantial burden.”¹⁶⁸ Consequently, the court drew on the Supreme Court’s decision in *Lyng v. Northwest Indian Cemetery Protective Association*,¹⁶⁹ which held that the destruction of indigenous religion arising from a road construction

161. I have written in more detail about cultural harm in other work. *See generally* Tsosie, *supra* note 1.

162. *In re Exxon Valdez*, 104 F.3d 1196 (9th Cir. 1997).

163. *Id.* at 1197–98.

164. *In re Exxon Valdez*, No. A89-0095-CV (HRH), 1994 WL 182856, at *4 (D. Alaska Mar. 23, 1994), *aff’d*, 104 F.3d 1196 (9th Cir. 1997).

165. *Navajo Nation v. U.S. Forest Serv.*, 535 F.3d 1058 (9th Cir. 2008) (en banc). The plaintiffs in this case consisted of several Indian tribes throughout the Southwest as well as individual Indian practitioners and activist organizations. *Id.* at 1063.

166. *Id.* at 1066.

167. Religious Freedom Restoration Act (RFRA) of 1993, Pub. L. No. 103-141, 107 Stat. 1488 (codified at 42 U.S.C. §§ 2000bb–2000bb-4 (2006); *see also* *City of Boerne v. Flores*, 521 U.S. 507 (1997) (finding that RFRA is unconstitutional as applied to the actions of state governments).

168. *Navajo Nation*, 535 F.3d at 1074.

169. 485 U.S. 439 (1988).

project through a tribal sacred site was not actionable under the First Amendment because the tribes were free to “believe” as they wanted.¹⁷⁰ Thus the court ruled that the Native peoples had no right to condition the Forest Service in the management of federal public lands.¹⁷¹ The Ninth Circuit held that the standard to be applied in a RFRA case was the same as that in a First Amendment case and further found that the road-building project in *Lyng* could not be distinguished in any meaningful way from the use of reclaimed wastewater on the San Francisco Peaks.¹⁷² Following the reasoning of the U.S. Supreme Court in *Lyng*, the Ninth Circuit also found that the federal agency was simply managing its own land to maximize its value for the *public* benefit.¹⁷³ The two analyses evoke the sort of utilitarian calculus that justified strip mining on Navajo lands.

Another example of hermeneutical injustice arose when a Native Hawaiian group, the Hui Mālama, filed a claim against the U.S. Department of Navy and the Bishop Museum to protect ancestral human remains from desecration in connection with the scientific study of the remains authorized for purposes of preparing an inventory under the Native American Graves Protection and Repatriation Act.¹⁷⁴ Hui Mālama asserted that the federal defendants had violated federal law by undertaking scientific research on the remains, and they feared that the study record would be disclosed to third parties pursuant to requests under the federal Freedom of Information Act (FOIA).¹⁷⁵ The Native claimants argued that the public release of this data, including photographs of the remains, would cause a profound and serious harm to the ancestral remains, which maintained an essence as living beings, and to their descendants.¹⁷⁶

The court declined to recognize this claim, finding that although the ancestral remains were “living” entities within the indigenous belief system, they were merely de-identified human skeletal remains for purposes of the privacy exemption within FOIA.¹⁷⁷ The Hawaiian case exemplifies a form of testimonial injustice because the court failed to see the relevance of the Native claimants’ testimony to establishing an

170. *Id.* at 447–51.

171. *Id.*

172. *Navajo Nation*, 535 F.3d at 1072.

173. *Id.* at 1073.

174. *Na Iwi O Na Kupuna O Mokapu v. Dalton*, 894 F. Supp. 1397 (D. Haw. 1995).

175. *Id.* at 1402–04.

176. *Id.* at 1409.

177. *Id.* at 1413.

actionable claim. The case also demonstrates a form of hermeneutical injustice because the Native Hawaiian claimants were structurally excluded from creating a shared meaning for the doctrine of privacy, which would operate to protect a living person's body from being photographed and put on public display without the individual's consent.

A final example of hermeneutical injustice can be seen in a very current event. The Native Village of Kivilina is losing its entire land base as a result of global climate change and sea level rise.¹⁷⁸ Thus far, the Native Village of Kivilina has not prevailed in its attempt to sue several oil companies for the harm of public nuisance.¹⁷⁹ This is because the courts have been unable to find any particular liability given the multiple interactions that are responsible for rising levels of greenhouse gas emissions.¹⁸⁰ Indeed, no cause of action currently exists for the loss of an entire nation, as many island nations in the South Pacific, such as Tuvalu, are discovering.¹⁸¹ It is simply outside the realm of our current understanding, as a global community, to fathom the loss of a sovereign nation's entire land base by a "natural" phenomenon like flooding, as opposed to military conquest.¹⁸²

All of these cases raise issues of hermeneutical injustice because the harms asserted include cultural and spiritual claims that do not fall within an available category of experience or thought within the Western legal system. However, the harms are felt by indigenous peoples. This is their experience, and it is shared among many different indigenous groups because they possess a different understanding of the world. Each of these indigenous claimants has faced structural prejudice because they are forced to bring their cause of action under standard categories of American law that do not reflect a shared understanding of their social experience, including the asserted harms or benefits of particular types of conduct. In each of these cases, science has been utilized to prove the "truth" of a claim for harm. So, for example, science can measure and quantify the level of a toxic emission that poisons water or kills fish or wildlife. However, science cannot measure

178. *Native Vill. of Kivilina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863 (N.D. Cal. 2009), *aff'd*, 696 F.3d 849 (9th Cir. 2012).

179. *Kivilina*, 696 F.3d at 853.

180. *Id.* at 854–58.

181. *See Tsosie*, *supra* note 111 (discussing potential human rights claims that might be developed by Island nations in the South Pacific and by indigenous nations in the Arctic who are in jeopardy of losing their land base and their subsistence ways of life).

182. *See Kivilina*, 663 F. Supp. 2d at 880–82 (discussing the difficulty of establishing causation for the purpose of Article III standing when global warming is attributed to numerous entities over centuries).

the value of “culture” to a people, and consequently, there is no scientific method to establish “cultural harm.” Thus, the destruction of a culture or a religion is not legally actionable. Similarly, science can “prove” that Class I-treated effluent is “safe” for a recreational skier on the San Francisco Peaks, although science cannot prove the “spiritual contamination” that will result from the discharge of mortuary fluids into the reclaimed municipal water source used to create artificial snow. Nor can science prove that the San Francisco Peaks themselves have a sacred essence and identity as a living spiritual being or that ancestral human remains have such qualities. In each case, Western science’s limited framework is used to justify the exclusion of Native experience for purposes of establishing a legal cause of action.

D. Structural Forms of Epistemic Injustice Impair Equal Citizenship

Why should American society care about these structural deficiencies within its pluralistic democracy? Fricker argues that the capacity to give knowledge is a fundamental capacity of human beings.¹⁸³ When a society treats some groups as incapable of giving knowledge on an equal basis, it treats those groups as less than fully human, an intrinsic harm.¹⁸⁴ Society also hinders the groups’ further development by discounting their intellectual abilities, an epistemic harm.¹⁸⁵ As illustrated by the Doctrine of Discovery and its incorporation into U.S. law, American legal and educational institutions have historically treated Western knowledge as a privileged form of knowledge, discounting the ability of indigenous peoples to generate knowledge or convey it in process of public policy discourse.¹⁸⁶ In the process, American society has prevented indigenous peoples from articulating their own social experience, including the harms they have experienced as a result of the dominant society’s public policies.

Fricker also encourages societies to care about epistemic justice as an intellectual or moral virtue.¹⁸⁷ Intellectual virtues generally have truth as their ultimate end, which may be one reason why contemporary scientists claim a value in studying indigenous knowledge. For example, some scientists contend that traditional knowledge is of potential utility to understand biodiversity and its management through adaptation plans,

183. FRICKER, *supra* note 7, at 44.

184. *Id.* at 44–45.

185. *Id.* at 44.

186. *See supra* notes 46–91 and accompanying text.

187. FRICKER, *supra* note 7, at 120–21.

as well as to obtain knowledge about medicinal plants that might be used to develop pharmaceutical products.¹⁸⁸ The utility of indigenous peoples' traditional knowledge will be "proven" when it accords with Western science, which is why scientists are now pushing to undertake research studies on traditional knowledge.¹⁸⁹

While intellectual virtue is important, the dominant society must be aware that its desire to use indigenous knowledge as a means to achieve a broad public benefit has often resulted in the exploitation of indigenous peoples. For example, the pharmaceutical company typically profits from its ability to patent products derived from indigenous peoples' knowledge of plants.¹⁹⁰ However, intellectual property laws do not protect indigenous knowledge,¹⁹¹ which means that indigenous peoples have no way to protect against misuse or misappropriation of their traditional knowledge. This is largely because U.S. intellectual property laws protect only new "innovations" and "discoveries," and they do not protect the longstanding knowledge held by cultural communities.¹⁹²

Fricker compares intellectual virtue with the virtue of compassion, which is a moral virtue designed to alleviate the suffering of others and motivate their well-being.¹⁹³ An ethic of compassion suggests that we utilize a human rights framework to improve the position of indigenous peoples within society.¹⁹⁴ This would ideally move them out of a position of disadvantage and powerlessness while honoring the U.S. Constitution's stated commitment to protect human dignity and equality.¹⁹⁵ Presumably, indigenous peoples would then be able to enjoy

188. See generally John Reid, Comment, *Biopiracy: The Struggle for Traditional Knowledge Rights*, 34 AM. INDIAN L. REV. 77 (2010).

189. Several policymakers explicitly made this point at a recent international conference on climate adaptation attended by this author. See, e.g., Panels at Climate Adaptation Futures: Second International Climate Change Adaptation Conference (May 29–31, 2012).

190. Reid, *supra* note 188, at 90.

191. Tsosie, *supra* note 1, at 398–99.

192. *Id.* at 399.

193. See FRICKER, *supra* note 7, at 126 (distinguishing intellectual virtues from ethical virtues and observing that the latter set of virtues are oriented toward the well-being of others).

194. Human rights law, after all, is premised upon a Kantian notion of equal respect for persons. See generally Jeremy Waldron, *How Law Protects Dignity* (N.Y. Univ. Sch. of Law, Pub. Law & Theory Research Paper Series, Working Paper No. 11-83, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1973341. To the extent that public policies overtly disadvantage minority groups and cause suffering, human rights law counsels nation-states to act affirmatively to remedy this discrimination.

195. I use the terms "disadvantage" and "powerless" in their political sense. Although there is a popular belief that Native peoples now enjoy economic power, the benefits of Indian gaming are

the equal citizenship espoused by American democracy.

III. CONTEMPORARY CASE STUDIES INVOLVING INDIGENOUS PEOPLES AND SCIENCE POLICY

Advances in science and technology hold a great deal of promise for resolving some of the most difficult challenges that confront us in the contemporary era. However, they also pose significant ethical issues, particularly in view of the considerable disparities between populations and nations in their overall capacity to experience the benefits of technology. In the United States, Native peoples are implicated in public policy as U.S. citizens and as citizens of sovereign nations.¹⁹⁶ Individual Indians enjoy “equal citizenship” in common with all other United States citizens,¹⁹⁷ and yet they also have a “differentiated” citizenship because of their membership within tribal Nations that possess a trust relationship with the United States government.¹⁹⁸

These different status relationships are the basis for different rights claims. In their capacity as U.S. citizens, individual Indians have the right to enjoy the same liberties as other citizens, including state services.¹⁹⁹ The rights that derive from the federal trust relationship, however, are different in character. These are political rights that are expressed collectively through the government-to-government relationship between the Native Nations and the United States.²⁰⁰ Such rights may be reflected in treaties or other constitutive agreements, and they often manifest in a reservation land base, generally held in trust for the benefit of the tribe and its members.²⁰¹ They may also be reflected in the tribes’ associated interests in water, timber, and wildlife resources.²⁰²

This section of the Article will discuss the ways in which the sovereign rights of Native Nations are impacted by U.S. public policy. In

concentrated on relatively few tribes, and the structural inequities that I am discussing in this article are pervasive and cannot be remedied by wealth transfers.

196. See Tsosie, *supra* note 96, at 201.

197. See Indian Citizenship Act of 1924, 8 U.S.C. § 1401(b) (2006) (granting citizenship to all Indians born in the United States).

198. See Tsosie, *supra* note 96, at 202.

199. U.S. CONST. amend. V, XIV, § 1.

200. *United States v. Navajo Nation*, 537 U.S. 488, 506 (2003); *Cherokee Nation v. Georgia*, 30 U.S. (5 Pet.) 1, 17 (1831).

201. See *United States v. Dion*, 476 U.S. 734, 738 (1986) (“As a general rule, Indians enjoy exclusive treaty rights to hunt and fish on lands reserved to them . . .”).

202. See generally *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172 (1999); see also *United States v. Mitchell*, 463 U.S. 206, 224 (1983).

particular, the Article identifies three areas where science policy continues to heavily impact the rights and interests of indigenous peoples. While the doctrines governing the specific areas differ, there is consistency in the themes that have driven national policy over the years as well as their impact on Native peoples. The three areas are environmental policy, health policy, and repatriation policy. These are vast areas of public policy, and this Article does not attempt to give a comprehensive account of any one area. Nor does the Article purport to make the broad argument that the Doctrine of Discovery has perpetuated a dominant colonial attitude in every aspect of U.S. public policy to the detriment of Indian tribes, although other commentators have persuasively made this case.²⁰³ Rather, this Article selectively discusses aspects of these policies within their historical context in order to illustrate the ways in which these policies intersect and impact Native peoples. In all three areas, the policymakers have excluded or disregarded the unique interests of Native peoples, causing structural forms of epistemic harm to tribal governments and Native communities.

A. *Environmental Policy*

Within the United States, domestic policy has traditionally employed a utilitarian calculus to determine the respective rights of Native peoples and the United States to the lands and resources that were at one time wholly governed by indigenous law.²⁰⁴ This is demonstrated in nineteenth century public land policy and in the twentieth century policies governing environmental regulation and energy development.

1. *The Legacy of Nineteenth Century Land Policy*

Nineteenth century federal Indian policy supported the notion that the manifest destiny of the United States was to settle western lands. This settlement occurred by facilitating homesteading rights out of the expansive “public domain.”²⁰⁵ As detailed above, U.S. public land policy

203. See, e.g., Robert A. Williams, Jr., *Columbus's Legacy: The Rehnquist Court's Perpetuation of European Cultural Racism Against American Indian Tribes*, 39 FED. B. NEWS & J. 358, 363–65 (1992) (arguing that even the modern application of U.S. law to Indian tribes is influenced by the law's racist roots); Robert A. Williams, Jr., *The Algebra of Federal Indian Law: The Hard Trail of Decolonizing and Americanizing the White Man's Indian Jurisprudence*, 1986 WIS. L. REV. 219, 222 (1986) (arguing from a historical perspective that the Euro-centric legal system subjugates American Indian culture and traditions).

204. See Tsosie, *supra* note 22, at 262–64 (discussing utilitarian framework that has governed resources development in U.S.).

205. See GEORGE CAMERON COGGINS ET AL., FEDERAL PUBLIC LAND AND RESOURCES LAW 44

was an outgrowth of the Doctrine of Discovery, which accorded paramount title to the European sovereigns and their successors in interest while relegating tribal property interests to the status of a right of occupancy that the United States could extinguish by purchase or conquest.²⁰⁶ The United States engaged in a treaty process with Native peoples until Congress ended this practice in 1871.²⁰⁷ The United States effectuated land cessions after that time by negotiating agreements with Indian nations, which were then formalized by congressional statutes.²⁰⁸ However, the idea of consensual political bargain gave way to political force after the Supreme Court's 1903 decision in *Lone Wolf v. Hitchcock*.²⁰⁹ In this opinion, the Supreme Court held that the United States had the power to unilaterally abrogate an Indian treaty and open tribal lands to non-Indian settlement, and the Court denied the tribal claimants any relief, finding that this was a "political question" not amenable to judicial review.²¹⁰ The Supreme Court ultimately modified this ruling in 1980, when it decided a case that raised a similar issue in the context of a federal statute that appropriated land from the Lakota Nation.²¹¹ In *United States v. Sioux Nation of Indians*,²¹² the Supreme Court upheld congressional power to abrogate Indian treaties and to control the disposition of tribal property in its role as trustee, so long as it provided the Nations with "equivalent value."²¹³ However, the Court held that Congress's power as a trustee should not be conflated with its power of eminent domain.²¹⁴ Therefore, government "takings" of federally protected tribal land for a "public use" were subject to payment of "just compensation" under the Fifth Amendment.²¹⁵

The *Lone Wolf* decision is the judicial equivalent of many nineteenth century federal policies that placed tribal governments under the domination of the U.S. government. In 1830, Congress enacted

(3d ed. 1993).

206. *Johnson v. M'Intosh*, 21 U.S. (8 Wheat.) 543 (1823).

207. GOLDBERG ET AL., *supra* note 20, at 25 (discussing The Appropriations Act of Mar. 3, 1871, ch. 120, 16 Stat. 544, 566 (1871) (codified at 25 U.S.C. § 81 (2006)), which provided that Indian nations would no longer be treated as independent nations through treaties).

208. *Id.*

209. 187 U.S. 553 (1903).

210. *Id.* at 568.

211. *United States v. Sioux Nation of Indians*, 448 U.S. 371 (1980).

212. *Id.*

213. *Id.* at 416.

214. *Id.* at 408.

215. *Id.* at 422.

legislation authorizing the removal of many Indian nations from their traditional lands and placing the tribes on small federal “reservations” under the control of federal superintendents.²¹⁶ The Dawes Allotment Act of 1887²¹⁷ went a step further, authorizing Congress to allot tribal reservations to individual tribal members and then release the “surplus” lands for non-Indian settlement.²¹⁸ Like the Removal Act of 1830, the Dawes Allotment Act of 1887 contemplated specific agreements with each affected tribe.²¹⁹ However, the 1903 *Lone Wolf* opinion disregarded the need for tribal consent, authorizing Congress to unilaterally override existing treaties to force the allotment of reservations and release “surplus” lands.²²⁰ Not surprisingly, the combined effect of the Dawes Act and the Supreme Court’s authorization of unilateral treaty abrogation resulted in a staggering loss of two-thirds of the tribal land base from 1887 to 1934, when Congress ended the allotment policy.²²¹

The Bureau of Indian Affairs (BIA) was the federal administrative entity responsible for implementing the allotment policy.²²² The BIA started out in the Department of War and then was transferred to the Interior Department in 1849.²²³ In the nineteenth century, the BIA promulgated federal administrative regulations to “civilize” and “Christianize” the Indian people.²²⁴ These orders disrupted every aspect of tribal self-government, including the tribes’ ability to educate their children or engage in traditional cultural practices, including religious and healing practices.²²⁵ Although these policies would clearly violate

216. The Removal Act of 1830 generally authorized the removal of Indian tribes from their lands. Because these removals were anticipated to be “consensual,” they were effectuated through treaties with the specific tribes slated for removal and then codified in statutes that implemented the treaties. See, e.g., Act of May 28, 1830, ch. 148, 4 Stat. 411 (1830); Treaty with the Cherokee, U.S.-Cherokee, Dec. 29, 1835, 7 Stat. 478.

217. Dawes General Allotment Act of 1887, ch. 119, 24 Stat. 388 (1887) (codified as amended at 25 U.S.C. §§ 331–333 (2000)) (repealed 2000).

218. *Id.*

219. *Id.*

220. *Lone Wolf v. Hitchcock*, 187 U.S. 553, 565–66 (1903).

221. Tribal landholdings dropped from 138 million acres in 1887 to 24 million acres in 1934 when the Indian Reorganization Act formally ended the federal allotment policy. GOLDBERG ET AL., *supra* note 20, at 30.

222. Dawes General Allotment Act ch. 119, 24 Stat. 388.

223. Alyce Adams, *The Road Not Taken: How Tribes Choose Between Tribal and Indian Health Service Management of Health Care Resources*, 24 AM. INDIAN CULTURE & RES. J. 21, 22 (2000).

224. See, e.g., RULES FOR COURTS OF INDIAN OFFENSES (1892), reprinted in ROBERT T. ANDERSON ET AL., AMERICAN INDIAN LAW: CASES AND COMMENTARY 103, 103–05 (2d ed. 2010); see also GOLDBERG ET AL., *supra* note 20, at 579.

225. ANDERSON ET AL., *supra* note 224, at 101–02.

the Bill of Rights if applied to American citizens, Indian people were officially considered wards of the U.S. government and were not admitted to citizenship status until 1924.²²⁶ This meant that the federal policies banning Native religion or forcibly removing Indian children to federal military-style boarding schools were permissible as secular policies of “civilization” applied to “wards” of the federal government.²²⁷ If applied to U.S. citizens, these laws would have been held unconstitutional under the First Amendment or the Due Process Clause of the Fifth Amendment.²²⁸

2. *Twentieth Century Policies Governing Environmental Regulation and Energy Development Emerge from Nineteenth Century Federal Land Policy*

In terms of environmental policy, the BIA administered tribal lands through many of the same policies that pertained to federal public lands, including leasing lands for mineral and timber exploitation at below-market rates.²²⁹ Unlike the treatment of federal public lands, however, the tribal governments were the designated legal beneficiaries of these lands,²³⁰ and tribal members actually resided on the lands that were opened for timber harvesting and mineral exploitation.²³¹ For many years, tribal lands were treated as resource colonies for the benefit of the United States.²³² This policy was exploitive but entirely consistent with

226. The Indian Citizenship Act of 1924 conferred citizenship on all non-citizen American Indians born within the territorial limits of the United States. Indian Citizenship Act of 1924, ch. 233, 43 Stat. 253 (1924) (codified as amended at 8 U.S.C. § 1401(b) (2006)). Prior to this time, some Indians were naturalized to U.S. citizenship by specific laws, such as those admitting veterans of the U.S. armed services to citizenship and those allowing Indian women who married non-Indian citizens to take the status of their husbands. However, most remained non-citizens until the enactment of the 1924 statute.

227. See GOLDBERG ET AL., *supra* note 20.

228. The First Amendment protects individual rights to free speech, freedom of association, and religious freedom. The Fifth Amendment Due Process Clause provides that no one shall be “deprived of life, liberty, or property, without due process of law,” and contains procedural and substantive protections.

229. Tsosie, *supra* note 22, at 300–01.

230. COHEN’S HANDBOOK OF FEDERAL INDIAN LAW § 17.01, at 1074–75 (Nell Jessup Newton et al. eds., 2005) [hereinafter COHEN].

231. See COGGINS ET AL., *supra* note 205, at 55 (observing that tribal trust lands are not “public lands” because they must be managed on behalf of the Indian tribes and individuals as beneficiaries, but also noting that tribal lands cannot be disassociated from public land policy because both are administered under the authority of the Department of Interior (DOI) and DOI leasing and land management policies are consistent in many respects).

232. Tsosie, *supra* note 22.

the “wardship” status of Indian nations.²³³ The environmental and health consequences of these policies, which lasted until the 1970s, devastated many tribal communities.²³⁴

The best example of the ways in which national policies governing energy development on public lands combined to impact the Native peoples’ health and environment comes from the U.S. policies promoting uranium production on federal and tribal lands in the nineteenth and twentieth centuries.²³⁵ In the late nineteenth century, the U.S. began uranium exploration and found rich deposits throughout the Southwest.²³⁶ In 1939, the U.S. government began active exploration of uranium on the Navajo reservation and began a classified survey of the Colorado Plateau in 1942, including covert mining.²³⁷ After World War II, the U.S. Congress enacted the 1946 Atomic Energy Act, which established the Atomic Energy Commission (AEC).²³⁸ AEC controlled the uranium industry, and all uranium mined within the U.S. had to be sold to the AEC.²³⁹ In the 1950s, the BIA approved leases of Navajo land to select companies, authorizing them to mine uranium within the Navajo Nation.²⁴⁰ The BIA instructed the tribal council that this was a beneficial industry that would employ many Navajo workers.²⁴¹

The U.S. Public Health Service conducted the first studies of uranium mining on the Navajo Nation in 1949.²⁴² Although scientists already knew the health impacts of radioactive exposure, and precautionary measures were available,²⁴³ these protections were not made available to Navajo workers.²⁴⁴ Furthermore, the Navajo workers were not informed

233. *Id.*

234. *Id.* at 302–03.

235. See INDIANS AND ENERGY: EXPLOITATION AND OPPORTUNITY IN THE AMERICAN SOUTHWEST 15 (Sherry L. Smith & Brian Frehner eds., 2010) [hereinafter INDIANS AND ENERGY].

236. Tsosie, *supra* note 2, at 218 n.208 (citing Barbara Rose Johnston & Susan Dawson, *Resource Use and Abuse on Native American Land: Uranium Mining in the American Southwest*, in WHO PAYS THE PRICE: THE SOCIOCULTURAL CONTEXT OF ENVIRONMENTAL CRISIS 142, 144 (Barbara Rose Johnston ed., 1994)).

237. *Id.*

238. Barbara Rose Johnston, Susan Dawson & Gary Madsen, *Uranium Mining and Milling: Navajo Experiences in the American Southwest*, in INDIANS AND ENERGY, *supra* note 235, at 111, 115.

239. *Id.* at 117.

240. *Id.*

241. *Id.*

242. *Id.* at 116.

243. *Id.* at 118–20.

244. *Id.* at 120.

about the hazards of their jobs, including the need to change clothing before they returned home to their families.²⁴⁵ Navajo miners breathed the air and drank the water contaminated by the radioactive ore.²⁴⁶ None of this was disclosed to the Navajo Nation, and the U.S. government continued to approve contracts with mining companies, touting uranium production as tribal economic development and jobs creation.²⁴⁷

The health studies continued without the knowledge of the tribe or tribal members.²⁴⁸ In 1952, another health study documented the high mortality rate among uranium miners from lung cancer.²⁴⁹ Again, this was not disclosed for fear that the Navajo workers would quit their jobs if they knew.²⁵⁰ The AEC monitored the economics of uranium exploitation for the benefit of the U.S. military, and it took the position that it had no responsibility for worker health or safety.²⁵¹

In 1971, federal law shifted to favor the use of nuclear energy by commercial operators.²⁵² Because commercial operators were now the purchasers of uranium, the health impacts were of direct relevance to laborers.²⁵³ Thus, the impacts of uranium mining on Native workers and their families became the subject of multiple Congressional hearings.²⁵⁴ Congress ultimately enacted the 1990 Radiation Exposure Compensation Act, which was amended in 2000.²⁵⁵ This Act provided limited compensation to miners or to their widows if they met a stringent set of requirements intended to document the direct causal relationship between the mining practices and the death or disease that caused them harm.²⁵⁶ The legislation only compensated individuals who could meet the tort standard for liability.²⁵⁷ It thus did not compensate the Navajo Nation for the harm and injury caused to its land and to many Navajo

245. *Id.*

246. Tsosie, *supra* note 2, at 219.

247. *Id.*

248. *Id.*

249. *Id.*

250. *See id.* (noting that the mining companies would not provide employee lists until the United States Public Health Service (USPHS) agreed that its doctors would not divulge the potential health hazards to the workers, nor would they inform those who became ill that their illnesses were radiation related).

251. *Id.* at 117.

252. Johnston, Dawson, & Madsen, *supra* note 238, at 111, 120.

253. *Id.* at 120.

254. *Id.*

255. *Id.* at 111–12.

256. *Id.*

257. *Id.*

people, including the future generations who would suffer from radioactive exposure.²⁵⁸

Federal policy shifted again in the latter part of the 1970s in the wake of nuclear spills and public outcry.²⁵⁹ Federal policy began to both minimize the role of nuclear power as an energy source and amplify the role of coal, oil, and gas exploration.²⁶⁰ These industries have also caused environmental impacts for the Navajo Nation and other energy resource tribes,²⁶¹ but they are often supported by tribal leaders as one of the sole mechanisms for tribal economic development.²⁶²

This case study of energy development on the Navajo Nation highlights the way in which the U.S. government used science policy to enhance its capacity to mine uranium at the lowest price possible in order to serve the “greater good,” namely, the “national security” interest of the U.S. Although the harms to human health and to the environment were well-documented by existing science, the U.S. government did not disclose this to the Navajo Nation in a way that would enable that government to protect its lands and members.

U.S. public health officials instead conducted a covert “medical experiment” on the Navajo people, reminiscent of the infamous Tuskegee Experiment,²⁶³ to document the effects of uranium exposure on human beings.²⁶⁴ In addition, the U.S. government failed to take an

258. *See id.* at 112, 125–27 (discussing long term effects of uranium mining in the context of the “Millworkers Study”).

259. *See id.* at 122 (discussing the impact of the 1979 United Nuclear Corporation dam failure near Church Rock, New Mexico, among other mining-related crises).

260. *Id.*

261. Andrew Needham, “A Piece of the Action:” *Navajo Nationalism, Energy Development, and Metropolitan Inequality*, in *INDIANS AND ENERGY*, *supra* note 235, at 111, 115.

262. For example, the Hopi Tribal government and the Navajo Nation endorse continued production of coal on their respective reservations and the operation of the coal-fired power plants that employ many tribal members, despite the pollution that naturally results from these industries, because there are very few options for employment in this rural area of the Southwest.

263. In 1932, the USPHS commenced the Tuskegee Syphilis study to document the nature of syphilis, including its progression in human beings. The subjects of the study were 399 black sharecroppers in Alabama who had latent syphilis and 201 men without the disease, who constituted the control group. The physicians who conducted the study did not inform the men about their disease or provide treatment. They did provide meals, medical exams, and burial insurance to ensure that the men did not seek treatment elsewhere. The study operated covertly until news sources revealed the story in 1972. After significant national embarrassment, the federal government ended the study and initiated policy changes to provide protection for human subjects of medical research. Myrtle Adams et al., *Final Report of the Tuskegee Syphilis Study Legacy Committee—May 20, 1996*, UNIV. of VA. CLAUDE MOORE HEALTH SCI. LIBR., http://www.hsl.virginia.edu/historical/medical_history/bad_blood/report.cfm (last visited July 12, 2012).

264. *See id.* (discussing the radiation experiments funded by the U.S. government from 1944 to

active role in remediating the harm after the uranium mining companies pulled out of active operation, leaving huge piles of uranium tailings and holding ponds of radioactive waste.²⁶⁵

In 1979, one of the mud dams that contained a holding pond near Church Rock, New Mexico, burst, spilling 1100 tons of uranium tailings and an estimated 100 million gallons of radioactive wastewater into the Rio Puerco River.²⁶⁶ Experts have cited this spill as the largest nuclear spill in U.S. history, and it caused extensive damage to local Navajo families, including the loss of their livestock, which were poisoned by drinking the radioactive water.²⁶⁷ The Navajo plaintiffs attempted to sue United Nuclear Corporation in tribal court, but the U.S. Supreme Court held that the Navajo plaintiffs were preempted from doing so by the Price-Anderson Act.²⁶⁸ The Price-Anderson Act is a federal statute that limits the liability of any company engaged in nuclear energy production for the harm or damage caused by its activity.²⁶⁹ It is a complicated statute that creates a high burden for plaintiffs to prove causation and establishes a cap on the damages they can receive upon meeting that burden.²⁷⁰ Furthermore, the Supreme Court ruled that a federal court must decide cases under this statute using the “neutral laws” and “scientific evidence” promoted by federal policy.²⁷¹ In short, the Navajo Nation and its members are divested of any authority to redress the harms they have suffered from uranium mining, other than the very narrow set of claims that Congress has authorized.

This profound legacy of federally-authorized radioactive contamination inspired the Navajo Nation to enact its own law, the Diné Natural Resources Protection Act of 2005.²⁷² This law, among other things, prohibits all uranium mining within the Navajo Indian Country.²⁷³ The Navajo Indian Country is defined to extend to lands within the “checkerboard” area, an area in the state of New Mexico that

1974 to study the effects of radiation exposure on human populations, and noting that these studies were typically conducted without the patient’s awareness or consent to participate). Uranium miners were among the human subjects tested in the radiation experiments.

265. Johnston, Dawson & Madsen, *supra* note 238, at 122.

266. Tsosie, *supra* note 2, at 220 (citing Bradford D. Cooley, *The Navajo Uranium Ban: Tribal Sovereignty v. National Energy Demands*, 26 J. LAND RESOURCES & ENVTL. L. 393 (2006)).

267. *Id.*

268. *See El Paso Natural Gas Co. v. Neztosie*, 526 U.S. 473, 485–86 (1999).

269. Price-Anderson Nuclear Industries Indemnity Act, 42 U.S.C. §§ 2011–2297h (2006).

270. 42 U.S.C. § 2210.

271. *See El Paso Natural Gas Co.*, 526 U.S. at 485–86.

272. NAVAJO NATION CODE ANN. tit. 18, § 1303 (2005).

273. *Id.*

is comprised of fee lands and tribally owned lands that is populated virtually exclusively by Navajo people.²⁷⁴ The checkerboard area exemplifies the mixed land titles within the exterior boundaries of many Indian reservations caused by nineteenth century federal land grants to the railroad companies intended to promote westward expansion. Today, the checkerboard area claimed by the Navajo Nation is the focus of jurisdictional disputes caused by private companies seeking permits to drill for uranium on parcels of non-Indian owned fee land within the area.²⁷⁵ In accordance with the jurisdictional rules of federal Indian law, if the land in this area is “Indian Country,” then the EPA maintains primary permitting authority in cooperation with the Navajo Nation.²⁷⁶ If the land is not “Indian Country,” then the State of New Mexico may authorize drilling for uranium on privately-owned or state-owned lands in the area but not on any lands still held in “Indian title.”²⁷⁷

The jurisdictional issues are currently being litigated in the federal courts.²⁷⁸ In *Hydro Resources, Inc. v. EPA*,²⁷⁹ the Tenth Circuit, sitting en banc, held that a parcel of fee land owned by Hydro Resources, Inc. within Section 8 of the checkerboard area was not a “dependent Indian community” for purposes of 18 U.S.C. § 1151(b).²⁸⁰ This holding reversed the EPA’s land status determination and overruled an earlier Tenth Circuit panel opinion in the same case holding that the area was a “dependent Indian community” within the meaning of the federal statute defining “Indian country.”²⁸¹ Section 8 falls within the Church Rock Chapter of the Navajo Nation, an area comprised of over seventy-five percent trust land, both tribal and allotted, with a population that is ninety-eight percent Navajo.²⁸² These demographics supported the

274. NAVAJO NATION CODE ANN. tit. 7, § 254.

275. See generally *HRI, Inc. v. EPA*, 198 F.3d 1224 (10th Cir. 2000) (holding private company was subject to federal permitting on fee land within Navajo Nation).

276. See, e.g., *Wash. Dep’t of Ecology v. EPA*, 752 F.2d 1465, 1469–72 (9th Cir. 1985) (explaining the intersection of federal Indian law with environmental law in the context of the respective regulatory authority of the states, the EPA, and tribal governments); see also 18 U.S.C. § 1151 (2006) (defining “Indian Country” for jurisdictional purposes).

277. Cf. *Wash. Dep’t of Ecology*, 752 F.2d at 1472 (holding that the EPA appropriately refused to allow the State of Washington to apply its hazardous waste regulations to Indian lands).

278. For an excellent analysis of the current litigation within its historical context, see Claire R. Newman, *Creating an Environmental No-Man’s Land: The Tenth Circuit’s Departure from Environmental and Indian Law Protecting a Tribal Community’s Health and Environment*, 1 WASH. J. ENVTL. L. & POL’Y 352, 356–401 (2011).

279. 608 F.3d 1131 (10th Cir. 2010) (en banc).

280. *Id.* at 1166.

281. *Id.*

282. *Id.* at 1168–69 (Ebel, J., dissenting).

EPA's finding that any permits to mine uranium in the area would require the approval of the Navajo Nation and EPA.²⁸³ The Tenth Circuit's en banc opinion found, however, that the U.S. Supreme Court's decision in *Alaska v. Native Village of Venetie Tribal Government*²⁸⁴ should be interpreted as negating the "community of reference" test, which includes an analysis of population demographics.²⁸⁵ The circuit court thus ruled that the parcel of land should be considered in isolation from the remainder of the land within the Church Rock Chapter of the Navajo Nation.²⁸⁶

The finding that non-Indian ownership of a parcel of fee land justifies state jurisdiction obviously constrains the jurisdiction of the Navajo Nation to protect its lands and members. In addition, the controlling politics is based on the same utilitarian calculus that was responsible for the initial harms of uranium mining on the Navajo Nation. In this case, many policymakers now assert that nuclear energy is "green energy" and uranium production should be expanded in order to minimize the greenhouse gas emissions.²⁸⁷ Assuming that the argument is defensible, the costs of uranium mining will fall disproportionately upon the people who live on or near the lands that will be mined. Unlike state- or federal-public lands, reservation lands are the home of many Native peoples. Companies such as Hydro Resources, Inc. tout new methods of drilling for uranium as "safe" technologies,²⁸⁸ but there is insufficient information to substantiate this claim.²⁸⁹

Because the Navajo Nation possesses an estimated twenty-five percent of the recoverable uranium in this country, the Nation will bear the brunt of a national energy development policy that promotes uranium mining.²⁹⁰ For example, in another recent Tenth Circuit decision, *Morris v. United States Nuclear Regulatory Commission*,²⁹¹ the court upheld the Nuclear Regulatory Commission's decision to grant Hydro Resources,

283. *See id.* at 1139.

284. 522 U.S. 520, 532–34 (1998).

285. *See Hydro Res.*, 608 F.3d at 1135, 1141.

286. *Id.* at 1166.

287. *See* Patrick Moore, *Going Nuclear*, WASH. POST, Apr. 16, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/04/14/AR2006041401209.html> (portraying nuclear energy as the wave of the future and the dangers of uranium mining remedied).

288. Tsosie, *supra* note 2, at 224.

289. I think it is safe to say that we don't "know" that this is a safe technology. There are no studies on this in relation to human health, and we don't want to resurrect the "radiation experiments" of the 1950s.

290. Tsosie, *supra* note 2, at 218 n.206.

291. 598 F.3d 677 (10th Cir. 2010).

Inc. a source-materials license for its uranium mining operation on Section 17 within the Church Rock Chapter.²⁹² In Section 17, the existing radiation levels already exceed the maximum exposure limits, and it is unclear whether groundwater contamination can be remediated.²⁹³ The Navajo residents of the Church Rock Chapter rely upon the groundwater to supply drinking water for themselves and their livestock.²⁹⁴ Thus, the risk of harm posed by uranium mining within the checkerboard area falls disproportionately upon the Navajo people, while the primary jurisdictional authority resides with the state and federal governments.

In short, national energy and environmental policies continue to dominate the future of Indian nations and tribal lands under a Western policy model that combines economics and science to determine what is best for “American society.” What about the health impacts on tribal members? Again, it is science that measures risk and tells us what is “beneficial” and what is “harmful” as a matter of social policy. The science of “risk assessment” is often based upon assumptions of how the “average” U.S. citizen lives and works, rather than the lifestyles of Native peoples who live on reservations and may consume fish on a daily basis or drink water from wells adjacent to lands contaminated by mining waste.²⁹⁵ With that reality in mind, this Article will now turn to the issue of national health policy and its impact on indigenous peoples.

B. *U.S. Health Policy*

U.S. public health policy and the policies that drive health research and facilitate biotechnology rely heavily upon scientific data. In this area of public policy, new scientific discoveries are seen as a social good and are often rewarded by patents for new medicines and technologies. Admittedly, there is not a direct linkage between the patenting of new discoveries in the area of health technology and the nineteenth century Discovery Doctrine that appropriated Native lands for public use. However, as this section of the Article will demonstrate, U.S. health policy, like U.S. public land policy, has significantly affected Native peoples since the earliest days of this country’s history, and its use of

292. *Id.* at 684–705.

293. *Id.* at 684, 695.

294. Tsosie, *supra* note 2, at 224; *see also Morris*, 598 F.3d at 682.

295. Richard A. Du Bey & James M. Grijalva, *Closing the Circle: Tribal Implementation of the Superfund Program in the Reservation Environment*, 9 J. NAT. RESOURCES & ENVTL. L. 279, 288–89 (1993–1994).

science and economics similarly continues to affect tribal interests in ways that are often invisible to the dominant society.

1. *U.S. Public Health Policy and Native Peoples*

Because tribal governments enjoy a distinctive political status under federal law, the Indian Health Service and its policies heavily govern tribal access to health care.²⁹⁶ In this sense, U.S. health policy affects Native peoples more than other Americans, just as U.S. public land policy disproportionately impacts Native peoples. Today, U.S. health policy also recognizes Native Americans as “minority populations” who suffer from significant health disparities, as do many other minority groups.²⁹⁷ The cause of these disparities is the topic of many articles and theories, but it is clear that the nineteenth century federal policies, which appropriated Native lands and resources for public use and forced tribes to transition from their traditional land-based economies to dependency upon federal commodities, provided the initial cause of the Native people’s health care disparities.²⁹⁸ This connection between U.S. public land policy and U.S. health policy would be invisible to most Americans, but it continues to play an important role in the Native peoples’ quality of life.

Today, the overwhelming poverty within many reservation communities and the prevalence of alcohol and tobacco use exacerbates the health disparities faced by tribal members.²⁹⁹ Reservation communities tend to be rural and isolated, and therefore residents lack access to the healthy foods and fitness facilities that suburban American citizens enjoy.³⁰⁰ In addition, poor road conditions and marginal access to hospitals and trauma facilities contribute to higher than average mortality rates attributable to accidents and injuries on the reservations.³⁰¹

296. See Indian Health Care Improvement Act, Pub. L. No. 94-437, § 2(a), 90 Stat. 1400, 1400 (codified as amended at 25 U.S.C. § 1601 (2006)).

297. AGENCY FOR HEALTHCARE RESEARCH & QUALITY, U.S. DEP’T OF HEALTH & HUMAN SERVS., NATIONAL HEALTHCARE DISPARITIES REPORT, 2009 180–233 (2010) [hereinafter NATIONAL HEALTHCARE DISPARITIES REPORT].

298. See Stephen J. Kunitz, *The History and Politics of U.S. Health Care Policy for American Indians and Alaskan Natives*, 86 AM. J. PUB. HEALTH 1464, 1465, 1473 (1996).

299. See generally AMERICAN INDIAN HEALTH: INNOVATIONS IN HEALTH CARE, PROMOTION, AND POLICY (Everett R. Rhoades ed., 2000) [hereinafter AMERICAN INDIAN HEALTH].

300. Yvette Roubideaux, *Beyond Red Lake — The Persistent Crisis in American Indian Health Care*, 353 N. ENG. J. MED. 1881, 1882 (Nov. 3, 2005), available at <http://www.nejm.org/doi/full/10.1056/NEJMp058095>.

301. See generally *id.*; Thomas Stewart, Philip May & Anita Muneta, *A Navajo Health Consumer*

According to a 1988 Report of the Institute of Medicine, public health policy reflects “what we, as a society, do collectively to assure the conditions in which people can be healthy.”³⁰² Contemporary public health policy is understood to include environmental health, disease and injury control, involuntary testing for disease, contact tracing of disease, immunizations and mandatory treatment, and quarantine policies for persons with infectious diseases.³⁰³ The powers of the state and federal governments to regulate public health are generally understood to derive from their respective constitutional authorities³⁰⁴ and from the inherent-police powers of state governments to regulate public health, safety, and welfare.³⁰⁵

Tribal governments also possess police powers as an aspect of their inherent sovereignty.³⁰⁶ However, their unique political status under federal law results in a different legal framework for tribal health policy and sometimes in disparate rights. For example, the decision of the U.S. Public Health Service to covertly study the effects of radioactive exposure on Navajo mine workers in the 1950s indicates that Native American people have sometimes been treated as involuntary subjects of U.S. public health research experiments.³⁰⁷ Of course, by the 1950s, Indians were full citizens,³⁰⁸ demonstrating that even this status could not insulate them from the harms of U.S. policy. Rather, the Navajo uranium mining case evokes the past understanding of policymakers that Native Nations were to be treated as “wards” and political subjects of the U.S. Until the mid-nineteenth century, Native peoples were under the jurisdiction of the Department of War, which administered their health needs in the wake of disease epidemics, such as smallpox, measles, and influenza, that decimated many Native villages.³⁰⁹ In fact, the very first

Survey, 18 MED. CARE 1183 (1980).

302. COMM. FOR THE STUDY OF THE FUTURE OF PUB. HEALTH, INST. OF MED., *THE FUTURE OF PUBLIC HEALTH I* (1st ed. 1988).

303. See generally F. Douglas Scutchfield & C. William Keck, *Concepts and Definitions of Public Health Practice*, in *PRINCIPLES OF PUBLIC HEALTH PRACTICE* 3, 3–9 (Stephen J. Williams ed., 1997).

304. U.S. CONST. amend. X; see generally *Jacobson v. Massachusetts*, 197 U.S. 11 (1905) (finding that state authority to require compulsory vaccination is acceptable under state police power).

305. U.S. CONST. amend. X; *Lochner v. New York*, 198 U.S. 45, 53 (1905).

306. See generally COHEN, *supra* note 230, § 4.01, at 204–20.

307. See discussion *supra* Part III.A.2.

308. Indian Citizenship Act of 1924, 8 U.S.C. § 1401(b) (2006).

309. Rose L. Pfefferbaum et al., *Providing for the Health Care Needs of Native Americans: Policy, Programs, Procedures, and Practices*, 21 AM. INDIAN L. REV. 211, 214 (1997).

federal law governing Native health was an 1819 statute designed to protect U.S. servicemen from contracting smallpox from Indians.³¹⁰ When the BIA was transferred to the Department of Interior (DOI), the DOI assumed the function of providing medical care to Indians for two purposes: to control disease epidemics that could jeopardize American citizens and to meet treaty obligations to provide physicians to tribal governments.³¹¹

What about the sovereign right of tribal governments to regulate public health? This function of tribal self-governance was overtly repudiated by federal policymakers until the 1970s.³¹² In the latter part of the nineteenth century, the BIA actually outlawed traditional indigenous healing practices on the reservation, thereby forcing the Western model of medicine upon tribal governments.³¹³ The federal government formalized the federal appropriation for Indian health care in the 1921 Snyder Act,³¹⁴ causing concern about the cost of this service to federal taxpayers. In 1954, the Indian Health Service was transferred to the Department of Health and Human Services as a branch of federal public health policy.³¹⁵ The transfer's asserted purpose was to "improve health services to Indian people, to avoid duplication of public health services, and to further the long-range objective of integrating Indian people into American common life."³¹⁶

It was not until the 1970s that federal policy formally recognized any distinctive role for tribal governments. The Indian Self-Determination and Education Assistance Act of 1975³¹⁷ effectuated the new federal policy of self-determination for tribal governments.³¹⁸ This Act allowed tribes to assume control over services that the federal government previously provided and develop new services for tribal members.³¹⁹ In

310. Lloyd B. Miller, *The Contemporary Statutory Framework for Native Healthcare*, Lecture at the New Directions in Native Healthcare CLE Conference (Nov. 5, 2010).

311. *See generally* Kunitz, *supra* note 298, at 1464; AMERICAN INDIAN HEALTH, *supra* note 299.

312. *See* Pfefferbaum et al., *supra* note 309, at 216 (describing enactment of Indian Self-Determination and Education Act of 1975, which provided a mechanism to transfer administrative authority to Tribes); *see also* Sharon O'Brien, *Tribes and Indians: With Whom Does the United States Maintain a Relationship?*, 66 NOTRE DAME L. REV. 1461, 1467 (1991).

313. *See* RULES FOR COURTS OF INDIAN OFFENSES (1892), *supra* note 224, at 103, 104.

314. 25 U.S.C. § 13 (2006).

315. Transfer Act of Aug. 5, 1954, Pub. L. No. 83-568, 68 Stat. 674 (codified as amended at 42 U.S.C. § 2004 (2006)).

316. *Id.* at § 102.

317. 25 U.S.C. § 450.

318. *Id.*

319. *Id.*; *see generally* Adams, *supra* note 223.

the 1990s, the federal “self-governance” policy enhanced the ability of tribal governments to administer their own health care systems.³²⁰ However, many tribes lack the necessary financial resources to assume direct control of their health care system.³²¹ The Indian Health Service continues to provide a basic level of health care to tribal members, although the extent of this care is somewhat dependent upon congressional funding cycles.³²² Some tribal governments have successfully harnessed the revenues from gaming to assist them in delivering outstanding health care to tribal members within tribally-operated reservation clinics and hospitals.³²³

Despite these modern policy innovations, a 2009 study on national health care disparities documents that American Indians and Alaska Natives rank the lowest of any population with respect to the quality of care they receive and the quality of their actual health outcomes.³²⁴ Given these disparities, one would hope that the advances in health care that biotechnology makes possible would be utilized for the overall improvement of Native health. In fact, however, the historical context of exploitation and differential rights documented above continues to impact the tribes’ ability to receive benefits from contemporary health care innovations, including genomic research and personalized medicine.

2. *Native Peoples and Health Care Innovation*

Scientists and policymakers often tout the technological advances represented by biotechnology as holding great public benefit,³²⁵ and yet they also may represent a distinctive set of harms to indigenous peoples. In fact, the issue of genetic research on indigenous peoples raises ethical issues for several different scientific disciplines, including biomedical research, physical anthropology, and bio-archeology.³²⁶ This became apparent in 2004, when the Havasupai Tribe, indigenous to the Grand Canyon in Northern Arizona, filed a lawsuit against Arizona State University for its misuse of blood samples taken from tribal members

320. See Indian Self-Determination Act Amendments of 1994, Pub. L. No. 103-413, 108 Stat. 4250 (codified as amended in scattered sections of 25 U.S.C. (2006)).

321. See AMERICAN INDIAN HEALTH, *supra* note 299, at 79.

322. See Pfefferbaum et al., *supra* note 309, at 215.

323. In Arizona, the Gila River Indian Community exemplifies this capacity, and the tribal government has set a very high standard for health care on the reservation.

324. NATIONAL HEALTHCARE DISPARITIES REPORT, *supra* note 297.

325. See Tsosie, *supra* note 2.

326. *Id.*

pursuant to a diabetes study.³²⁷ While the Havasupai Tribe consented to the diabetes study, it did not consent to the use of the samples for other purposes.³²⁸ The Tribe filed this lawsuit after inadvertently learning that the researchers had also used the samples for studies relating to schizophrenia and human origins.³²⁹

Several Havasupai tribal members whose blood had been sampled in the study also filed a claim, alleging lack of informed consent and various tort harms, including emotional distress.³³⁰ Although the two cases were later settled out of court, the Havasupai case study raises important issues that continue to be unresolved, including whether a cause of action exists to redress the various cultural harms that tribal members expressed for the misuse of their blood samples, whether the Tribe itself could be the holder of rights to tribal-genetic resources, and how informed consent applies to groups as compared to individuals.

Population genomics is vitally important to the future of biomedical research, as demonstrated by current innovations in bioengineering, personalized medicine, and pharmacogenomics.³³¹ Thus, the issue will continue to be important in defining the trajectory of U.S. health policy. However, population genomics also supports theories about human origins that implicate the political status of indigenous peoples as the “first peoples” of specific lands. In that sense, scientific researchers seek to use physical samples from tribal members to prove the “truth” about who the tribe really is and where it originated.³³² The use of tribal genetic material to prove the “truth” about its cultural identity is another example of how science is used to foster a dominant cultural view—in this case, about human habitation in the Americas.³³³ For the Havasupai Tribe and other tribes whose physical samples have been used in similar research, the scientific voyage of “discovery” continues unabated, only this time the tour is through the alleged “genome commons” instead of uncharted lands.³³⁴ In the process, indigenous understandings about their

327. *Id.* at 396.

328. *Id.*

329. *Havasupai Tribe of the Havasupai Reservation v. Ariz. Bd. of Regents*, 204 P.3d 1063, 1067 (Ariz. Ct. App. 2008).

330. *Id.* at 1071.

331. *See generally* L.B. Jorde, W.S. Watkins & M.J. Bamshad, *Population Genomics: A Bridge from Evolutionary History to Genetic Medicine*, 10 *HUM. MOLECULAR GENETICS* 2199 (2001); J.R. Stinchcombe & H.E. Hoekstra, *Combining Population Genomics and Quantitative Genetics: Finding the Genes Underlying Ecologically Important Traits*, *HEREDITY* 158 (2008).

332. *See* Tsosie, *supra* note 2.

333. *Id.*

identity continue to be disregarded as “cultural” or “religious” views,³³⁵ causing structural forms of epistemic injustice.

In the Havasupai case, for example, scientists claimed that discovering the “truth” of human origins justified the use of indigenous peoples’ blood and tissue to prove who they really were and where they really came from.³³⁶ This case primarily concerned the legal issue of who can “own” biomedical samples removed from living human beings.³³⁷ However, the researchers’ argument in favor of using the samples for other purposes also undergirds the effort of many physical anthropologists and bio-archeologists to preserve “culturally unidentifiable” Native American human remains for scientific use, rather than “repatriating” them to contemporary indigenous peoples as “ancestral” human remains. Thus, as the next section of this Article demonstrates, genomic research ties directly into the nineteenth century trope of “discovery” that was used to justify the collection of Native American human remains for scientific study, again, in service of the “greater good” for American society.

C. *Repatriation Policy*

Unlike the U.S. public land and public health policies, federal repatriation policy is quite specific to Native American people.³³⁸ Repatriation is intended to redress the harms of a traumatic past in which Native human bodies and burial sites were desecrated with impunity by citizens and government officials alike in complete disregard of Native

334. This is the language used to justify the Human Genome Project in which scientists competed to “map” the human genome.

335. For example, the Havasupai Tribe considers its place of origin to be in the Grand Canyon, while the scientific researchers are interested in proving the Tribe’s history of migrations from another place to the Grand Canyon. The scientific claim is presented as a search for the “truth,” while the Havasupai Tribe’s claim is represented as a “myth” substantiating the Tribe’s identity as the Original People of the Grand Canyon, which is a form of epistemic injustice at the level of an identity claim.

336. *See* Tsosie, *supra* note 1, at 396.

337. In this sense, “ownership” stands for the right to use and control the disposition of human tissue and biological samples. *See Moore v. Regents of Univ. of Cal.*, 793 P.2d 479, 488–93 (Cal. 1990) (holding that an individual who agreed to give blood and tissue samples in the course of treatment did not retain an interest in the samples sufficient to claim a share of the proceeds from a cell line developed by University of California researchers and patented under federal law for commercial use).

338. For example, the Native American Graves Protection and Repatriation Act specifies that it “reflects the unique relationship between the Federal Government and Indian tribes and Native Hawaiian organizations and should not be construed to establish a precedent with respect to any other individual, organization or foreign government.” 25 U.S.C. § 3010 (2006).

human rights.³³⁹ The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) is significant because Congress actually took responsibility for the historic injustice to Native peoples caused by federal policies.³⁴⁰ The government's nineteenth century policies treated Native Americans as objects of scientific inquiry rather than human beings entitled to bury their dead with dignity and possess cultural property as a matter of right.³⁴¹ However, these human rights abuses also extended into American citizens' everyday practices. Before the enactment of NAGPRA, citizens commonly looted Native American burials for the remains and objects, which were sold and transferred as commodities on the antiquities market.³⁴² Although the federal government made sporadic attempts to regulate despoliation of federal lands by imposing criminal sanctions on persons who excavated public land without a permit, it did not attempt to regulate the commercial sale of Native American remains and cultural objects until NAGPRA was enacted in 1990.³⁴³

1. *Overview of NAGPRA*

NAGPRA protects the rights of Native American people to four categories of cultural items: Native American human remains, funerary objects, objects of cultural patrimony, and sacred objects.³⁴⁴ While "human remains" and "funerary objects" have their standard meanings, what constitutes an "object of cultural patrimony" or a "sacred object" is dependent upon tribal law, which governs the permissible possession, use, or disposition of an object as "individual" or "tribal" property.³⁴⁵ In this sense, the statute can be understood as an effort to deal with epistemic injustice, promoting a tribal definition of protected cultural items instead of insisting upon categories from Anglo-American law, which would be unable to address the Native peoples' social and cultural

339. See Rebecca Tsosie, *Native American Graves Protection and Repatriation Act and the Problem of Culturally Unidentifiable Remains: The Argument for a Human Rights Framework*, 44 ARIZ. ST. L.J. 809 (2012).

340. 18 U.S.C. § 1170 (2006); 25 U.S.C. §§ 3001–3013.

341. *Id.*

342. See Jack F. Trope & Walter R. Echo-Hawk, *The Native American Graves Protection and Repatriation Act: Background and Legislative History*, 24 ARIZ. ST. L.J. 35, 39–43 (1992).

343. See Antiquities Act of 1906, 16 U.S.C. §§ 431–433 (2006); Archaeological Resources Protection Act of 1979, 16 U.S.C. § 470aa–mm (2006) (regulating excavations on public lands on the theory that the federal government owns the lands and also owns all objects or remains found on or under those lands).

344. 25 U.S.C. § 3001(3).

345. Tsosie, *supra* note 339, at 816.

experience.

NAGPRA has three primary goals. First, the statute increases the protections for Native American graves located on federal and tribal lands, providing for Native control over cultural items excavated from such lands after 1990.³⁴⁶ Second, the statute outlaws commercial trafficking in Native American cultural items.³⁴⁷ And finally, the statute requires all federal agencies and federally-funded museums to compile inventories of the Native American human remains and funerary objects in their possession, as well as summaries of all other cultural items.³⁴⁸ These documents are then sent to all federally recognized tribes, which are eligible to make claims for repatriation of any of the covered items that are “culturally affiliated” to the tribe.³⁴⁹

The statute has worked well for many tribes, enabling them to repatriate culturally affiliated human remains and cultural items.³⁵⁰ However, the Ninth Circuit has narrowed the test of “cultural affiliation” in relation to ancient human remains that cannot be scientifically linked to a contemporary Native American group, for example, through genetic testing.³⁵¹ Federal agencies, such as the Bureau of Land Management, have used this narrow definition to deny Native groups the right to repatriate “culturally unidentifiable” Native American human remains that are in the custody of museums or agencies.³⁵² This category includes many boxes of Indian crania and other body parts that were housed in museum collections without any data to attribute the body parts to a particular individual or tribe.³⁵³ It also includes the remains of tribes that were exterminated by military conduct or disease epidemics,³⁵⁴ as well as remains of tribes that the federal government has not recognized under the federal acknowledgment process, even if the identity of the

346. 25 U.S.C. § 3002.

347. 18 U.S.C. § 1170 (2006).

348. 25 U.S.C. § 3003.

349. *Id.* § 3005.

350. See Cecily Harms, *NAGPRA in Colorado: A Success Story*, 83 U. COLO. L. REV. 593, 615 (2012) (“[O]ver 700 human remains and over 2,000 associated funerary objects [have been repatriated].”); Jeffrey Kluger, *The Legal Battle: Archeology: Who Should Own the Bones?*, TIME, Mar. 5, 2006, <http://www.time.com/time/magazine/article/0,9171,1169901,00.html> (“[T]o date, about 30,000 human remains and half a million funerary objects have been returned to tribes.”).

351. See *Bonnichsen v. United States*, 367 F.3d 864, 879–82 (9th Cir. 2004).

352. See *Fallon Paiute-Shoshone Tribe v. U.S. Bureau of Land Mgmt.*, 455 F. Supp. 2d 1207, 1216 (D. Nev. 2006).

353. See Tsosie, *supra* note 339, at 818.

354. *Id.*

remains has a known cultural affiliation to that group.³⁵⁵ And, finally, it includes ancient remains, which are “Native American” but allegedly too old to affiliate to any contemporary federally-recognized tribal government.³⁵⁶

2. *Ancient Human Remains and Contemporary Injustice*

Although NAGPRA specifically authorizes many categories of evidence in order to determine cultural affiliation, including the use of oral tradition, the standard for cultural affiliation was conflated with scientific analysis of “genetic” identity in the 2004 Ninth Circuit decision in *Bonnichsen v. United States*.³⁵⁷ That case involved a set of human remains—designated by the Press as “Kennewick Man”—that washed ashore on the Columbia River, which is under the jurisdiction of the Army Corps of Engineers.³⁵⁸ Upon first analysis, the remains seemed notable because they allegedly had a “Caucasian” appearance and yet radiocarbon dating techniques estimated them to be between 8000 and 9000 years old.³⁵⁹ The five tribes that held aboriginal title claims to these lands made a joint claim under NAGPRA for ownership of the remains.³⁶⁰ The tribes alleged that the remains were their common ancestor and asserted that all five tribes shared similar cultural origins and understandings, despite their modern division into five separate governments.³⁶¹ A group of scientists, including Douglas Owsley at the Smithsonian Museum, filed a challenge to this claim.³⁶² The scientists asserted that NAGPRA should not apply to this case and that instead the court should consider the remains to be “federal property” for purposes of the federal Archaeological Resources Protection Act, which would make the remains available for scientific analysis and research on human origins.³⁶³

355. *Id.*

356. *Id.*

357. 367 F.3d 864 (9th Cir. 2004).

358. See Rebecca Tsosie, *Privileging Claims to the Past: Ancient Human Remains and Contemporary Cultural Values*, 31 ARIZ. ST. L.J. 583, 587–89 (1999).

359. *Id.* at 587.

360. *Id.* at 588.

361. *Id.* at 601–03.

362. *Id.* at 589, 589 n.19.

363. See generally JEFF BENEDICT, NO BONE UNTURNED: INSIDE THE WORLD OF A TOP FORENSIC SCIENTIST AND HIS WORK ON AMERICA’S MOST NOTORIOUS CRIMES AND DISASTERS (2004); DAVID HURST THOMAS, SKULL WARS: KENNEWICK MAN, ARCHEOLOGY, AND THE BATTLE FOR NATIVE AMERICAN IDENTITY (2000).

The Ninth Circuit overturned the finding of the Department of Interior that the remains predated European contact and should be considered “Native American,” as well as the Secretary’s decision to transfer the remains to the Tribal claimants.³⁶⁴ The Tribal claimants had proven that they were the only indigenous peoples documented to have aboriginal title to these lands and had also produced evidence of their cultural affiliation to the remains based on statutorily permitted categories including oral history and traditional knowledge.³⁶⁵ However, the court reasoned that without proof of “genetic” similarity between the modern tribes and the set of remains, no “cultural” affiliation could exist to prove common ancestry.³⁶⁶

Significantly, the court began its opinion by alluding to the set of remains as an important “scientific discovery” in the modern era because the Kennewick Man was an ancient human that predated “recorded history” on these lands.³⁶⁷ As such, this ancient individual belongs to “science,” which is the body of knowledge that can tell us the truth as a matter of genetic identity about who Kennewick Man really was and cast some light on the contentious issue of the “peopling of the Americas.” In that sense, the *Bonnichsen* case represents an example of epistemic injustice for the five claimant tribes in the Pacific Northwest that is quite similar to that suffered by the Havasupai Tribe. In both cases, the courts are reluctant to see or understand the harms suffered by the tribal claimants, while they are all too ready to generate an understanding of the law that will further scientific discovery. The testimony of the tribal claimants is entirely disregarded as “mythology” and “religious ideology,” while the scientific data represented by genetic testing is understood to have the capacity to tell us the “truth” about human origins and identity.

Furthermore, the *Bonnichsen* and *Havasupai* cases also intersect to some extent with the theme of discovery, as represented by the Lewis and Clark Expedition. Some archaeologists continue to dispute that contemporary Native Americans are the “First Peoples” of the lands now claimed by the United States.³⁶⁸ Today, bio-archaeologists seek to use physical samples to prove the truth of their theories, requiring them to gather DNA samples from the remains and from the current Native

364. *Bonnichsen v. United States*, 367 F.3d 864, 882 (9th Cir. 2004).

365. *Id.* at 881.

366. *Id.* at 879.

367. *Id.* at 868.

368. See Tsosie, *supra* note 358, at 596 (detailing the theories presented in the *Bonnichsen* case about the origins of human populations in the Americas).

American people who claim to descend from these ancient individuals.³⁶⁹ This indicates a continuation of the nineteenth century policies that promoted the Lewis and Clark Expedition of “Discovery” and divested Native peoples of much of their land and cultural identity. In both the past and present, the scientific analysis of Native peoples is used to support the goals of the dominant society. The only difference is that the current process of scientific discovery relies on the biological samples of the study population, rather than on the data that Lewis and Clark gathered about the tribes’ “moral character” and capacity to be friends or enemies of the United States.

3. *The Contemporary Policy Debate over Culturally Unidentifiable Human Remains*

The debate over who “owns” ancient human remains continues to affect the policies of the United States Department of Interior (DOI), which oversees the federal statutory process dictating the appropriate treatment and disposition of the vast stores of Native American human remains in the custody of federal agencies and federally-funded museums.³⁷⁰ In 2010, the National Park Service (NPS) within the DOI released a new rule providing for the respectful disposition of “culturally unidentifiable” Native American human remains to indigenous communities based on geographical and other non-genetic markers of “cultural” affiliation.³⁷¹ The DOI issued the final rule after many failed prior attempts, and nearly twenty years after NAGPRA’s passage. Although the vast majority of Native American human remains (over 118,000) are labeled “culturally unidentifiable,” some researchers have vehemently opposed the 2010 Rule, arguing that repatriation of these remains would foreclose human origins research that serves a broader public benefit.³⁷²

Recently, a group of archaeologists filed a claim in a California state superior court seeking to enjoin the University of California from transferring sets of human remains estimated to be nearly 10,000 years old to the La Posta Band of Mission Indians, which has claimed cultural affiliation to the remains.³⁷³ The remains, designated as the “La Jolla

369. See Tsosie, *supra* note 1, at 396 (documenting that the scientific analysis of Havasupai blood samples was directed, in part, to human origins research).

370. Tsosie, *supra* note 339, at 821.

371. Disposition of Culturally Unidentifiable Native American Human Remains, 43 C.F.R. § 10.11 (2012).

372. See *Who Owns the Past?*, *supra* note 8.

373. See *White v. Univ. of Cal.*, No. C12-01978RS, at 2, 5 (N.D. Cal. Oct. 9, 2012) (order

Skeletons,” were excavated on University property near San Diego and housed at the San Diego Archaeological Center on the University’s behalf.³⁷⁴ The La Posta Band of Mission Indians is a federally-recognized tribe and one of the twelve associated bands of Kumeyaay Indians who are indigenous to the area and claim these remains as their common ancestors.³⁷⁵ However, all twelve bands agree that La Posta is the appropriate tribal claimant.³⁷⁶

The University of California transferred the case to federal district court because the complaint directly implicated the Native American Graves Protection and Repatriation Act, and specifically challenged the federal regulation on culturally unidentifiable Native American remains now codified at 43 C.F.R. pt. 10.11.³⁷⁷ Specifically, the claimant scientists alleged that the University has a duty “to determine whether or not NAGPRA and its accompanying regulations actually apply to the La Jolla Skeletons before Respondents dispose of them to the Kumeyaay.”³⁷⁸ They further argued that a “disposition without such a formal determination would arbitrarily and illegally destroy the La Jolla Skeletons’ incalculable scientific value to Petitioners, and to the public at large, and would violate NAGPRA.”³⁷⁹

The California lawsuit reflects a growing sentiment among scientists that the federal regulations on culturally unidentifiable Native American human remains “allow tribes to claim even those remains whose affiliation cannot be established scientifically, as long as they were found on or near the tribes’ aboriginal lands,” thus privileging the cultural interests of tribes at the expense of scientific knowledge.³⁸⁰

This position is reflected in a recent editorial in *Scientific American*, which argues that the 2010 regulation privileges “faith over fact” and urges the federal government to repeal or revise the regulation.³⁸¹ In the opinion of *Scientific American*’s Board of Editors, the La Jolla remains are unique because of their age and “[t]he excellent preservation of the

granting Kumeyaay Cultural Repatriation Committee’s motion to dismiss and granting Regents of the University of California’s motion to dismiss).

374. *Id.* at 1.

375. *Id.* at 1–2.

376. *Id.* at 16.

377. *Id.* at 5–6; *see also* 43 C.F.R. § 10.11 (2012).

378. Petition for Writ of Mandamus at 13, *White v. Univ. of Cal.*, No. 12625891 (Super. Ct. of Cal. Apr. 16, 2012).

379. *Id.*

380. *Who Owns the Past?*, *supra* note 8.

381. *Id.*

specimens,” and they “might contain DNA suitable for analysis” using new techniques that could “yield crucial insights into where early Americans came from.”³⁸² In a statement that evokes the same nineteenth century trope of “discovery” that justified European colonization of “the New World,” the editors conclude that:

The colonization of the New World was a watershed in the odyssey that carried *Homo sapiens* from its African birthplace to the entire globe. The stories of the trailblazers who accomplished that feat deserve to be told. Their remains are the shared patrimony of all Americans and, indeed, all peoples everywhere.³⁸³

Dr. Duane Champagne, a leading sociologist at the University of California and member of the Turtle Mountain Chippewa Tribe, criticized the *Scientific American* editorial, claiming that it:

[S]hows little understanding of the forms and strength of indigenous relations to ancestors and to the requirements of maintaining the spiritual stewardship of the land. From all appearances, *Scientific American* isn't making much effort to understand indigenous cultures' interpretations of reality, meaning, and life. Instead the publication gives credence to scientific, professional, and nonspiritual understandings of the value and meaning of human ancestors and sacred funerary objects. As far as the editors are concerned, American Indian perspectives are irrelevant. They're even irresponsible because they don't protect human history and knowledge.³⁸⁴

Dr. Champagne further notes that at the heart of the dispute is the Kumeyaay Tribes' claim that they have lived in this area for over 12,000 years according to their own stories and understandings.³⁸⁵ The scientists claim that this is pure “folklore” and that no physical evidence exists that the modern Kumeyaay Tribe is culturally affiliated to these ancient remains or that they have been in the area more than “a few thousand years.”³⁸⁶

Champagne argues for a “more multicultural, government-to-government” approach to repatriation that incorporates “both scientific

382. *Id.*

383. *Id.*

384. Duane Champagne, *A New Attack on Repatriation*, INDIAN COUNTRY TODAY MEDIA NETWORK (Apr. 9, 2012), <http://indiancountrytodaymedianetwork.com/2012/04/09/a-new-attack-on-repatriation-107181>.

385. *Id.*

386. *Id.*

and indigenous values.”³⁸⁷ He also argues that collaboration between scientists and Indigenous peoples would result in much greater benefit than the current approach, which balances the “interests” of science against those of Native peoples.³⁸⁸ Under this balancing approach, the “public interest” in obtaining the maximum amount of knowledge will nearly always outweigh the cultural interests of a small group of Native Americans.

The California case, like the *Bonnichsen* and *Havasupai* cases, exemplifies the continuing occurrence of epistemic injustice for Native peoples. In all three cases, the scientists argue that the larger social interest in human origins research ought to outweigh any asserted “cultural” harm expressed by indigenous groups. This argument effectively reduces the indigenous peoples to the status of religious zealots, who are free to “believe” anything that they desire pursuant to the First Amendment of the U.S. Constitution, so long as they do not make demands that would contravene an important public interest.

Building on Dr. Champagne’s call for a new approach that better respects the unique interests and rights of Native peoples, the final section of this Article argues that contemporary human rights constructs can offer a more principled basis for adjudicating the disputes that continue to evoke “epistemic injustice” for indigenous peoples.

IV. SCIENCE, ETHICS, AND HUMAN RIGHTS

As demonstrated above, American science has had a profound impact on the legal and political rights of indigenous peoples on this continent, and it continues to have this effect. Presumably, however, most scientists would agree that the ideal future is one that respects the basic human rights of all peoples, including indigenous peoples. Science is a valuable tool in crafting social policy, and it can be used to further Native self-determination or, alternately, to reinforce the unjust structures that have operated to suppress indigenous self-determination. This section of the Article will discuss U.S. policy in light of international human rights norms in order to demonstrate those two different uses and encourage more conscious choices in the future.

The Article first discusses the basic argument for applying international human rights norms to the domestic legislative, administrative, and judicial structures that determine Native rights. The Article then indicates how application of human rights norms could alter

387. *Id.*

388. *Id.*

public policy in the areas of environmental, health, and repatriation policy, and could potentially promote a new model for science policy that is more inclusive of indigenous peoples' distinctive interests and rights.

A. *The Argument for Integrating International Human Rights Norms into Domestic Law*

Under principles of U.S. federal Indian law, Native peoples are recognized as separate sovereign governments, and they have the same capacity and need as other governments to build their economic base, protect the health of tribal members, and regulate their lands and resources for the benefit of future generations.³⁸⁹ As separate governments, federally-recognized tribes in the United States have certain legal and political rights that are unique and vital to their ability to govern their lands and members. For example, tribal governments have the right to lease their lands for mineral exploitation or other energy development,³⁹⁰ to regulate air and water quality,³⁹¹ and to participate in regional adaptation plans designed to manage land and water resources that transcend the jurisdictional boundaries of local or state governments.³⁹² They may also regulate the conduct of non-Indians who enter their lands to engage in activities, including research, that have the potential to impact the tribe or its members.³⁹³

In their capacity as sovereigns, tribal governments have the capacity to enter partnerships with scientists for mutual benefit.³⁹⁴ Furthermore, these agreements can, for the most part, be regulated by principles of contract, tort, and property law, subject to the jurisdictional rules of federal Indian law.³⁹⁵ However, as the *Havasupai* case demonstrates, the

389. See generally GOLDBERG ET AL., *supra* note 20.

390. COHEN, *supra* note 230, § 17.01, at 1074–75.

391. *Id.*, §§ 10.01–.03, at 774–95.

392. *Id.*

393. See *Montana v. United States*, 450 U.S. 544, 565 (1981) (“A tribe may regulate, through taxation, licensing, or other means, activities of nonmembers who enter consensual relationships with the tribe or its members, through commercial dealing, contracts, leases, or other arrangements.”).

394. For example, the Salt River Pima-Maricopa Indian Community has entered a partnership agreement with T-Gen Corporation. See *Collaborations with Genetics Researchers*, AM. INDIAN & ALASKA NATIVE GENETICS RESOURCE CENTER, <http://genetics.ncai.org/case-study/collaborations.cfm> (last visited Nov. 18, 2012).

395. See, e.g., *Montana*, 450 U.S. at 565 (confirming tribal power to regulate the activities of nonmembers who enter consensual relationships with the tribe or its members, for example, through a contract or lease agreement).

capacity of tribal governments to enter consensual agreements with researchers cannot solve the structural forms of epistemic injustice that exist within our national policies. In this area, indigenous peoples' human rights under international law become quite important. In addition, human rights principles are vital to understanding indigenous rights in cases where tribal governments no longer possess jurisdiction over lands or other resources based on prevailing notions of property law.

The domestic framework of federal Indian law actually supports incorporation of human rights norms. The status of Native Nations as separate peoples predates the political existence of the United States, and a host of Supreme Court cases from the nineteenth century until the present day have recognized this.³⁹⁶ The status of being a separate people has both a political and a cultural component. The political component is now understood to comprise the jurisdictional authority of tribes as sovereign governments.³⁹⁷ However, Native peoples also continue to exist as distinctive cultural groups within a dominant society committed to "multiculturalism" and pluralism in a secular democracy. As distinctive cultural groups, Native peoples often have divergent interests from the dominant society which may find expression in their need to protect sacred sites on lands no longer within their jurisdiction, speak their languages, preserve their access to traditional food sources and medicines, repatriate sacred objects, and prevent the misappropriation of their ceremonies, songs, and other resources.³⁹⁸ All of these interests are vital to the preservation of Native American cultural integrity and are therefore pivotal to tribal self-determination.³⁹⁹ Consequently, Native American human rights should be factored into U.S. public policy.

Of course, it is possible that the primary obstacle to reforming domestic law to accord with human rights norms is America's collective blindspot when it comes to questions of "injustice." American courts generally fail to see the limitations of domestic law as a form of

396. See, e.g., *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172 (1999); *Worcester v. Georgia*, 31 U.S. (6 Pet.) 515 (1832); *Cherokee Nation v. Georgia*, 30 U.S. (5 Pet.) 1, 10 (1831).

397. See Wallace Coffey & Rebecca Tsosie, *Rethinking The Tribal Sovereignty Doctrine: Cultural Sovereignty and the Collective Future of Indian Nations*, 12 *STAN. L. & POL'Y REV.* 191 (2001).

398. See generally COHEN, *supra* note 230.

399. See S. JAMES ANAYA, *INDIGENOUS PEOPLES IN INTERNATIONAL LAW* 131–41 (2d ed. 2004) (explaining that cultural integrity is a key norm encompassed within the concept of self-determination).

“injustice,” claiming instead that the Native claimants in *Bonnichsen* failed to “meet their burden of proof” to show cultural affiliation, or claiming that American property law simply cannot encompass a notion of “group” ownership of tribal genetic material.⁴⁰⁰ Similarly, the courts find that American tort law simply cannot extend to cover the cultural harm that inappropriate use of a blood or tissue samples causes, or that privacy law cannot extend to the public disclosure of photos of ancestral remains.⁴⁰¹ How do we navigate these controversies? More specifically, how do we even approach the resolution of these debates, as a matter of law or of ethics? International human rights law provides some insights into these difficult questions.

B. *International Human Rights Law as a Tool of Public Policy*

International human rights law provides a relevant set of norms to address shortcomings in domestic legal frameworks. Of course, this can only occur if our domestic courts and legislatures are willing to apply those norms. Some state legislatures have attempted to ban the use of international doctrines by their judicial systems.⁴⁰² Even without such drastic action, however, domestic courts have generally declined to apply human rights norms, instead holding to the view that rights, if any, must be embedded in domestic constitutional law, common law, or statutory law.⁴⁰³ This is not true in many other countries, such as Canada and Australia, where the domestic courts have readily applied human rights norms to extend or recognize specific rights.⁴⁰⁴

While American courts tend to assume that the dominant society’s appraisal of legal rights is the only relevant social experience, international human rights law is in the process of documenting another category of social experience: that of indigenous peoples throughout the

400. *Bonnichsen v. United States*, 367 F.3d 864, 881–82 (9th Cir. 2004).

401. *See Tsosie*, *supra* note 1, at 405–07.

402. On November 2, 2010, Oklahoma voters approved a proposed constitutional amendment that would prevent Oklahoma state courts from considering or using Sharia law. *Awad v. Ziriax*, 670 F.3d 1111, 1116 (10th Cir. 2012). After a federal district court granted a preliminary injunction to prevent the Oklahoma State Election Board from certifying this election result, and thereby making the amendment effective, the Board sought review, but the Tenth Circuit found no abuse of discretion by the lower court and affirmed the preliminary injunction. *Id.* at 1116–17.

403. *See, e.g., Crow v. Gullet*, 541 F.Supp. 785, 794 (D.S.D.1982) (failing to find any authority for the proposition that a right or cause of action is created by international human rights law).

404. *See, e.g., Mabo v. Queensland (No.2)* (1992) 175 CLR 1, 5 (Austl.). In this case, the High Court of Australia held for the first time that the indigenous peoples of Australia possessed aboriginal land rights and that the earlier nineteenth century doctrines that failed to recognize these rights violated human rights law.

world. This work, which has been ongoing for several decades, validates the fact that indigenous peoples throughout the world share a common set of cultural and political attributes in relation to the dominant societies that now encompass them.

Ideally, nation-states will consult this record of human rights law as they work to retool their domestic legal systems to minimize structural injustice. That is the message of James Anaya, the U.N. Special Rapporteur on the Rights of Indigenous Peoples, who recently held a series of consultations with tribal leaders and advocates in the United States to document instances of injustice and prepare a “country report” for the United States indicating whether the country is in compliance with human rights norms and where the country should focus its efforts to remediate existing injustice.⁴⁰⁵ This consultation follows from the historic consensus of global nation-states that emerged in the context of developing the U.N. Declaration on the Rights of Indigenous Peoples.⁴⁰⁶

In 2007, the U.N. General Assembly adopted the Declaration on the Rights of Indigenous Peoples, which recognizes that indigenous peoples possess the right to self-determination as a matter of international policy.⁴⁰⁷ The right to self-determination secures the basic right of indigenous peoples to autonomous self-governance within the nation-states that now encompass them.⁴⁰⁸ The Declaration envisions that the indigenous peoples’ right to self-determination will be exercised within the nation-state’s basic structure, and the document advocates consultation between indigenous peoples and the nation-states on policies that will impact them.⁴⁰⁹ Specifically, the Declaration requires states to “consult and cooperate in good faith with the Indigenous peoples concerned” and “to obtain their free, prior and informed consent” before undertaking administrative or legislative actions that will affect them.⁴¹⁰

The Declaration’s many provisions attest to the unique interests of indigenous peoples, which are often cultural, spiritual, and religious in

405. S. James Anaya is also a Professor of Law at the University of Arizona and widely acclaimed scholar of international human rights law and indigenous rights. *See, e.g., ANAYA, supra* note 399.

406. S. James Anaya, *Report of the Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous People*, U.N. Doc. A/HRC/12/34 (July 15, 2009).

407. Declaration, *supra* note 3.

408. *See id.* arts. 3–4.

409. *See id.* arts. 3–4, 19; Rebecca Tsosie, *Reconceptualizing Tribal Rights: Can Self-Determination Be Actualized Within the U.S. Constitutional Structure?*, 15 LEWIS & CLARK L. REV. 923, 930–35 (2011).

410. Declaration, *supra* note 3, art. 19.

nature.⁴¹¹ It is precisely because of these unique interests that indigenous peoples merit special consideration within domestic policymaking. As demonstrated above, domestic policymaking is dependent upon a model of secular pluralism. Secular pluralism privileges science, economics, and technology as appropriate constructs for domestic public policy, whereas “cultural” concerns are generally conflated with “religion” and marginalized as matters of private conscience rather than public policy. Human rights norms offer a more inclusive account of the multiple and diverse interests that ought to be considered by policymakers in the furtherance of indigenous self-determination.

It is significant that the United Nations General Assembly adopted the Declaration on the Rights of Indigenous Peoples after over twenty-five years of negotiations, hearings, and intensive dialogues between representatives of the nation-states and indigenous peoples.⁴¹² The consultative process that led to the adoption of the U.N. Declaration represented an effort to include indigenous peoples in the formation of the norms that will govern them. Although the Declaration is purely prescriptive at this point, it may eventually result in the adoption of an international convention.⁴¹³ Even without this action, however, the Declaration has served a useful purpose, promoting a dialogue about indigenous rights within the United States and many other global nations.⁴¹⁴

The United States, New Zealand, Australia, and Canada originally dissented from adopting the Declaration because the document recognized indigenous peoples as “peoples” with the same right to self-determination as other peoples.⁴¹⁵ The United States and other countries feared that this would foster claims by indigenous peoples to secede from the nation-states.⁴¹⁶ Importantly, however, the Declaration expressly provides that nothing in its text justifies the impairment of national boundaries,⁴¹⁷ thereby indicating that the remedy of secession is not available under international law for indigenous peoples, although it

411. Tsosie, *supra* note 409, at 927.

412. E.S.C. Res. 1982/34, U.N. Doc. E/RES/1982/82 (May 7, 1982).

413. Tsosie, *supra* note 409, at 925.

414. *Id.* at 928.

415. U.N. GAOR, 61st Sess., 107th plen. mtg. at 18–19, U.N. Doc. A/61/PV.107 (Sept. 13, 2007).

416. Christopher J. Fromherz, *Indigenous Peoples' Courts: Egalitarian Juridical Pluralism, Self-Determination, and the United Nations Declaration on the Rights of Indigenous Peoples*, 156 U. PA. L. REV. 1341, 1346 (2008).

417. Declaration, *supra* note 3, art. 46.

might be available for other peoples when the right to self-determination is suppressed under conditions of extreme injustice. President Barack Obama formally announced his support for the Declaration in 2010, and the U.S. State Department subsequently issued a position paper alleging that the rights of federally-recognized tribes under federal Indian law reflect the premise of the Declaration by favoring a policy of self-determination.⁴¹⁸

It is clear that indigenous self-determination is the key norm to be effectuated within U.S. policy. The norm of indigenous self-determination, in turn, prescribes recognition of indigenous rights of autonomy, cultural integrity, and protection of lands and resources. The Declaration envisions a relationship between indigenous peoples and nation-states that operates as a consensual partnership. Thus, indigenous peoples must agree to the terms of their relationship with the nation-states.⁴¹⁹ Their right to autonomy may be secured through a self-governance model, such as that which applies to federally-recognized tribal governments in the U.S. With respect to shared resources, Native autonomy may also express through models of shared governance, such as self-administration of federal programs and co-management of shared resources. Finally, Native autonomy is served by a model of participatory governance, which supports the efforts of tribal governments to ensure that their members enjoy equal access to important civil liberties, such as voting rights.⁴²⁰

The Declaration calls for a standard of “free, prior and informed consent” before national governments take actions that would impair Native rights.⁴²¹ This standard is intended to ensure that the negotiations between indigenous peoples and national governments are premised on a foundation of respect, rather than coercion.⁴²² In addition, the Declaration alludes to important concepts, such as spiritual rights, that are unique to indigenous peoples and should inform the policy dialogue

418. See President Barack Obama, Remarks at the White House Tribal Nations Conference (Dec. 16, 2010), in 2010 DAILY COMP. PRES. DOC. 1076, at 1–5; *Announcement of U.S. Support for the United Nations Declaration on the Rights of Indigenous Peoples*, U.S. DEPT. OF STATE 1–2 (Jan. 12, 2011), <http://www.state.gov/documents/organization/154782.pdf> [hereinafter *Announcement of U.S. Support*].

419. *Announcement of U.S. Support*, *supra* note 418.

420. See Tsosie, *supra* note 409, at 933.

421. Declaration, *supra* note 3, art. 19.

422. See *id.* (“States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.”).

about their rights to land, natural resources, and cultural resources.⁴²³ Finally, the document maintains a commitment to reparative justice, directing national governments to acknowledge the historical wrongs that continue to disadvantage indigenous peoples from the enjoyment of their human and civil rights, and requiring the governments to remediate those inequities.⁴²⁴ In all of these respects, international human rights law offers an alternative set of norms that can address the epistemic forms of injustice that indigenous peoples continue to suffer in this country.

C. *Human Rights Law and the Public Policy Arena: Envisioning a Different Future*

The discussion of injustice and human rights can seem theoretical and abstract, so it is useful to examine specific human rights norms that might inform U.S. public policy in the areas of the U.S. national environmental, health, and repatriation policies.

1. *National Environmental Policy and Indigenous Rights*

The Declaration offers a great deal of guidance for domestic policymakers with respect to environmental and land management issues. Most importantly, the Declaration specifically recognizes that the essence of indigenous identity is represented in the group's longstanding connection to a particular land base and territory.⁴²⁵ Thus, harms to the land can also constitute harms to indigenous identity. In addition, the document recognizes that the relationship of the indigenous people to their traditional lands is often a core feature of their cultural survival and that the land may be fundamentally important to the continuance of specific cultural and religious practices.⁴²⁶ Consequently, under the declaration, the U.S. government would not only have to ensure the

423. "Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard." *Id.* art. 25.

424. *See id.* Preamble (expressing concern over historic injustices that have been suffered by indigenous peoples and calling upon nation-states to acknowledge their inherent rights and respect their rights under treaties and political accords).

425. *Id.* ("Convinced that control by indigenous peoples over development affecting them and their lands, territories and resources will enable them to maintain and strengthen their institutions, cultures and traditions, and to promote their development in accordance with their aspirations and needs.").

426. *Id.*

tribal government's ability to regulate its reservation land base to promote the health and cultural needs of its members, but it would also have to ensure that its decisionmaking on public lands does not jeopardize Native American cultural practices, for example, those associated with sacred sites, such as the San Francisco Peaks.

The Declaration contains many provisions relevant to indigenous land rights, but four seem particularly relevant to the discussion above. First, the Declaration provides that "indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship" with their traditionally owned lands and waters and to "uphold their responsibilities to future generations in this regard."⁴²⁷ The document's recognition of "spiritual rights" specifically incorporates indigenous understandings of the universe and the metaphysics that governs human interactions with the natural world.⁴²⁸ Second, the Declaration emphasizes that indigenous peoples' rights to their lands and territories merit legal protection by the domestic government.⁴²⁹ This suggests that the pervasive tendency of the United States to generate prescriptive statements of law that are non-enforceable, such as the American Indian Religious Freedom Act, would not constitute effective legal protection of indigenous rights under the Declaration. Third, Article 27 of the Declaration requires states to establish and implement fair and transparent processes to adjudicate indigenous land rights.⁴³⁰ Finally, Article 28 provides that indigenous peoples should have the right to "redress" for takings of their lands and resources that take place without their "free, prior and informed consent."⁴³¹

Land use management is intimately tied to environmental and energy policy, so the rights described above form the basis for many other specific rights recognized by the Declaration. For example, Article 29 specifies that "[i]ndigenous peoples have the right to the conservation and protection of the environment," as well as the right to enjoy the "productive capacity of their lands or territories and resources."⁴³² States are counseled to take appropriate measures to guard against environmental degradation that might be caused, for example, by storing or disposing of hazardous materials on indigenous lands "without their

427. *Id.* art. 25.

428. *See id.*

429. *Id.* art. 26.

430. *Id.* art. 27.

431. *Id.* art. 28.

432. *Id.* art. 29.

free, prior and informed consent.”⁴³³ In the U.S. this provision would apply to any national policies that promoted forms of economic development that are hazardous to the environment and to human health, such as uranium mining on the reservation or storage of nuclear waste or hazardous waste on tribal lands.

Article 20 of the Declaration provides that “[i]ndigenous peoples have the right to maintain and develop their political, economic and social systems or institutions,” and that they should be “secure in the enjoyment” of their own traditional economies.⁴³⁴ This provision specifically recognizes that indigenous peoples are likely to have land-based subsistence economies that are vulnerable to destruction by national government policies, such as off-shore oil drilling. Article 20 specifically provides that “[i]ndigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.”⁴³⁵ In the years ahead, this provision is likely to receive significant attention, given the politics of energy development. Off-shore oil drilling is often understood as a means to ensure American energy “independence.” The costs of this development, of course, are localized on indigenous communities that practice subsistence ways of life.

2. *National Health Policy and Indigenous Rights*

With respect to health policy, the Declaration provides at a general level that “Indigenous peoples have the right to the full enjoyment, as a collective or as individuals” of all human rights guaranteed under international law.⁴³⁶ Thus, to the extent that there is a recognized human right to health, indigenous peoples are entitled to enjoy that right, in common with all other citizens. They also have the right to be free from discrimination in the exercise of that right.⁴³⁷ Article 24 specifically provides that “Indigenous peoples have the right to their traditional medicines and to maintain their health practices,” as well as “the right to

433. *Id.*

434. *Id.* art. 20.

435. *Id.*

436. *Id.* art. 1.

437. Although there are international documents recognizing a human right to health, the United States continues to deny that the government has any obligation to ensure realization of this right. Thus, national health care is primarily conceived of as an economic system to improve the delivery of health care and protect consumers against wrongful conduct by insurance companies or employers. *See also id.* art. 2 (providing that indigenous peoples and individuals are “free and equal to all other peoples and individuals” for purposes of exercising their rights and being free from discrimination in the exercise of those rights).

access, without any discrimination, all social and health services.”⁴³⁸ In addition, “[i]ndigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health,” and states are required to take the steps necessary to ensure “full realization of this right.”⁴³⁹ This provision would counsel the United States to engage in a consultative process with tribal communities about how to address health disparities and reconfigure existing programs more fairly. This would also enable Native peoples within the Indian Health Care Service system to take advantage of the advances in health care technology that are available to more affluent American citizens. Currently, federal funding constraints applicable to the Indian Health Service tend to limit the availability of costly forms of diagnosis and treatment for many serious diseases, such as cancer. Moreover, individuals who become sick during the latter part of the fiscal year may be denied services altogether because the available funds have already been exhausted.

The Declaration discusses genetic resources as a category of cultural heritage, providing that “[i]ndigenous peoples have the right to maintain, control, protect and develop their cultural heritage,” and the “manifestations of their sciences, technologies and cultures, including human and genetic resources.”⁴⁴⁰ States “shall take effective measures to recognize and protect the exercise of these rights.”⁴⁴¹ These provisions would counsel the United States to adopt effective protections to ensure that tribal genetic resources are not lumped into the “genome commons” that will provide the raw material for future scientific innovations in health care, such as personalized medicine. Existing research standards, for example, those applicable to Genome Wide Association Studies, draw on multiple sources and permit inclusion of all samples that are “deidentified” from the actual donor in order to meet privacy concerns.⁴⁴² This restriction is not sufficient to address the tribal interests identified in the *Havasupai* litigation and analogous international cases.⁴⁴³

438. *Id.* art. 24.

439. *Id.*

440. *Id.* art. 31.

441. *Id.*

442. *See, e.g., Genome-Wide Association Studies*, U.S. DEP’T OF HEALTH & HUM. SERVS, <http://gwas.nih.gov> (last visited Nov. 18, 2012).

443. *See* Donald J. Willison, *Trends in Collection, Use and Disclosure of Personal Information in Contemporary Health Research: Challenges for Research Governance*, 13 HEALTH L. REV. 107, 110 (2005) (detailing the misuse of blood samples taken from members of the Nuu-Chah-Nulth First Nation of British Columbia, Canada).

3. *Indigenous Peoples and U.S. Repatriation Policy*

The Declaration discusses the right of indigenous peoples to repatriate their ancestral human remains in Articles 11 and 12. Article 11 recognizes that indigenous peoples have a “right to maintain, protect and develop the past, present and future manifestations of their cultures,” including “archaeological and historical sites.”⁴⁴⁴ States must provide effective redress, including restitution, for any “cultural, intellectual, religious and spiritual property” taken from indigenous peoples “without their free, prior and informed consent or in violation of their laws, traditions and customs.”⁴⁴⁵ This provision would suggest that the effort of archaeologists to claim ownership of Native American burials, including ancestral remains and funerary objects, is completely antithetical to indigenous peoples’ human rights. In fact, the 2010 regulation on disposition of culturally unidentifiable human remains that scientists attack as “too favorable” to Native cultural interests, does not provide for the mandatory return of funerary objects associated with the human remains.⁴⁴⁶ Whether or not this omission violates NAGPRA, it clearly constitutes a violation of international human rights law.

Article 12 specifically provides that indigenous peoples have “the right to the repatriation of their human remains” and requires States to enable access to and repatriation of any ancestral human remains and ceremonial objects within their possession “through fair, transparent and effective mechanisms developed in conjunction with indigenous peoples concerned.”⁴⁴⁷ The upshot of these provisions is to place the ownership and control of indigenous human remains, funerary objects, and ceremonial objects with Indigenous peoples. There is nothing within international human rights law that supports the notion currently alleged by many scientists that indigenous human remains are the “shared patrimony of all Americans” or of “all peoples elsewhere.”⁴⁴⁸ The United States has an obligation to ensure that indigenous peoples’ human rights are realized within its domestic legal system, and the Declaration provides an appropriate normative basis to achieve its vision of a consultative process of policymaking.

Human rights standards and principles can serve an important function in reformulating public policy. To the extent that public policy

444. Declaration, *supra* note 3, art. 11.

445. *Id.*

446. 43 C.F.R. § 10.11 (2012).

447. Declaration, *supra* note 3, art. 12.

448. *Who Owns the Past?*, *supra* note 8.

incorporates science policy, human rights standards can contribute to developing an equitable legal framework that can represent the experience of indigenous peoples in defining the benefits and harms of our public policies.

CONCLUSION

This Article has explored how science policy impacts indigenous peoples, and it has advocated a shift from treating indigenous peoples as objects of “scientific discovery” to working respectfully with indigenous governments as equal participants in the creation of public policy. While many people acknowledge the overt racism and cultural superiority of nineteenth century science policy, few understand that those nineteenth century themes continue to impact indigenous rights within the United States in areas such as environmental policy, health policy, and repatriation policy. These areas of public policy have had tremendous impact on Native peoples in the United States, demonstrating the pervasive “epistemic injustice” caused by the uncritical application of Western values, categories, and standards to the very different social experience of Native peoples.

American society has harmed indigenous peoples within domestic social, political, and legal structures both in their capacity as “givers of knowledge” and in their capacity as “subjects of social understanding.” By incorporating human rights standards and honoring indigenous self-determination as both a legal right and a moral consideration, domestic public policy can more equitably respond to indigenous peoples’ distinctive experience. Similarly, scientists and scientific organizations can incorporate human rights standards into their disciplinary methods and professional codes of ethics in order to explore the ethical and legal implications of their work on indigenous peoples.

The United Nations Declaration on the Rights of Indigenous Peoples calls for nation-states to engage indigenous peoples in a set of processes designed to effectuate a more just framework for the realization of basic rights and fundamental freedoms. This international human rights framework supports the ability of indigenous peoples to claim their sovereign right to live according to their own norms and values within the nation-states that now encompass them, and to fully participate within the domestic structures that determine whether “justice” will truly be for all.