Science, Sovereignty, and the Sacred Text: Paleontological Resources and Native American Rights

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Land is the only thing in the world that amounts to anything... for 'tis the only thing in this world that lasts. ... 'Tis the only thing worth working for, worth fighting for—worth dying for." —Gone with the Wind

You have driven away our game and our means of livelihood out of the country, until now we have nothing left that is valuable except the hills that you ask us to give up. ... The earth is full of minerals of all kinds, and on the earth the ground is covered with forests of heavy pine, and when we give these up to the Great Father we know that we give up the last thing that is valuable either to us or the white people." —Wanigi Sha (White Ghost)

We believe that at the beginning of all things, when the earth was young, the thunderbirds were giants. ... They fought with unktegila, the great water monster. ... You can find the bones of unktegila in the Badlands mixed with the remains of petrified sea shells and turtles." —John (Fire) Lame Deer

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1. MARGARET MITCHELL, GONE WITH THE WIND 36 (1936). This statement was made by Gerald O'Hara, an Irish immigrant, to his daughter Scarlett O'Hara, in response to her expression of disdain for Tara, the family estate. Gerald went on to make a statement that also describes the traditional attitude of Native Americans toward the land: "[T]o anyone with a drop of Irish blood in them the land they live on is like their mother." Id.; see also infra notes 98-113 and accompanying text (discussing Native American attitudes toward the land).


3. JOHN (FIRE) LAME DEER & RICHARD ERDOES, LAME DEER, SEEKER OF VISIONS 251-52 (1994). Lame Deer, a Lakota Sioux medicine man, devoted his life to preserving the culture and history of Native Americans. See Ruth Rosenberg, Introduction to LAME DEER & ERDOES at ix-xi.
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In 1993, in *Black Hills Institute of Geological Research v. South Dakota School of Mines and Technology,* the Court of Appeals for the Eighth Circuit held that the United States, rather than the Black Hills Institute of Geological Research (BHIGR), had title to a valuable *Tyrannosaurus rex* fossil that BHIGR had excavated on the Cheyenne River Sioux Reservation in South Dakota. The United States held the land on which the fossil was found in trust for an individual Indian. BHIGR had paid the Indian rancher for the right to excavate the fossil, but had neither sought nor received the approval of the Secretary of the Interior or the Cheyenne River Sioux Tribe for the excavation. In deciding that BHIGR had not acquired title to the fossil, the court of appeals reasoned that the fossil was land before it was excavated, and therefore, was subject to a federal statutory provision prohibiting the transfer of Indian trust lands without prior federal approval.

Some commentators have criticized the court of appeals's decision for its potential impact on fossil collecting on federal lands and have expressed concern over the due process implications of the government's seizure of the fossil. One commentator has viewed the decision as an indication of the problems inherent in the survival of federal Indians' rights to federal lands.

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4. 12 F.3d 737 (8th Cir. 1993), *cert. denied,* 115 S. Ct. 61 (1994). The discovery of the *Tyrannosaurus rex* fossil resulted in four reported federal court decisions: *Black Hills Inst. of Geological Research v. United States Dep't of Justice,* 967 F.2d 1287 (8th Cir. 1992) [*hereinafter Black Hills I*] (remanding to the district court to determine whether temporary custody of the fossil during pendency of the case should remain with the federal government or be returned to the Institute); *Black Hills Inst. of Geological Research v. United States Dep't of Justice,* 978 F.2d 1043 (8th Cir. 1992) [*hereinafter Black Hills II*] (affirming the district court's decision to name the South Dakota School of Mines and Technology as custodian of the fossil pendente lite); *Black Hills Inst. of Geological Research v. United States Dep't of Justice,* 812 F. Supp. 1015 (D.S.D. 1993) [*hereinafter Black Hills III*] (holding that the embedded fossil was an interest in land held in trust for the Indian beneficial owner, and failure of the Indian owner to apply for approval from the federal government rendered the sale null and void), *aff'd in part, rev'd in part sub nom.* *Black Hills Inst. of Geological Research v. South Dakota Sch. of Mines and Technology,* 12 F.3d 737 (8th Cir. 1993) [*hereinafter Black Hills IV*] (affirming that the United States holds trust title to the fossil), *cert. denied,* 115 S. Ct. 61 (1994). For a discussion of *Black Hills IV,* see *infra* notes 56-74 and accompanying text.

5. *Black Hills IV,* 12 F.3d at 737.

6. *Id.* at 744. In this Article, both the terms "Native American" and "Indian" are used to refer in general to the descendants of the indigenous peoples of North America. Tribal designations are used wherever possible.

7. *Id.* at 739-40.

8. *Id.* at 741-43.

restrictions on the transfer of Indian trust lands. Still another has focused on the decision as an indication of the need for comprehensive federal regulation of paleontological resources. These commentators have not, however, examined the appropriate tribal role in regulating paleontological resources found on reservation lands and the implications of the Black Hills case for tribal sovereignty. Nor have these commentators considered how decision-makers, in addressing issues related to fossils found on reservation lands, should weigh the import of Native American attitudes toward the land and fossils and the history of fossil collecting on tribal lands.

This Article examines the role that tribes should play in the regulation of paleontological resources found on reservation lands. Part I reviews the discovery and excavation of the Tyrannosaurus rex fossil considered in the Black Hills case and the federal court decisions on ownership of the fossil. Part II discusses traditional Native American thought about the sacred nature of the land and the fossils therein. Part III examines the history of encounters between Native Americans and paleontologists during the nineteenth century, demonstrating that the Black Hills case is only the most recent incident in a long history of the taking of fossils from reservation lands without tribal consent. Drawing upon the religious and historical discussions in Parts II and III, Part IV analyzes the issue of tribal regulation of paleontological resources on reservation lands. Part IV first considers retained tribal sovereignty and treaty rights as possible foundations for tribal regulatory authority. Part IV then examines federal legislation as a means of guaranteeing a tribal role in the regulation of paleontological resources. The Conclusion returns to the Black Hills case and discusses the appropriate tribal role in the regulation of paleontological resources on reservation lands.

I. The Black Hills Decisions

The excavation and removal of a valuable Tyrannosaurus rex fossil from Indian trust land on the Cheyenne River Sioux Reservation resulted in four reported federal court decisions addressing custody

12. The article by Patrick Duffy and Lois Lofgren does briefly discuss the issues of tribal sovereignty and tribal regulation, but these issues are not the main focus of the article. Duffy & Lofgren, supra note 9, at 498-500.
and ownership of the fossil. In determining ownership of the fossil, the district court and the court of appeals relied on federal statutes relating to Indian trust land and on state law definitions of land. Absent from this analysis was consideration of the traditional Native American understanding of the nature of land and the fossils and other materials that compose it, even though the fossil was found on reservation land. Moreover, the courts disregarded the possible interests or authority of the tribe from whose reservation, and without whose knowledge, the fossil was removed. Finally, the opinions failed to recognize that the excavation and removal of the fossil are simply the most recent example of paleontologists' historic failure to respect tribal sovereignty and interests in paleontological resources on reservation lands.

A. The Discovery

In August 1990 during a break from an excavation at another BHIGR site, amateur paleontologist and BHIGR employee Sue Hendrickson came across the fossilized remains of a Tyrannosaurus rex

13. See supra note 4. The incident also led to civil proceedings in tribal court during which the tribe sought forfeiture of the fossil because BHIGR had not purchased a tribal business license. Duffy & LoSfren, supra note 9, at 507; see also Tribe Loses Round in Fight Over Dinosaur Named Sue, ROCKY MOUNTAIN NEWS (Denver), July 15, 1994, at 23A (reporting that a tribal judge had held that the forfeiture provision of the business license ordinance was inapplicable because it had been adopted after removal of the fossil). In addition, the federal government indicted BHIGR, several of its officers, and other fossil dealers, for 39 crimes ranging from currency violations to theft of government property. In re Larson, 43 F.3d 410, 411 (8th Cir. 1994). In March 1995 the jury in the criminal proceedings either acquitted or failed to reach a verdict on all but eight of the charges against the defendants. Malcolm W. Browne, U.S. Dealt Setback in Effort to Curb Dinosaur Fossil Hunters, N.Y. TIMES, Mar. 17, 1995, at A21 [hereinafter U.S. Dealt Setback].

14. See infra notes 35-51, 57-66 and accompanying text.

15. See infra part IV.A (discussing Native American attitudes toward the land, stones, and fossils).

16. See infra part IVA (discussing the scope of tribal regulatory authority).

17. See infra part III (describing the history of paleontologists' activities on Native American lands).

18. The Tyrannosaurus rex has captured the public imagination, resulting in a number of books aimed at dinosaur enthusiasts. See, e.g., JOHN R. HORNER & DON LESSEM, THE COMPLETE T. REX: HOW STUNNING NEW DISCOVERIES ARE CHANGING OUR UNDERSTANDING OF THE WORLD'S MOST FAMOUS DINOSAUR (1993). The Tyrannosaurus rex lived 65 to 67 million years ago. Id. at 18. Its remains have been found in Montana, Wyoming, Colorado, South Dakota, and Alberta, Canada. Id. at 25. Although the Tyrannosaurus rex has become one of the best known dinosaurs, the fossil discovered on Maurice Williams's ranch was only the eleventh Tyrannosaurus rex discovered by paleontologists. Id. at 64-65 (describing the 11 specimens that had been found). Several additional specimens have since been discovered. Id. at 73-75; see also Malcolm W. Browne, Dinosaur Institute Keeps Digging, N.Y. TIMES, July 27, 1993, at C6 [hereinafter Dinosaur Institute Keeps Digging] (not-
on Maurice Williams's ranch on the Cheyenne River Sioux Reservation in western South Dakota.¹⁹ Maurice Williams is a member of the Cheyenne River Sioux Tribe,²⁰ and the ranch was located on land held in trust by the United States for Williams's benefit.²¹ The fossil, the largest and most complete Tyrannosaurus rex ever found,²² was named "Sue."²³ After BHIGR, a commercial fossil dealer,²⁴ had begun excavation of the fossil, it issued a $5000 check to Williams, allegedly for title to the fossil and the right to excavate it.²⁵ After removing the fossil from Williams's ranch, without the knowledge or consent of any federal agency,²⁶ BHIGR moved the ten tons of bones from the reservation to Hill City, South Dakota, for restoration.²⁷ Tribal officials were unaware of BHIGR's activities until the fossil had been re-


22. Black Hills I, 967 F.2d at 1239. The fossil was more than 90% complete. Horner & Lessem, supra note 18, at 72. The femur alone measured 54 inches. Id. at 71. For photographs of the fossil before removal from the reservation, see id. at 70-71, 74-75.

23. Black Hills I, 967 F.2d at 1238 n.2. Given the location at which it was found—the Cheyenne River Sioux Reservation—the fossil might more aptly have been named "Sioux" rather than its homophone, "Sue."

24. For a discussion of the debate over the role of commercial fossil dealers in fossil collecting, see Malcolm W. Browne, A Dinosaur Named Sue Divides Fossil Hunters, N.Y. TIMES, July 21, 1992, at C1 [hereinafter A Dinosaur Named Sue Divides Fossil Hunters].

25. Black Hills III, 812 F. Supp. 1015, 1017 (D.S.D. 1993). Maurice Williams later maintained that the check was given in compensation for damage to the land, not for the fossil itself. Pasternak, supra note 19, at A1. According to paleontologists, a fossil like the one found on Williams's ranch could be sold for several million dollars, particularly if sold to a foreign museum. F.B.I. Seizes Tyrannosaur in Fight on Fossil Custody, supra note 19, at A1; see also U.S. Dealt Setback, supra note 13, at A21.


27. Black Hills IV, 12 F.3d 737, 739 (8th Cir. 1993).
moved from the reservation, when the discovery was reported in a Rapid City, South Dakota, newspaper.28

B. The Seizure

In May 1992 dozens of Federal Bureau of Investigation agents, Park Rangers, and members of the South Dakota National Guard, acting on the orders of the United States Attorney for South Dakota, seized the fossil from BHIGR’s offices in a much-publicized early morning raid.29 The federal government alleged that BHIGR’s excavation and removal of the fossil violated the Antiquities Act of 1906.30 Following the seizure, BHIGR filed suit in federal district court to quiet title to the fossil31 and unsuccessfully sought a preliminary injunction requiring the return of the fossil.32 The Cheyenne River
Sioux Tribe also claimed an interest in the fossil, identified by tribal lawyers as part of the tribe's cultural heritage. As stewards of the land, tribal officials explained, the tribe had the responsibility to control the fossil, not only for the current generation, "but unto the seventh generation."34

C. The District Court's Rejection of BHIGR's Claim

In February 1993 the South Dakota District Court addressed whether BHIGR had obtained ownership of the fossil.35 Before deciding the ownership issue, the court reviewed the basic principles of legislative intent with respect to Indians and the trust status of Indian lands.36 The court affirmed that the "underlying rule" controlling judicial construction of legislation related to Indians is congressional intent.37 Courts must resolve doubtful expressions in favor of the Indians, whom the court characterized as a "'weak and defenseless people who are the wards of the nation, dependent upon its protection in good faith.'"38 The court compared the protection for Indian beneficiaries contemplated by the General Allotment Act of 1887, also known as the Dawes Act—which provided for the allotment of tribal

op. at 2 (D.S.D. May 28, 1992)). BHIGR appealed the denial of the preliminary injunction and also sought an order granting it custody of the fossil pending the appeal of the preliminary injunction denial. Id. at 1238. The court of appeals remanded the case to the district court to determine the proper temporary custodian. Id. at 1241. Following a three-day hearing, the district court awarded temporary custody to the School of Mines. Black Hills II, 978 F.2d 1043, 1044 (8th Cir. 1992). The court of appeals affirmed the district court's custody order, dismissed BHIGR's appeal of the denial of injunctive relief, and remanded the case for further proceedings on the merits. Id. at 1045.


34. Pasternak, supra note 19, at A1 (quoting tribal Attorney General Steven C. Emery).

35. Black Hills III, 812 F. Supp. at 1017. Although BHIGR had amended its complaint to claim superior possessory rights rather than to quiet title, the court decided that because "a permanent possessory right to the fossil is subsumed within the context of ownership," it had to decide the ownership issue. Id. at 1018; see also supra note 31 and accompanying text (discussing the original complaint).

36. Black Hills III, 812 F. Supp. at 1019. The court also concluded that it had federal question jurisdiction to hear the case because resolution of the ownership issue required the application and interpretation of federal statutes concerning Indian trust lands. Id. (citing 28 U.S.C. § 1331 (1988)). The court further explained that the Quiet Title Act did not provide an independent basis for jurisdiction. Id.; see also supra note 31 and accompanying text (discussing the Quiet Title Act). The court of appeals affirmed the district court's exercise of jurisdiction. Black Hills IV, 12 F.3d 737, 740 (8th Cir. 1993).


38. Id. (quoting Rosebud Sioux Tribe v. Kneip, 430 U.S. 584 (1977)).
lands to individual tribal members— to the protection afforded to beneficiaries of spendthrift trusts. In order to protect Indians in cases where the United States holds legal title to Indian lands in trust, alienation of such lands must be authorized by Congress and comply with the rules and regulations of the Secretary of the Interior. Although the Indian Reorganization Act of 1934 (IRA) ended the federal policy of allotment of Indian lands, federal law continued to provide for the issuance of trust patents to individual Indians. Maurice Williams’s trust patent had been issued in 1969, and the restrictions on alienation of the land were not to expire until 1994.

Federal law relating to the alienation of trust lands authorized the Secretary of the Interior to make land grants through the issuance of fee patents, remove alienation restrictions, and approve conveyances with respect to land or interests in land held by individual Indians pursuant to the IRA, upon application of the Indian owner. If the embedded fossil were land or an interest in land, the alienation restrictions would apply to the fossil, and Williams could not convey an interest in the fossil without the Secretary’s approval. Because Williams had not applied to the Secretary for removal of the alienation restrictions or for approval of the sale of an interest in the land to BHIGR, any purported sale was null and void.

BHIGR argued that the embedded fossil was neither land nor an interest in land and that Williams therefore could enter into a contract for the fossil’s excavation and removal. Because there was no
case authority holding that an embedded fossil was an interest in land, the court turned to state statutory definitions of land. South Dakota law defined "land" as "the solid material of the earth, whatever may be the ingredients of which it is composed, whether soil, rock, or other substance." The court concluded that the embedded fossil was an interest in land under the South Dakota statute and that it therefore was subject to the federal requirements for approval of conveyances. Such a finding concerning a nearly priceless fossil was consistent with Congress's intent to protect Indian lands from "improvident alienation.

The court concluded by reiterating that the land at issue was trust land, and under the terms of both the trust patent and federal laws and regulations, the sale of an interest in the land required the consent of the Secretary of the Interior. In the absence of such consent, the attempted sale of the fossil was null and void, and BHIGR obtained no legal interest in the fossil. The court noted that obtaining secretarial approval would have been relatively simple and BHIGR had to assume much of the fault caused by its failure to conform its conduct to the applicable federal laws and regulations.

D. The Court of Appeals's Affirmance

In December 1993 the Eighth Circuit Court of Appeals affirmed the district court's judgment "that the United States holds trust title to the fossil . . . ." The Eighth Circuit's approach to the ownership issue was very similar to the district court's approach. The court re-

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Id. at 1021 n.6. The court held that the status of the fossil, and the law applicable to it, must be evaluated before severance. Id.

49. Id. at 1021.

50. Id. (quoting S.D. CODIFIED LAWS ANN. § 43-1-4 (1983)).

51. Id.

52. See supra note 25 (describing the fossil's value). The court also briefly described a number of federal statutes that demonstrated congressional intent to protect Indians against acquisition of their land or of interests in their land by requiring federal approval for public highways through allotted lands, farming and grazing leases, mining leases, oil and gas leases, and the alienation of allotments. Black Hills III, 812 F. Supp. at 1021-22 (citing 25 U.S.C. §§ 311, 393, 396, 396e, 392 (1988), respectively).


54. Id. The court dismissed BHIGR's complaint and entered judgment in favor of the Department of Justice. Id.

55. Id. The court noted further that BHIGR should have investigated the status of the land and "ran the risk of this unlawful taking of the fossil from Indian land by not having done so." Id. For a newspaper account of the decision, see Malcolm W. Browne, Fossil Belongs Not Just to the Ages but to the U.S., a Judge Declares, N.Y. TIMES, Feb. 5, 1993, at A12.

56. Black Hills IV, 12 F.3d 737, 739 (8th Cir. 1993). The court first found that the district court had federal question jurisdiction over the case. Id. at 740. The court rejected BHIGR's argument that the district court erred in deciding ownership because BHIGR's
viewed the status of Maurice Williams's land, and characterized Williams as "a beneficial owner of the land, retaining certain judicially-recognized rights but lacking the absolute right to dispose of the land as he pleases." The limitations on his interest in his trust land were reflected in federal statutory provisions prohibiting the "sale, devise, gift, exchange, or other transfer" of restricted Indian trust lands and authorizing the Secretary of the Interior to remove alienation restrictions and approve conveyances on the application of Indian owners. Thus federal law provided a mechanism for Williams to alienate all or part of his interest before the trust patent expired, but in this instance, the required approval had not been sought, let alone obtained. Any attempted sale of an interest in trust land in violation of the approval requirement was void and did not transfer title to the would-be purchaser. Thus, if the fossil was land before excavation, the transaction between BHIGR and Williams was void.

In the absence of a federal statutory definition of land, the court of appeals, like the district court, looked to state property law definitions, and concluded that the fossil was "land" within the meaning of the federal statutory provisions. The court reasoned as follows:

Under South Dakota law, the fossil was an "ingredient" comprising part of the "solid material of the earth." It was a component part of Williams' land, just like the soil, the rocks, and whatever other naturally-occurring materials make up the earth of the ranch. That the fossil once was a dinosaur which walked on the surface of the earth and that part of the fossil was protruding from the ground... are irrelevant. The salient point is that the fossil had for millions of

second amended complaint sought only possession, rather than ownership, of the fossil. 
57. Id. at 740-41.
60. Id.
61. Id. (citing Mottaz v. United States, 753 F.2d 71, 74 (8th Cir. 1985), rev'd on other grounds, 476 U.S. 834 (1981)).
62. Id. at 742. The court noted that although the fossil was now personalty, it was part of the land at the time of discovery. Id. The court "would render the statutory restraint on alienation here essentially meaningless if Williams could transfer the right to excavate a priceless fossil derived from otherwise nondescript land without the Secretary's permission." Id.
63. See supra notes 49-51 and accompanying text.
64. Black Hills IV, 12 F.3d at 742 (citing S.D. CODIFIED LAWS ANN. §§ 43-1-2 to -4 (1983)).
years been an "ingredient" of the earth that the United States holds in trust for Williams.  

The court held that because Williams did not seek the Secretary's approval, his attempted sale to BHIGR was void and the United States held the fossil in trust for him.

The court also addressed BHIGR's argument that the trust relationship between the United States and Williams did not govern the fossil. BHIGR argued that the federal government's trust duties regarding Williams's land were limited to safeguarding the reservation land base through alienation restrictions and preservation of the land's tax-exempt status. Because no statutes regulated fossils on Indian trust lands and the fossil was unrelated to the land base, BHIGR asserted that the government's seizure exceeded the scope of its trust duties. The court, relying on its characterization of the fossil as land, rejected BHIGR's argument. The absence of statutes regulating fossils did not affect the validity of the purported sale to BHIGR because there were statutory provisions governing the alienation of interests in trust land, such as the fossil at issue. Because the fossil was part of Williams's trust land and Williams did not obtain approval for the attempted sale of the excavation rights, the government's seizure was a proper exercise of its trust duties under the Dawes Act.

The court also rejected BHIGR's argument that invalidating the purported sale was bad policy because it undermined tribal self-determination. The court characterized this concern as a matter for Congress to address, explaining that it was bound to apply the statutory provisions preventing the alienation of trust lands without the Secretary's approval until Congress determined "that the historic practice

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65. Id.
66. Id. The court explained that the trust continued in the fossil when it became personality. Id. at 743.
67. Id. For a description of the trust relationship, see FELIX S. COHEN, HANDBOOK OF FEDERAL INDIAN LAW 220-28 (Rennard Strickland et al. eds., 1982).
68. Black Hills IV, 12 F.3d at 743.
69. Id. BHIGR cited United States v. Mitchell, 445 U.S. 535 (1980), and United States v. Mitchell, 463 U.S. 206 (1983), in support of its argument that the fossil was personal property, not part of the land base. Black Hills IV, 12 F.3d at 743. The court distinguished the Mitchell cases because they addressed the government's fiduciary duties to beneficial owners of trust land, not the power of beneficial owners to alienate trust land. Id.
70. Black Hills IV, 12 F.3d at 743.
71. Id.
72. Id.
73. Id. at 743-44.
of shielding beneficial owners from their own improvident decisions . . . is no longer wise.\textsuperscript{74}

In February 1994 the court of appeals issued an order denying BHIGR's petition for rehearing.\textsuperscript{75} Counsel for BHIGR filed a petition for certiorari in May 1994.\textsuperscript{76} In October 1994 the Supreme Court denied the petition,\textsuperscript{77} thus allowing the Eighth Circuit’s decision that the United States held the fossil in trust for Maurice Williams to stand.

II. \textsc{Paleontological Resources as Part of the "Sacred Text": Native American Attitudes Toward the Land, Stones, and Fossils}

Based on Anglo-American concepts of land as embodied in state statutes, the opinions in the \textit{Black Hills} case treated the Tyrannosaurus rex fossil, which BHIGR removed from the Cheyenne River Sioux Reservation, as an interest in land. The opinions did not discuss Native American attitudes toward the land or toward stones and fossils in determining rights in the fossil. Native Americans traditionally have had an understanding of the land that differs sharply from the Anglo-American understanding. For Native Americans, the land has great cultural and religious significance. Professor Frank Pommersheim has noted, for example, that the land of the Lakota Sioux is “part of the ‘sacred text’ of Lakota religion and culture.”\textsuperscript{78} To understand tri-

\begin{itemize}
\item \textsuperscript{74} Id. at 744. The court also rejected BHIGR’s claim that the district court’s decision violated its due process rights. \textit{Id.} Although the court found it “unfortunate” that BHIGR “spent a great deal of time and resources adding value to a fossil it does not own,” the conclusion that BHIGR's transaction with Williams was void did not deprive BHIGR of due process because BHIGR had no interest in the fossil and could have protected itself. \textit{Id.} The court noted that discovery of the fossil on reservation land should have alerted BHIGR to the possibility of some United States property interest. \textit{Id.}
\item \textsuperscript{75} Id. at 746 (order denying petition for rehearing and suggestion for rehearing en banc).
\item \textsuperscript{78} Frank Pommersheim, \textit{The Reservation as Place: A South Dakota Essay}, 34 S.D. L. Rev. 246, 269 (1989). The Lakota, or Teton, Sioux are one of the three main groups of Sioux. \textsc{Edward Lazarus, Black Hills/White Justice : The Sioux Nation Versus the United States, 1775 to the Present} 4 (1991). The Lakota are divided into seven bands, and today occupy the Pine Ridge, Rosebud, Cheyenne River, Standing Rock, Crow Creek, and Lower Brule Reservations in South Dakota and North Dakota, and the Fort Peck Reservation in Montana. \textit{Id.} The second group, the Dakota, or Santee, Sioux, consists of the Sisseton, Wahpeton, Wahpekute, and Mdewakanton tribes. \textit{Id.} The third group is the Yankton, or Nakota, Sioux, consisting of the Yankton and Yanktonai. \textit{Id.} All the Sioux
broader interests in paleontological resources on reservation lands, it is necessary to consider traditional Native American attitudes toward the land and nature and toward the materials that compose the land, including stones and fossils. Moreover, while these attitudes may be described as "traditional," it must be appreciated that they are part of living religions—religions that have survived despite determined efforts to destroy them and that are increasingly being revitalized.

A. The Native American Worldview: Land as the Sacred Text

Native American attitudes toward the land must be studied in the context of the broader Native American worldview—a worldview that differs profoundly from the Anglo-American conceptions that shaped the development of American law, including law related to land and fossils. The Native American view is characterized by a holistic understanding of the world and society, a nonlinear approach to time and process, a special relationship with nature, and an appreciation of the sacred nature of the earth.

Professor Rennard Strickland has described the fundamental Native American and the Anglo-American approaches to life as being "at opposite ends of the scale of perception." Anglo-American society together constitute the Oceti Sakowin ("Seven Council Fires"). The designation "Sioux" is a French corruption of the name given to them by rival tribes. Lame Deer reported that "[o]ur people don't call themselves Sioux or Dakota. That's white man talk. We call ourselves Ikce Wicasa—the natural humans, the free, wild, common people." LAME DEER & ERDOES, supra note 3, at 14.

79. The description of the Native American worldview and of Native American beliefs with respect to land in Part II is a necessarily brief overview of certain attitudes and beliefs that have been identified as fundamental elements of virtually all Native American religious traditions. These elements have found expression in "a rich plurality of highly differentiated types of religious traditions." JOSEPH E. BROWN, THE SPIRITUAL LEGACY OF THE AMERICAN INDIAN 1 (1982). As Joseph Brown has explained, "[t]he migration over successive time periods, the diversity of physical types, a thousand or more tribal groups with several hundred mutually unintelligible languages . . . , and all with the contrasts of American geography and climatic zones . . . , present complexities and questions that still evade scholars." Id. at 4-5. Lame Deer wrote of the underlying unity of these diverse traditions: "[A]ll the Indian religions somehow are part of the same belief, the same mystery. Our unity, it's in there." LAME DEER & ERDOES, supra note 3, at 260.

80. The destruction of Native American religious traditions was an important part of the federal government's assimilation policy in the nineteenth century. See infra note 459 and accompanying text; see also LAME DEER & ERDOES, supra note 3, at 128 (describing the destruction of sacred objects).

81. BROWN, supra note 79, at 5, 47-49.

82. Rennard Strickland, Implementing the National Policy of Understanding, Preserving, and Safeguarding the Heritage of Indian Peoples and Native Hawaiians: Human Rights, Sacred Objects, and Cultural Patrimony, 24 ARIZ. ST. L.J. 175, 181 (1992); see also AMERICAN INDIAN MYTHS AND LEGENDS at xi-xv (Richard Erdoes & Alfonso Ortiz eds., 1984) [hereinafter MYTHS AND LEGENDS].
tends to see law, religion, art, and economics as separate components of society, while Native American society tends to see them as part of an organic, unified whole whose component parts are interdependent.  

Joseph Brown has noted that no Native American language has a single word that can be translated as "religion," and that Native Americans cannot separate what Anglo-American society refers to as "religion" from the other aspects of their culture. Similarly, while European thought has historically classified all things as either living or dead and ranked them in status "from the lowly beast to the virtuous archangel," Native American thought "conceives of all worlds—natural and supernatural, ancestral and contemporary—and their inhabitants as simultaneous, coequal, and balanced." Thus, Native American thought envisions time and process not in the European linear and "progress"-oriented manner, but in a cyclical and reciprocal manner. This perspective is apparent in the words of the Sioux holy man Black Elk: "[E]verything an Indian does is in a circle, and

83. Strickland, *supra* note 82, at 181.
84. Brown, *supra* note 79, at 2. Clyde Kluckhohn and Dorothea Cross Leighton described this perspective among the Navajo as follows:

[I]t makes a little more sense to speak of religion as one separable part of life in white society than it does in the Navaho case. The white world is now mainly a secular world . . . . With the Navaho it is quite different. Their world is still a whole. Every daily act is colored by their conceptions of supernatural forces, ever present and ever threatening . . . . There is no word or phrase in their language which could possibly be translated as "religion."

85. Strickland, *supra* note 82, at 182; see also *Myths and Legends*, *supra* note 82, at xi.
86. Strickland, *supra* note 82, at 182.
87. Brown, *supra* note 79, at 4, 49-50, 118-20. Jamake Highwater has described the European, or "Western," view of time as follows:

The Western grasp of time is pervasive, making itself visible in the way languages are constructed and the way people are required to arrange their thoughts in a recognizable sequence—even when this requires them to alter their special experiences (such as dreams) in order to fit them into the acceptable temporal framework. It is imperative in the West to falsify our consciousness so it fits the stream of duration that carries us out of the past and into the future. The modality is linear and it is composed equally of a past, present, and future through which a sequence of enduring events follow one another in an orderly and calculable manner.

JAMAKE HIGHWATER, THE PRIMAL MIND: VISION AND REALITY IN INDIAN AMERICA 94 (1981). By contrast, Native American consciousness, like the consciousness of other primal peoples, "is larger than the psychological geography by which the West knows it. It overflows linearity in dreams, imaginings, visions, intuitions, and all those quintessential and amorphous experiences that must call upon metaphor in order to surface into Western mentality." Id. at 96; see also PAULA GUNN ALLEN, THE SACRED HOOP: RECOVERING THE FEMININE IN AMERICAN INDIAN TRADITIONS 59 (1986) (discussing the fluidity of Native American perceptions of time, space, and humanity); STEPHEN E. AMBROSE, CRAZY HORSE AND CUSTER: THE
that is because the Power of the World always works in circles, and everything tries to be round . . . . The life of a man is a circle from childhood to childhood, and so it is in everything where power moves.”88 Lame Deer, another Sioux holy man, described the circle as the Indians’ symbol:

The [Sioux] nation was only a part of the universe, in itself circular and made of the earth, which is round, of the sun, which is round, of the stars, which are round . . . . To us this is beautiful and fitting, symbol and reality at the same time, expressing the harmony of life and nature. Our circle is timeless, flowing . . . .89

The white man’s symbol, on the other hand, is the square: “Square is his house . . . . Square are the white man’s gadgets . . . . These all have corners and sharp edges—points in time, white man’s time, with appointments, time clocks and rush hours . . . .”90

Native Americans’ holistic view of the world and nonlinear approach to time and process are coupled with a special relationship with nature. They enjoy “a special quality and intensity of interrelationship with the forms and forces of their natural environment.”91 In order to survive as nomadic hunters and gatherers or as agriculturists, Native Americans had to develop a detailed knowledge of all aspects of their natural environment. This knowledge, however, went beyond mere practicalities—the “accumulated pragmatic lore was . . . always interrelated with a sacred lore; together these could be said to constitute a metaphysic of nature.”92 In Native American thought, all natural forms are sacred.93 They are seen as mysteriously interrelated, with

88. John G. Neihardt, Black Elk Speaks 198-99 (Bison Books 1961) (1932). As used by Black Elk in this passage, “power” has a particular religious connotation. “To the American Indian, power is a metaphysical reality that permeates the cosmos. All beings, animate or inanimate, possess power in the form of either patent or latent energy, as well as potential consciousness. Powers. . . . are interchangeable with the concept of sacred or spiritual medicine.” Strickland, supra note 82, at 184. For a discussion of Black Elk and his vision, see Allen, supra note 87, at 107-16.

89. Lame Deer & Erdoes, supra note 3, at 111.

90. Id.


92. Id.

93. Id. at 37; see also Lame Deer & Erdoes, supra note 3, at 123 (“To us life, all life, is sacred.”); Strickland, supra note 82, at 184 (“American Indian thought revolves around a reverence for nature . . . .”).
nothing existing in isolation. Human beings are regarded as having a special role as guardians of the natural world, while still sharing a "oneness of essence" with animals. Rennard Strickland summarized this perspective: "Seeing the universe through the eyes of a contemporary Native American is to see it as a complex whole of natural forces and spiritual beings—animal, human, and supernatural—woven together in a delicate, intricate, and indivisible web."

This view of nature and natural forms is bound up with Native American attitudes toward the earth itself. Among the Sioux, for example, the earth is regarded as sacred and as having two aspects: Grandmother and Mother. As Mother, the earth is regarded as "the producer of all growing forms, in act." As Grandmother, the earth "refers to the ground or substance of all growing things—potentiality." The Sioux rite for the keeping of the soul, for example, addresses the earth in both aspects: "My relatives, Grandmother and Mother Earth, we are of earth, and belong to You. O Mother Earth from whom we receive our food, You care for our growth as do our own mothers." Participants in the related rite for the releasing of the soul also address the earth: "O You, sacred Earth, from whence we have come, You are humble, nourishing all things; we know that you are wakan and that with You we are all as relatives." The relationship between people and the land that is reflected in these prayers is "the fundamental idea that permeates American Indian life":

[T]he land (Mother) and the people (mothers) are the same. . . . The earth is the source and the being of the people, and we are equally the being of the earth. The land is not really a place, separate from ourselves. . . . The earth is not a mere source of survival. . . . Rather, . . . the earth is

94. Brown, supra note 79, at 53. This view is reflected in the concluding language of the Lakota Sioux pipe ceremony: "We are all related!" Id.; see also Lame Deer & Erdoes, supra note 3, at 268; infra notes 141-146 (describing the sacred pipe).
95. Brown, supra note 79, at 40.
96. Id. at 125.
97. Strickland, supra note 82, at 183. See generally Lame Deer & Erdoes, supra note 3, at 119-41 (discussing the Sioux's relationship with nature).
99. Id. at 6 n.7.
100. Id.
101. Id. at 13. For a detailed description of the rite, see id. at 10-15.
102. Id. at 20. The word wakan was defined by Lame Deer as meaning "mysterious, wonderful, incomprehensible, holy." Lame Deer & Erdoes, supra note 3, at 114. The releasing of the soul rite is described in Sacred Pipe, supra note 98, at 19-30.
103. Allen, supra note 87, at 119.
being, as all creatures are also being: aware, palpable, intelligent, alive.\textsuperscript{104}

These attitudes toward the earth and nature are reflected in the Native American understanding of place:

Native American experiences of place are infused with mythic themes. . . . [that] express events of sacred time . . . [and] are experienced through landmarks in each people’s immediate natural environment. . . . [E]very particular form of the land, is experienced as the locus of qualitatively differentiated spirit beings, whose individual and collective presence sanctifies and gives meaning to the land in all its details and contours.\textsuperscript{105}

The landscape itself is viewed as sacred, and as embodying “a divinity that it shares with everything that is part of nature, including human beings, animals, plants, rocks . . . everything.”\textsuperscript{106} Certain locations, such as mountains and lakes, are viewed as especially important points of contact with powerful spirits and forces.\textsuperscript{107}

For the Sioux, the Black Hills region of South Dakota, an area of rare beauty,\textsuperscript{108} is particularly sacred. The Black Hills played a central role in a vision described by Black Elk: “I saw far off the Black Hills and the center of the world where the spirits had taken me in my great vision.”\textsuperscript{109} To the Sioux, the Black Hills is “the place of gods and holy mountains, where warriors went to speak with the Great Spirit.

\textsuperscript{104.} Id.; see also Myths and Legends, supra note 82, at xi (“Mysterious but real power dwells in nature—in mountains, rivers, rocks, even pebbles. White people may consider them inanimate objects, but to the Indian, they are enmeshed in the web of the universe, pulsating with life and potent with medicine.”).

\textsuperscript{105.} Brown, supra note 79, at 51.

\textsuperscript{106.} Highwater, supra note 87, at 124 (alteration in original); see also Lame Deer & Erdoes, supra note 3, at 127.

\textsuperscript{107.} Highwater, supra note 87, at 127.

\textsuperscript{108.} Ralph K. Andr\textsuperscript{t}, The Long Death: The Last Days of the Plains Indians 244 (1964). According to one description, the Black Hills area stands like an island amid the monotonous plains, a range of small mountains, split with shadowed canyons, dramatic with rock formations, cool with the shade of pine trees, watered with frequent streams. Even the climate is different in this place; the rains fall more abundantly while around the plains are dry and alkaline.

\textit{Id.}

\textsuperscript{109.} Neihardt, supra note 88, at 230. Tatoke Inyanke (Running Antelope) also described the centrality of the Black Hills: “The land known as the Black Hills is considered by the Indians as the center of their land. The ten nations of the Sioux are looking toward that as the center of their land.” Brown, supra note 2, at 274. For a detailed analysis of the significance of visions in the religious traditions of the Plains tribes, see generally Lee Ir\textsuperscript{w}n, The Dream Seekers: Native American Visionary Traditions of the Great Plains (1994).
The sacred significance of the Black Hills was beyond the comprehension of federal government agents who sought to wrest control of the area from the Sioux in the late nineteenth century. To the government, the Black Hills region was simply a piece of real estate to be obtained for a price and exploited for its tangible resources. For their part, the Sioux found it difficult to understand a society for which "each blade of grass or spring of water has a price tag on it."

B. The Sacred Significance of Stones

Fossils result when the spaces once filled by the organic matter of a dead organism are replaced by mineral substances, and the organism thus "literally turns to stone." For Native Americans, the sacred nature of the land extends to stones and other elements that are part of the land. The stones that are a part of "the solid material of the earth" have a significance for Native Americans apart from any commercial value. Sacred stones—"perhaps one of the oldest and most primordial religious objects among Native Americans"—play a role in myths, legends, and religious and healing rites, and also serve as a protective force for individuals.
Sioux religion is particularly rich in stories and religious rites involving sacred stones.118 The oldest of the Sioux gods is Tunka, or Tunkan, the stone god.119 Tunka was “like a rock, old beyond imagination, ageless, eternal.”120 He was originally worshipped in the form of a large stone that had been painted red.121

The religious significance of stones is also apparent in the Sioux story of Iyan Hokshi, or “Stone Boy.” According to one version of the legend,122 a young woman whose five brothers had mysteriously disappeared while hunting swallowed a round pebble in the hope that it would kill her.123 Four days later she gave birth to a male child whom she named Stone Boy.124 After growing at an amazing rate, Stone Boy went in search of his missing uncles.125 Upon finding his uncles’ dried and apparently lifeless bodies, Stone Boy was directed by a pile of stones to build a sweat lodge.126 He placed heated stones in the middle of the lodge and poured water over them, as the talking stones had directed.127 After the resulting steam restored his uncles to life, Stone Boy told them:

The rock saved me, and now it has saved you. Iyan, Tunka—rock—Tunka, Iyan. Tunkashila, the Grandfather Spirit, we will learn to worship. This little lodge, these rocks, the water, the fire—these are sacred, these we will use from now on as we have done here for the first time: for purification, for life, for wichosani, for health.128

118. Many of the stories and rites described in subsections B and C of Part II are drawn from the Sioux and other Plains tribes. These tribes are particularly appropriate subjects for analyzing the sacred significance of stones and fossils because many of the areas these tribes occupy are rich in fossils, as demonstrated not only by the Black Hills case, but also by the extensive fossil-collecting activities in these areas by nineteenth century paleontologists. See, e.g., infra notes 240-248 and accompanying text (describing fossil hunting by Marsh on Sioux lands).

119. LAME DEER & ERDOES, supra note 8, at 113; MYTHS AND LEGENDS, supra note 82, at xii.

120. LAME DEER & ERDOES, supra note 8, at 193.

121. Id.

122. The version recounted here was told by a Sioux elder, Henry Crow Dog, to Richard Erdoes in 1968. MYTHS AND LEGENDS, supra note 82, at 15-19. An alternate spelling of Stone Boy’s Sioux name is Inyan Hoksi. LAME DEER & ERDOES, supra note 3, at 182. Lame Deer’s version of the story is included in id. at 182-84. Inyan, or iyan, is the more modern Sioux word for rock or stone. Id. at 193.

123. MYTHS AND LEGENDS, supra note 82, at 16.

124. Id. at 16-17.

125. Id. at 17.

126. Id. at 18.

127. Id. at 18-19.

128. Id. at 19. Tunkashila is the old Sioux word for grandfather, stone, and god, and is also a name for the Great Spirit. LAME DEER & ERDOES, supra note 3, at 193.
The sweat lodge instituted by Stone Boy is still used in Sioux purification rites. Heated rocks, placed in the center of a small dome-shaped structure made of willow saplings and buffalo hides, are sprinkled with water and give off purifying steam. The rocks represent the earth and the eternal nature of Wakan-Tanka, the Great Spirit. According to Black Elk's description of the rites, the participants addressed the rocks as follows: "O ancient rocks . . . you are now here with us; Wakan-Tanka has made the Earth, and has placed you next to Her. Upon you generations will walk, and their steps shall not falter!"

The sweat lodge is part of the religious tradition of other Plains tribes, such as the Absarokee, or Crow, and the Gros Ventre, as well as of the Navajo. The Navajo, in addition to using stones in the sweat lodge, place stones from the sweat lodge at the bases of fruit

Ohiyesa, a Sioux doctor and writer also known as Charles Eastman, recorded another version of this story. Charles A. Eastman (Ohiyesa), Indian Boyhood 108-17 (Bison Books 1991) (1971). In Ohiyesa's version, which was told to him by an elder named Smoky Day, the woman had ten brothers and gave birth after only one day. Id. at 109-10. Stone Boy found the bones of his uncles and restored them to life in the country of the Thunder Birds, to which he had been magically transported. Id. at 112-14. Ohiyesa also recorded an additional story about Stone Boy. Despite warnings by his uncles, Stone Boy wantonly hunted and killed animals. Id. at 115. Stone Boy's mother and uncles were drowned in a torrential rain sent by the Thunder Birds at the behest of the animals. According to Ohiyesa's account,

Stone Boy himself could not be entirely destroyed, but he was overcome by his [animal] enemies and left half buried in the earth, condemned never to walk again, and there we find him to this day. "This was because he abused his strength, and destroyed for mere amusement the lives of creatures given him for use only."

Id. at 117. Ohiyesa also described the annual "feast of the maidens," during which young women danced around a red, cone-shaped rock stood on end, and then touched the stone as a declaration of purity. Id. at 155-60.

Wakan-Tanka, the Great Spirit, is sometimes referred to as Father and sometimes as Grandfather. Sacred Pipe, supra note 98, at 32-33. According to one explanation, "Wakan-Tanka as Grandfather is the Great-Spirit independent of manifestation, unqualified, unlimited . . . Wakan-Tanka as Father is the Great Spirit considered in relation to his manifestation, either as Creator, Preserver, or Destroyer." Id. at 5 n.6. Another description of the sweat lodge is included in Neihardt, supra note 88, at 185.

Stones are also used in the Hanblecheyapi, the Sioux "Crying for a Vision" ritual, described in id. at 44-66. As part of this ritual, the stones are addressed as follows: "O you ancient rocks who are sacred, you have neither ears nor eyes, yet you hear and see all things. Through your powers this young man has become pure, that he may be worthy to go to receive some message from Wakan-Tanka." Id. at 56.

Another description of the sweat lodge is included in Neihardt, supra note 88, at 185.
trees and in the fields to prevent early frosts. Navajos traveling through Navajo country traditionally placed stones in three- to five-foot high cairns next to trails, in the belief that this would bring luck.

The Crow traditionally used piles of rocks as shrines to noted warriors or chiefs, or to commemorate important battles. Visitors would add rocks as a sign of respect, or to pray for a safe passage and return. Other rock piles were considered haunted places to be avoided. Like the Navajo cairns these stones have a significance beyond mere physical markers and, thus, are distinguishable from stones used as surveyors' cornerstones and markers for miners' claims.

Stone is also one of the main elements of the sacred pipe of the Plains Indians. The bowl of the pipe is made of red, or sometimes black, stone. According to Sioux legend, the first pipe was brought by a sacred woman in a white buckskin dress identified by such names as White Buffalo Woman and Buffalo Cow Woman. According to one version of the story, White Buffalo Woman explained that the stone of the pipe bowl represented both the buffalo and the "flesh and blood of the red man." According to Black Elk's version,

135. Id. at 204.
136. Id. Stones, twigs, and bits of turquoise are also placed in the cairns. Id. The creator of the cairn utters a prayer such as the following:
   Placing rocks, Male One.
   Placing rocks, Female One.
   Everywhere I go, myself
   May I have luck.
   Everywhere my close relatives go
   May they have their luck.

138. Id. at 83-84. Some living Crow tribal members recall that many of those rock piles had to be removed when farming began in Crow country. Id.
139. Id.
140. Id. at 85.
141. BROWN, supra note 79, at 44.
142. NEIHARDT, supra note 88, at 3. The gift of the sacred pipe is also described in LAME DEER & ERDOES, supra note 3, at 265-69, and in SACRED PIPE, supra note 98, at 3-9.
143. See, e.g., MYTHS AND LEGENDS, supra note 82, at 47-52 (telling the myth of the White Buffalo Woman).
144. See, e.g., BROWN, supra note 79, at 44. Black Elk's account refers to her as White Buffalo Cow Woman. SACRED PIPE, supra note 98, at 11.
145. MYTHS AND LEGENDS, supra note 82, at 50. In 1994 a rare white buffalo was born on a farm in southern Wisconsin. Some Native Americans have hailed the female calf as embodying the sacred spirit of White Buffalo Woman, who, according to Sioux legend, turned into a white buffalo and promised to return. Richard Wronski, White Buffalo Fulfills a Tribal
the woman said, "The bowl of this pipe is of red stone; it is the Earth. Carved in the stone and facing the center is this buffalo calf who represents all the four-leggeds who live upon your Mother." The woman also brought a small round rock, made of the same red stone as the pipe bowl and decorated with seven circles representing the seven rites of the Sioux.

Stones have prominent importance in the medicine bundles of many Plains tribes, in the healing practices of their medicine men, and in the gourd rattles used in Sioux religious ceremonies. The buffalo-stone bundle of the Blackfoot, for example, "has been not only a powerful healer of the sick, but has, to those for whom its owners have given its ceremony, prevented them becoming sick and preserved them from all dangers so they have lived to reach old age." A sacred meteorite was included in a Pawnee medicine bundle. Stones are regarded as sharing "an ancient knowledge that the earth alone possesses," thus being endowed with healing powers. Stones are also believed to have other kinds of power, such as the power to find lost objects, look for buffalo, find medicinal plants, scout for enemies, and predict the future.

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Prophesy; Sacred Indian Symbol Is Drawing Crowds to Wisconsin Farm, CHI. TRIB., Sept. 11, 1994, at 6.

146. SACRED PIPE, supra note 98, at 6 (footnote omitted).
147. Id. at 6-7; LAME DEER & ERDOES, supra note 3, at 194. According to Black Elk, the woman told the assembled Sioux: "This round rock . . . is the Earth, your Grandmother and Mother, and it is where you will live and increase." SACRED PIPE, supra note 98, at 7. For Black Elk's description of the seven rites of the Oglala Sioux, see id. at 10-138.
148. See, e.g., IRWIN, supra note 109, at 224 (stones in Plains medicine bundles); see also LAME DEER & ERDOES, supra note 3, at 115 (the Great Mystery Medicine Bag). For a description of the Plains Indians' medicine bundles, see IRWIN, supra note 109, at 221-28. Medicine bundles contain sacred objects, often sanctioned by a vision, and are used to invoke power. Id. at 221. Medicine bundles can belong to an individual, to a specific group, or to an entire tribe. Id.
149. See, e.g., IRWIN, supra note 109, at 35 (Blackfoot medicine man received curing power from a stone); id. at 85 (Mandan woman received sacred blue stone for healing); see also LAME DEER & ERDOES, supra note 3, at 194-95 (medicine stones).
150. LAME DEER & ERDOES, supra note 3, at 200 (ceremonial gourds filled with sacred stones).
151. IRWIN, supra note 109, at 222 (quoting JAMES W. SCHULTZ, FRIENDS OF MY LIFE AS AN INDIAN 214 (1923)). The bundle is still kept on the Blackfoot Reservation in Montana. Id. at 283 n.38.
152. Id. at 223-24.
153. Id. at 224.
154. Id. at 221-28.
155. Id. at 225.
156. LAME DEER & ERDOES, supra note 3, at 194.
157. IRWIN, supra note 109, at 225. Members of the Omaha secret pebble society kept a translucent stone that was believed to convey the power of vision. Id. at 39-40.
Stones may have particular significance for individuals because of their protective powers. Lame Deer wrote that "[e]very man needs a stone to help him." According to Black Elk, Crazy Horse "carried a sacred stone with him, like one he had seen in some vision, and . . . when he was in danger, the stone always got very heavy and protected him somehow." Crazy Horse carried this rock "from . . . [which] he received much power and holiness," in order that the vision's power would not leave him.

These descriptions of legends and religious rites reveal the sacred significance of stones in traditional Native American thought. Far from being mere physical components of the soil, stones share the sacred nature of the earth of which they are a part.

C. Medicine Bones and Thunder-Beings: The Significance of Fossils

In addition to attributing sacred significance to stones in general, the religious traditions of a number of tribes attach sacred significance to fossils in particular. Moreover, mythic animals that have left fossilized remains appear in the myths and legends of a number of tribes. Attributing special significance to fossils is consistent with Native Americans' circular view of time and process. This conception rejects the absolute dichotomy between past and present that characterizes the linear Western sense of time. The Native American vision of time allows for a more profound sense of connection with fossils as the visible remains of legendary creatures who still have a living presence.

The view stands at variance with the Western notion of fossils as merely the lifeless, physical remains of extinct animals that are of interest because of their scientific or commercial value.

Anthropologists Ernest Wallace and E. Adamson Hoebel described the Comanches' use of the madstone, or medicine bone, as a treatment for wounds, infections, and boils. They described it as "a small piece of the leg bone of the giant prehistoric mammoth be-

158. Id. at 68.
159. LAME DEER & ERODES, supra note 3, at 112.
160. NEIHARDT, supra note 88, at 86.
161. SACRED PIPE, supra note 98, at 45.
162. Id. at 45 n.2. Lame Deer described Crazy Horse as having a "pebble behind his ear which made him bulletproof." LAME DEER & ERODES, supra note 3, at 166.
163. See supra notes 85-87 and accompanying text (contrasting the Native American and Western visions of time).
164. See, e.g., infra note 184 and accompanying text (describing a thunderbird's incarnation as a voice of reassurance).
165. DAVID E. JONES, SANAPIA: COMMANCHE MEDICINE WOMAN 51 (1972).
lieved by the Comanches to be the bones of . . . the cannibal owl,” which they placed over the affected spot, to “draw out the poison.” In traditional Native American culture, the term “medicine” means more than simply the curing of disease and the healing of injuries. It encompasses “that which is mysterious, holy, sacred, and supernatural.” Medicine and religion are thus closely interwoven, and the use of fossils in healing practices demonstrates their religious significance.

Lame Deer described the use of fossils in Sioux ceremonies. Tiny fossils and other rocks, called yuwipi, which are gathered by ants, are considered sacred. They are collected from ant hills by medicine men and placed inside ceremonial gourds and rattles. Fossils are also included in the Crow medicine bundles. In addition, Lame Deer described a healing herb that is found among “prehistoric monster bones” in the South Dakota Badlands.

The myths and legends of a number of tribes involve the fossils of supernatural animals and gods. According to a Sioux myth, the water monster Unktehi, or Unktegila, caused a great flood that drowned many of the ancient people who had sought refuge on a high hill. The pool formed from the blood of the flood victims turned to pipestone.

166. Id. at 51-52 (quoting ERNEST WALLACE & E. ADAMSON HOEBEL, THE COMANCHE: LORDS OF THE SOUTH PLAINS 171 (1952)).
167. Id.
168. Id. at 51. The Comanche medicine woman Sanapia was interviewed extensively by anthropologist David Jones in Oklahoma in the 1960s. At the time of the interviews, Sanapia was the last surviving Comanche traditional medicine woman. Id. at 1. Sanapia either ground the “bone medicine” into powder to form a topical solution, or moistened a piece of bone and applied it to the afflicted area. Id. at 51. Sanapia used the bone medicine to strengthen bones and to treat sprains. Id. In addition to using the term “bone medicine,” Sanapia also referred to the medicine as “big old giant.” Id. at 50. The account does not contain any further information on the nature of the fossilized bone that was used.
169. MEDICINE CROW, supra note 137, at 112. This broader view of the meaning of “medicine” is embraced by the Sioux word wakan and the word manitou, used by some of the eastern tribes. Id.; see also supra note 102 (discussing the word wakan). Similarly, the Comanche medicine woman Sanapia described herself as having puhta, a Comanche word equated with both medicine and supernatural power. JONES, supra note 165, at 2.
170. LAME DEER & ERDOES, supra note 3, at 135-36.
171. Id. Lame Deer described the use of these gourds in the yuwipi ceremony. Id. at 191-207.
172. IRWIN, supra note 109, at 224. These fossils were usually ammonites or baculites. Id. Ammonites, or ammonoids, are a kind of mollusk. See RICHARD FORTEY, FOSSILS: THE KEY TO THE PAST 72, 75-76 (1991) (explaining characteristics of ammonites). Baculites are a kind of ammonite. Id. at 75.
173. LAME DEER & ERDOES, supra note 3, at 177.
174. MYTHS AND LEGENDS, supra note 82, at 93-94.
creating the sacred red pipestone quarry from which the stone for pipe bowls is taken. Unktehi was likewise turned to stone, leaving unmistakable petrified remains: "Her bones are in the Badlands now. Her back forms a long, high ridge, and you can see her vertebrae sticking out in a great row of red and yellow rocks." According to the Sioux, the Badlands also contain the fossilized remains of the thunder-beings, or thunderbirds. The thunder-beings originally lived on earth but later turned into winged creatures, the wakinyan, or thunderbirds. Their earthly bodies then turned to stone, and "[t]heir remains ... are scattered throughout the Badlands." Lame Deer described the role of the thunderbirds in the destruction of Unktehi, the water monster. The thunder-beings also played a prominent role in the great vision that Black Elk experienced as a child.

Lame Deer recounted his own childhood encounter with the petrified bones of Unktehi and with the thunderbirds. One night, Lame Deer was caught in a severe thunderstorm in the Badlands. He climbed up onto a high ridge to avoid the flooding caused by the heavy rain and hail and was comforted by the voices of the thunderbirds, who told him not to be afraid. When the storm ended and dawn came, Lame Deer was surprised by the appearance of the ridge to which he had been clinging:

175. Id. at 94; see also LAME DEER & ERDOES, supra note 3, at 136, 251-52, 261. The quarry is located in southwestern Minnesota. Id. at 261; see also supra notes 141-146 and accompanying text (describing the use of pipestone in the sacred pipes of the Plains tribes).
176. MYTHS AND LEGENDS, supra note 82, at 94.
177. LAME DEER & ERDOES, supra note 3, at 252.
178. Id. The thunder-beings could manifest themselves in a number of forms, such as lightning, thunder, eagles, and horses. IRWIN, supra note 109, at 53-55. Wakinyan Tanka, the great thunderbird, was said to live on top of Harney Peak in the Black Hills, but Lame Deer believed that he no longer did, "since the wasichu, the whites, have made these hills into a vast Disneyland. No, I think the thunder beings have retreated to the farthest end of the earth, where the sun goes down, where there are no tourists and hot-dog stands."
MYTHS AND LEGENDS, supra note 82, at 218-19.
179. LAME DEER & ERDOES, supra note 3, at 252.
180. Wakinyan Tanka, the great thunderbird, and his children, the little thunderbirds, fought to protect the people from the water monster Unktehi and her children, the little water monsters. MYTHS AND LEGENDS, supra note 82, at 219-20. After the water monsters flooded the earth, killing all of its human inhabitants except the few who had taken refuge on a high rock, the thunderbirds used their lightning bolts to set the earth on fire. Id. at 220. The water monsters "burned up and died, leaving only their dried bones in the Mako Sicha, the Badlands, where their bones turned to rock." Id. at 221; see also supra notes 174-176 and accompanying text (describing the water monsters).
181. NEIHARDT, supra note 88, at 22-47.
182. MYTHS AND LEGENDS, supra note 82, at 222.
183. Id.
184. Id.
I saw that I was straddling a long row of petrified bones, the biggest I had ever seen. I had been moving along the spine of the Great Unktehi. . . . I scrambled down and ran toward home. . . . I searched many times for the ridge deep inside the Badlands that formed Unktehi’s spine. I wanted to show it to my friends, but I never found the ridge either.\textsuperscript{185}

In the 1870s the Sioux shared their understanding of the fossils’ significance with a number of paleontologists and the soldiers who accompanied them.\textsuperscript{186} Paleontologists used the Sioux descriptions of the petrified bones of the “Thunder Horse” to locate fossils.\textsuperscript{187} They took advantage of Sioux beliefs that disturbing the bones would be sacrilegious in order to secure the fossils for themselves.\textsuperscript{188} During the same period of time, the Pawnee described the fossils in their territory to paleontologists as the remains of an extinct race of giants.\textsuperscript{189}

The paleontologists were interested in the fossils for their scientific, rather than their religious, significance. Viewing the fossils neither as sacred elements of the earth in which they rested, nor as the remains of legendary creatures, the nineteenth century paleontologists, like their twentieth century counterparts, saw them as paleontological specimens, to be dug from the earth and removed from tribal lands as quickly as possible.

III. “Bone Medicine-Men”: Encounters on the Frontiers of Paleontology

The opinions in the \textit{Black Hills} case dealt in a matter-of-fact way with the dealings between Maurice Williams and BHIGR, and treated this encounter between a Native American and fossil collectors as if it were an isolated incident. Viewed in its proper context, however, the incident can be seen as only the latest encounter between Native Americans and paleontologists in the western United States. Many of these dealings have resulted in the removal of valuable fossils from Indians lands, in some cases with the assistance of the federal government, but without tribal consent.

\textsuperscript{185} \textit{Id.}

\textsuperscript{186} \textit{See, e.g., infra} notes 251-258 and accompanying text (describing the assistance given by the army).

\textsuperscript{187} \textit{See infra} note 247 and accompanying text (describing the use of the Thunder Horse legend).

\textsuperscript{188} \textit{See, e.g., infra} notes 275-276 and accompanying text (discussing Sioux views on sacrilege).

\textsuperscript{189} \textit{See infra} note 255 and accompanying text (discussing the beliefs of the Pawnee).
Examining some of the encounters of Native Americans with paleontologists and other scientists provides a better understanding of the interests at stake in the Black Hills case. Moreover, this history, beginning in the early nineteenth century, reveals that the taking of fossils from Indian lands represents simply another aspect of the conquest of Native Americans and their lands. Reviewing the history of these encounters is important when tribal rights are at stake because those rights cannot be understood outside their historical context. As Justice Blackmun wrote, “Too often we neglect the past. Even more than other domains of law, ‘the intricacies and peculiarities of Indian law demand[d] an appreciation of history.’”

A. First Encounters: Lewis and Clark and the Early Surveys

In 1805 the government expedition headed by army officers Meriwether Lewis and William Clark, including their Indian guide Sacajawea, reached Sioux country and traveled through the Judith River Badlands of Montana. Although there were numerous fossil remains located in bluffs high above the Judith River, Lewis and Clark passed them in ignorance of the fossils’ existence.

The richness of the fossil fields on Sioux lands and elsewhere in the West apparently first came to the attention of scientists in the middle of the nineteenth century. Fur traders who had visited the White River Badlands, located in the upper Missouri River area east of the Black Hills—an area that had been guaranteed to the Sioux by treaty—sent bone fragments back eastward as curiosities.

190. For a thorough analysis of the conquest of Native Americans and their lands, see generally Robert M. Williams, The American Indian in Western Legal Thought: The Discourses of Conquest (1990).


194. LANHAM, supra note 192, at 5.

195. Id. at 32; Lazarus, supra note 78, at 10-11.

196. Lazarus, supra note 78, at 10.

197. LANHAM, supra note 192, at 13. The route followed by the trappers ran west from Fort Pierre on the Missouri River for about 300 miles to Fort Laramie in southeastern Wyoming. Id. This trail passed along the northern edge of the White River Badlands and their rich fossil beds. Id. at 32; see also Henry F. Osborn, Cope: Master Naturalist: The
in the area had long known of the existence of these remains and regarded the fossils as the remains of the legendary “Thunder Horse.” After the publication in 1846 of the first scientific paper describing the fossilized remains of what paleontologists named a “Titanotherium,” visitors to the Badlands area of South Dakota, as well as to Nebraska and Wyoming, regularly took fossils from Indian lands back to eastern paleontologists, who began to organize collecting expeditions. For example, geologist John Evans, whose party included an Indian guide and interpreter, made a reconnaissance of the fossil beds in 1849 and returned for an additional fossil-hunting expedition in 1853.

B. Paleontology and the U.S. Army: Hayden and Warren

In 1854 U.S. soldiers shot and killed the Brule Sioux Chief Conquering Bear near Fort Laramie, Wyoming, and hostilities broke out between the Sioux and the United States. Ferdinand Hayden, an amateur paleontologist, was searching for fossils in Sioux territory at the time and continued his fossil hunting in spite of the apparent danger. Known by the Indians as “the man who picks up stones while running,” Hayden was considered insane and therefore a person not to be harmed. According to one account, his apparent madness was believed to render him “safe from the wrath of the Great Spirit which smote any man in his right senses who became so inadvised as to disturb the great bones of ‘Thunder Horse’; he was consequently able to visit fossil grounds otherwise safeguarded by Indian superstition.”

This account suggests that disturbing the fossils was considered sacrilegious, and that Hayden was able to take advantage of the

Life and Letters of Edward Drinker Cope with a Bibliography of His Writings Classified by Subject 19 (1931) [hereinafter Osborn I] (discussing locations of fossil findings). 198. Henry F. Osborn, 1 The Titanotheres of Ancient Wyoming, Dakota and Nebraska at xxi (U.S. Geological Survey Monograph No. 55, 1929) [hereinafter Osborn II]; see also Osborn I, supra note 197, at 19-21; infra note 247 and accompanying text (describing the Thunder Horse legend).

199. Lanham, supra note 192, at 19-22; Osborn I, supra note 197, at 21.

200. Lanham, supra note 192, at 33-34. He described the richness of the fossil beds as follows: “At every step, objects of the highest interest present themselves. Embedded in the debris, lie strewn, in the greatest profusion, organic relics of extinct animals.” Id. at 33. For a map showing the locations of the major western tribes in 1850, see Robert M. Utley, The Indian Frontier of the American West 1846-1890, at 5 (1984).

201. The incident is described in Lazarus, supra note 78, at 21-22.

202. Lanham, supra note 192, at 35.

203. Id.; see also Richard A. Bartlelet, Great Surveys of the American West 4 (1962) (recounting how Hayden began collecting geological specimens in the 1850s).

204. Osborn I, supra note 197, at 21.
belief that he was insane to obtain the fossils he desired. On some of his expeditions Hayden was accompanied by an Indian guide.

Hayden also collaborated with Gouverneur Kemble Warren of the Army Corps of Topographical Engineers in exploring Sioux country and preparing a geographical report on the area for the federal government. Hayden vividly described the White River area of South Dakota in which he hunted for fossils:

All around us were bare, naked whitened walls, with now and then a conical pyramid standing alone. We felt very much as though we were in a sepulchre, and, indeed, we were in a cemetary [sic] of a pre-Adamite age, for all around us at the base of these walls and pyramids were heads and tails, and fragments of the same, of species of which are not known to exist at the present day. . . .

Contrasted with most of the country on the upper Missouri, the White river valley is a paradise, and the Indians consider it one of the choice spots of the earth.

In the report provided to Congress in 1855, Warren sought funding for further exploration of the Sioux country, before the still peaceful Indians in the more remote areas "became maddened by the encroachments of the white man." Warren and Hayden received funding that enabled them to make additional explorations of Sioux lands in 1856 and 1857. In addition to surveying the area, they collected and removed large quantities of fossils and animal skins.

Warren and Hayden's 1857 expedition was ordered by the War Department, and thus demonstrates the role of the federal government, including federal military authorities, in facilitating the removal of fossils from Indian lands, and the reciprocal role of the paleontologists and other scientists in furthering military goals. The goals of the

205. Id.
206. LANHAM, supra note 192, at 38.
207. Id. at 35-37. Hayden visited the Dakota area with Warren in 1856 and 1857. BARTLETT, supra note 203, at 7. Warren had traveled in Sioux territory with the U.S. Army in its 1855 campaign against the Sioux. LANHAM, supra note 192, at 35.
208. LANHAM, supra note 192, at 38-39 (quoting Hayden's report on his activities from 1853-55, which was appended to the report published by Warren).
209. Id. at 39.
210. Id. In 1856 they explored the Missouri River from Fort Pierre (near the present-day city of Pierre, South Dakota) to Fort Union, at the mouth of the Yellowstone River (on the border between present-day North Dakota and Montana), and part of the Yellowstone River to some distance beyond the mouth of the Powder River (in present-day Montana). Id. at 40.
211. Id.
212. Id. at 42.
expedition were to find new routes for wagon roads north of Nebraska's Platte River, and to explore the Black Hills. Warren and Hayden traveled into the northern part of the Black Hills, where they encountered a large force of Dakota Sioux who, as Warren described, "made such earnest remonstrances and threats against our proceeding into their country that I did not think it prudent for us, as a scientific expedition, to venture further in this direction." While the scientists were concerned about long-dead animals in the area, in the form of fossilized remains, the Sioux were concerned about the area's living animals. The grounds of the Sioux's objections, which Warren's later report on the encounter termed "very sensible," were that if the expedition had proceeded any further, it would have deflected to the west the buffalo that the Sioux had herded together, and prevented them from laying in the stock of provisions and hides on which the tribe's survival through the winter depended. The Sioux also pointed out that the scientists had no right to travel in the area. The most recent treaty had allowed the whites the privilege of traveling on the Platte River and along the White River, and of making roads there, but had guaranteed that white people could not travel elsewhere in Sioux country. Moreover, the purpose of the expedition was to determine whether the country was of value to the whites. As the Sioux already had given up all the land that they could spare, they felt that the Black Hills must be left to the Sioux alone. Finally, the Sioux were concerned that the knowledge of their territory gained by the expedition could be used in later military campaigns. Warren's report on his explorations of Sioux country downplayed the military value of the road between Fort Pierre and

213. Id.
214. Id. (quoting Warren's report).
215. Id. at 43.
216. Id. at 42-43. Warren described the Sioux's sentiments as follows: "Their feelings towards us, under the circumstances, were not unlike what we should feel towards a person who should insist upon setting fire to our barns." Id. at 43 (quoting Warren's report).
217. Id. at 43-44.
218. Id. The 1851 Treaty of Fort Laramie recognized Sioux dominion from the Missouri River in the east to beyond the Black Hills, and from the Platte River north to the Heart River in North Dakota. Lazor, supra note 78, at 18. For a map of the land guaranteed in the 1851 Treaty, see id. at xvii-xix. The treaty lands encompassed parts of present-day Nebraska, Wyoming, Montana, North Dakota, and South Dakota. Id.
219. Lanham, supra note 192, at 44.
220. Id.; see also Lazor, supra note 78, at 24 (explaining Sioux concerns about the expedition).
221. Lanham, supra note 192, at 44. Warren noted that he felt "compelled to admit to [him]self the truth and force of these objections." Id.
Fort Laramie through the White River Badlands, which shifted the federal government's focus to other areas.  

During the remainder of the 1850s and the 1860s, instead of encountering small groups of paleontologists in search of fossils, the Sioux more regularly confronted intruders in search of different mineral resources. The discovery of gold at Pike's Peak in Colorado in 1859, for example, brought a new flood of white intruders, many of whom passed through Sioux territory on their way to Colorado. In 1861 gold was discovered in Montana, causing new streams of whites to invade the rangelands of the great bison herd on which the western Sioux depended for their livelihood. The visits of relatively small parties of paleontologists and other scientists may have seemed less threatening to tribal interests than the onslaught of these new fortune hunters, yet the paleontologists shared with these new intruders a propensity for ignoring tribal sovereignty and treaty rights when it was in their best interest to do so.

C. The Bone Medicine-Man: Othniel Charles Marsh

Eastern paleontologists again focused on the rich fossil beds on western Indian lands during the 1870s, when Edward Drinker Cope and Othniel Charles Marsh, two of the foremost American paleontologists of the nineteenth century, developed an intense professional rivalry and competition over the latest fossil discoveries. Like the settlers seeking Indian lands for farming or ranching, and the miners seeking precious metals on Indian lands, Marsh and Cope staked out

222. Id. at 45.
223. LAZARUS, supra note 78, at 25.
224. Id.
225. Id. at 26-27. Given the increasing incursions by whites, among other Sioux grievances, conflict apparently was inevitable and the Sioux wars broke out in 1862. Id. at 27; see Carol Chomsky, The United States-Dakota War Trials: A Study in Military Injustice, 43 STAN. L. REV. 13, 15-22 (1990) (describing the initial outbreak of war, involving the Santee Sioux of Minnesota). In the aftermath of the war, 38 Sioux men were hanged in the largest mass execution in United States history. Id. at 13. For an analysis of the war trials that led to these hangings, see id. at 22-28. See also LAZARUS, supra note 78, at 27-28 (describing the Sioux wars). The hostilities spread into the territory of the western Teton Sioux when government troops followed fleeing Santee Sioux westward. Id. at 28. For another account of the hostilities in Minnesota, see BROWN, supra note 2, at 37-65.
226. The Civil War largely disrupted the geological and paleontological expeditions. Ferdinand Hayden, who was a physician, served in the Union Army as a physician. BARTLETT, supra note 205, at 8. The end of the war brought what one writer has described as "a tremendous expansive impulse. The West seemed the obvious place for investment, for settlement, for exploitation, for health." Id. at xii.
their own claims to the natural resources in which they were most interested,228 and "opened up the West" in their own way.229

Between 1870 and 1873, Marsh, a Yale University paleontology professor, led four expeditions of Yale students to the West.230 With the assistance of influential Yale alumni in Washington, D.C., Marsh was able to obtain provisions from army garrisons and cavalry escorts for the expeditions.231 Military escorts were deemed necessary because of the belief that "the country was full of Indians, most of them still resentful of their steadily narrowing hunting grounds and ready to harass any white man whom they might safely attack."232 Two Pawnee guides accompanied the 1870 expedition.233 One of the students later wrote an account of the 1870 expedition's arrival in western Nebraska:

The guides rode about a mile in advance of the column. The major pointed out the least difficult paths; while the Indians, with movements characteristic of their wary race, crept up each high bluff, and from behind a bunch of grass peered over the top for signs of hostile savages. . . . As night closed over our geologists, cut off from civilization, in a country in-

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228. John Noble Wilford has described the spirit of the times:

[Professional paleontologists and their hired collectors . . . brought to the hunt [for fossils] an acquisitive fervor that mirrored the expansionary times. The Indians were being battled into submission, the buffalo slaughtered, and the land fenced off for range and the plow. The new transcontinental railroad brought in settlers and fortune seekers by the droves. The dinosaur hunters, in the spirit of the time and place, staked out their own claims and guarded them jealously, sometimes belligerently, and grubbed for a measure of fame and fortune.

Id. at 94.

229. Id. at 109.


231. WILFORD, supra note 227, at 97. Marsh first had visited the West in 1868. LANHAM, supra note 192, at 179. A "flare-up of Indian hostilities" made an expedition that he had planned for 1869 impossible. Id. at 80; see also SCHUCHERT & LEVENE, supra note 230, at 100 (noting that Marsh gave up his plan for a systematic exploration of the western plains because of the imminence of the Indian wars).


233. Id. at 102. Marsh's biographers identified the guides as Tuck-he-ge-louhs ("Duellist") and La-oodle-sock ("Best of all"). Id. They also noted that "[t]he Pawnees were as a rule well disposed toward the whites, but battles between them and the warlike Sioux were frequent." Id. at 105. The Pawnees' traditional homeland was on the Kansas River in Kansas and on the Platte and Republican Rivers in Nebraska. DEBO, supra note 192, at 11.

William F. "Buffalo Bill" Cody also accompanied the expedition for a day and became a friend of Marsh. SCHUCHERT & LEVENE, supra note 230, at 103.
fested by hostile Indians, . . . they felt "in for" something more than science.\textsuperscript{234}

According to this account, the soldiers participated in the fossil hunting itself:

The soldiers not only relieved us from all fear of surprise, but soon became interested and successful assistants; but the superstition of the Pawnees deterred them for a time from scientific pursuits; for Indians believe that the petrified bones of their country are the remains of an extinct race of giants.\textsuperscript{235}

Accounts of the expeditions make clear that the tribes through whose territory the expeditions were traveling generally did not welcome the paleontologists and their military escorts with open arms.\textsuperscript{236} The paleontologists, in turn, did their best to take surreptitiously what they wanted from the land with as little contact as possible with the region's native inhabitants,\textsuperscript{237} except when such contact, as with the Pawnee guides, was advantageous to the expeditions.\textsuperscript{238} The numerous boxes of fossils gathered on these expeditions—without any consideration given to the rights of the tribes from whose lands they were taken—laid the foundation of Yale University's outstanding collection of fossil vertebrates.\textsuperscript{239}

Marsh's 1874 expedition to the White River Badlands south of the Black Hills yielded two tons of fossils,\textsuperscript{240} and resulted in an interesting encounter between Marsh and the great Sioux leader Red

\textsuperscript{234} SCHUCHERT & LEVENE, supra note 230, at 104 (quoting Charles Betts's account in HARPER'S NEW MONTHLY MAG., Oct. 1871, at 663-71).

\textsuperscript{235} Id. at 105. The account claimed that the Pawnees joined in the collecting after "the professor, picking up the fossil jaw of a horse, showed how it corresponded with their own horses' mouths. From that time they barely returned to camp without bringing fossils for the 'Bone Medicine-man'." Id. This account does not explain whether Marsh convinced the Pawnees that the fossils were bones from modern horses rather than from legendary creatures, and that therefore disturbing them was not sacrilegious; or whether he overcame the Pawnees' "superstition" by persuading them that, given the similarity between the fossils and horse bones, they should not regard the fossils as having any special significance.

\textsuperscript{236} See id. at 104-38.

\textsuperscript{237} Id.

\textsuperscript{238} In addition to relying on Pawnee guides, the expeditions also relied on Indian accounts of the location of fossils. See, e.g., id. at 110 (noting the reliance on Indian tales).

\textsuperscript{239} Id. at 137-38. Marsh collected 36 boxes of fossils during the 1870 expedition, id. at 120, and 49 boxes during the 1873 expedition, id. at 137. In 1898 Marsh gave his personal collections of fossils to Yale. Id. at 326-30.

\textsuperscript{240} LANHAM, supra note 192, at 85. After the 1874 expedition, Marsh relied on paid collectors rather than doing his own field work. See SCHUCHERT & LEVENE, supra note 230, at 176.
Cloud. When Red Cloud and Marsh met in November 1874, Red Cloud complained to Marsh of fraud by the government agent in charge of distributing to the Sioux the goods and supplies to which they were entitled by treaty.\(^{241}\) Red Cloud gave Marsh samples of some of the supplies to demonstrate their inferior quality.\(^{242}\) Marsh agreed to deliver Red Cloud's complaints to Washington, in order to obtain Red Cloud's permission to pass through Sioux lands.\(^{243}\) Red Cloud apparently realized that as a wealthy white easterner, Marsh was in a better position than Red Cloud himself to draw public attention to the inferior goods and supplies being provided to the Sioux, and to persuade federal authorities to address the situation. In addition, General Custer's recent discovery of gold in the Black Hills\(^{244}\) apparently made the Sioux suspicious of Marsh's interest in the area.\(^{245}\) As one contemporary editorial explained, Marsh had realized that "in order to get at his beloved hipporions and pterodactyles he must cove-
nant with the legitimate owners thereof." Marsh relied on Sioux stories of the Thunder Horse that lived "away back" and would sometimes come down to earth in a thunderstorm and kill buffalo, and once had driven a herd of buffalo into a Sioux camp to save the people from starvation. Marsh named some of the huge mammal fossils that he was finding "Brontotherium gigas," meaning the "great thunder beast."  

After completing his collecting, Marsh took Red Cloud's samples home with him and conveyed Red Cloud's complaints to the Commissioner for Indian Affairs, the Board of Indian Commissioners, President Grant, and the public. Because Marsh was well known and his charges received extensive publicity, it was impossible for the government to ignore them. The Board appointed a committee to investigate the charges. Marsh met with the Board and appeared before the committee, which ultimately issued a 929-page report recommending that the agent be removed and that government contract


247. OSBORN II, supra note 198, at xxi (quoting Capt. James H. Cook, Sketches of the Life of Red Cloud (manuscript)).

248. SCHUCHERT & LEVENE, supra note 220, at 481. The Brontotheres were also called "Titanotheres." Id. Marsh found the first of these fossils on his 1872 expedition. Id.; see also supra note 199 and accompanying text (describing the Titanotheres).

249. See LANHAM, supra note 192, at 150; SCHUCHERT & LEVENE, supra note 230, at 146-47. Concern about corruption in the Indian Bureau led to the creation of the Board of Indian Commissioners, which shared control over Indian expenditures with the Interior Department. SCHUCHERT & LEVENE, supra note 230, at 147 n.9, 160; see also id. at 146 (describing corruption in the Indian Bureau and the Grant Administration).

250. OLSON, supra note 242, at 189. For a description of the publicity, see id. at 191. Marsh served as president of the National Academy of Sciences and as vertebrate paleontologist for the United States Geological Survey, and thus became known within both the government and the scientific community. WILFORD, supra note 227, at 107.

251. SCHUCHERT & LEVENE, supra note 230, at 152; see also OLSON, supra note 242, at 179 (discussing the investigation into Red Cloud's complaints).

252. OLSON, supra note 242, at 192. For a description of the committee and its activities, see id. at 189-98. The 1875 Annual Report of the Board of Indian Commissioners described Marsh's role as follows:

[T]he attention of the board, at its meeting in New York, was more specifically called to the statements of Prof. O. C. Marsh, containing allegations of the gravest character in respect to fraudulent practices and irregularities in the management of the Red Cloud agency. On the invitation of the board, Professor Marsh visited New York, and in an interview of considerable length gave in detail the circumstances on which his allegations were based.

SEVENTH ANNUAL REPORT OF THE BOARD OF INDIAN COMMISSIONERS FOR THE YEAR 1875, at 12 (1876) [hereinafter SEVENTH ANNUAL REPORT OF THE BOARD OF INDIAN COMMISSIONERS].
procedures be tightened. The incident also led to the resignation of the Secretary of the Interior and the Commissioner for Indian Affairs. After the conclusion of the investigation, Red Cloud sent Marsh a pipe, and in 1883 spent three days at Marsh’s New Haven, Connecticut, home.

D. The Bone Medicine-Man’s Rival: Edward Drinker Cope

Edward Drinker Cope, Marsh’s fossil-hunting rival, made extensive excavations on Indian lands. He made his first western trip in 1871, visiting the fossil fields of Cheyenne territory in western Kansas, where soldiers were able to point out the best localities for fossil hunting. Cope also worked with Ferdinand Hayden on a government-sponsored geological survey of the West, which gave Cope the opportunity to collect fossils on the lands being surveyed. In 1876 Cope hunted for fossils in the Judith River Badlands of central Montana, which was the neutral ground between the Sioux and the Crow. After arriving in Helena, Montana, to begin his expedition, Cope learned of the Sioux defeat of General Custer at the Little Bighorn.


254. Olson, supra note 242, at 196-97; see also Schuchert & LeVene, supra note 230, at 164-66 (discussing the aftermath of the investigation).

255. Schuchert & LeVene, supra note 230, at 166-68.

256. See generally Osborn I, supra note 197, at 159-312.

257. Id. at 159, 162. Cope also made other trips to the West in the early 1870s. Id. at 183-96. In 1872 he hunted fossils in southwestern Wyoming, id. at 183, and in 1873 he visited Colorado and Wyoming, id. at 194. He wrote home that the Indians were “peaceable with the whites,” but the Arapahos and the Utes were at war. Id. at 196 (quoting letter from Cope to his father, Alfred Cope (July 18, 1873)). In 1874 he explored New Mexico as a member of a government geological survey team, id. at 198, and while there met the Pueblo Indians, whom he regarded as “very good fellows,” id. at 204. In a letter to his father, Cope wrote that he was trying to learn whether the Pueblo Indians “have been semicivilized by the ‘peace policy’ of the Jesuits, or whether they are descendants of a once civilized nation. . . . [The] evidence favors the former view.” Id. at 210 (quoting letter from Cope to Alfred Cope (Aug. 29, 1874)). He also reported pleasant conversations with Ute and Apache chiefs. Id. at 211.

258. Lanham, supra note 192, at 110; see also Wilford, supra note 227, at 107-08 (discussing Cope’s involvement with the government geological team, and subsequent difficulties). For a description of some of Hayden’s activities in the West, see supra notes 202-222 and accompanying text. Cope published the research stemming from his participation in the Hayden survey in a comprehensive volume entitled Vertebrata of the Tertiary Formations of the West, which is still in use and is known by paleontologists as “Cope’s bible.” Wilford, supra note 227, at 108.


260. Id. at 100.
River in Montana. Cope was warned that he should not proceed to the Badlands because members of the expedition might be killed by the Sioux or the Crow. Cope ignored this advice, reasoning that because the Sioux were elsewhere with their leader Sitting Bull, the expedition should have nearly three months in which to collect fossils "in peace." Members of the Crow, Piegan, Blood, and Gros Ventre Tribes visited the expedition. Cope collected 1700 pounds of fossils and did not limit his collecting activities to dinosaur bones, as he described in a letter written on board a Missouri River steamer:

"[A] day or so ago I gathered a number of skulls and skeletons of Sioux with a bag of tools buried with a chief, and brought them to the boat and boxed them. The uproar it created among the poor white element that run the lesser offices scared the captain so that he ordered them all taken back to the place where I obtained them. He... said that I had "immolated the graves of the dead."... [T]he bones had to go. But I have a little bill of $120 for the bones... It is not a nice job, taking dirty skulls from skeletons not carefully prepared, and it is done at some risk to life. So I am indignant ...

Cope had, however, packed about a dozen other human skulls in among the fossils, which apparently he was able to take home with him. Cope continued his fossil-collecting activities in the western United States during the remainder of the 1870s.

In 1889 Cope suffered a fate similar to what was to befall BHIGR over a century later. The Secretary of the Interior demanded that
Cope deliver part of his fossil collection to the United States National Museum, on the grounds that Cope had accumulated the fossils during his participation in a government expedition and that the fossils therefore were government property.269 Despite this setback, Cope made another expedition, sponsored by the Texas Geological Survey, to northwest Texas in 1892.270

On his way back from the Texas expedition, Cope made a fossil-hunting expedition to northern South Dakota, an area that paleontologists had not visited since 1862, "partly because it was well within the Sioux Indian reservation."271 He discovered that "[t]he Sioux have been lately angered by trespassers on their reservation who have stolen their horses and cattle, and they are very suspicious of white people who want to go on their land,"272 and was careful to avoid Sioux settlements.273 His search for fossils was guided by Sioux stories that the bones of giants lay near the Grand River.274 Cope described the Sioux "superstitions" and his visit to the site, to which he induced a Sioux child to take him, in a letter:

The Sioux knew of [the site] long ago, but they believed that the bones belonged to evil monsters which were slain by lightening [sic] by the Great Spirit. They would not touch the bones for fear that a like fate would befall them. So they were fortunately preserved for the more intelligent white man who is not troubled by such superstitions. But the Indian might have support for his opinion, if lightening [sic] would furnish it. It played across the sky in forked streams, or occasionally descended to the earth in blinding bolts.275

The lightning did not, however, "avenge the disturbance of the bones of its ancient victims," and Cope was able to dig them up and take them away.276 The site had "numerous bones of giants nearly en-

269. Id. at 402, 404; Wilford, supra note 227, at 108. Cope later had to sell many of his remaining fossils to the American Museum of Natural History in New York to support himself. Id. at 109. The federal government also made sure that it obtained the fossils that Marsh had collected during government expeditions. Schuchert & LeVene, supra note 230, at 277-89.

270. Lanham, supra note 192, at 267. For a detailed account of this expedition, see Osborn I, supra note 197, at 413-35.

271. Osborn I, supra note 197, at 414.

272. Id. at 429 (quoting letter from Cope to Annie Pim Cope (July 17, 1892)).

273. Id. at 430. Cope also obtained a government permit from the reservation agent. Id. at 429.

274. Id. at 432.

275. Id. (emphasis added).

276. Id.
tire," and proved to be one of the richest deposits of reptile fossils of Cope's entire career. Cope visited North Dakota, South Dakota, Wyoming, Oklahoma, Texas, and Kansas in 1893. As in the previous year, Cope successfully relied on Indian stories to locate fossils. The fossils that Cope collected on his western expeditions ultimately enriched the collections of a number of museums, including the American Museum of Natural History in New York.

IV. TRIBAL REGULATION OF PALEONTOLOGICAL RESOURCES

Congress has enacted a number of statutes providing for the regulation of archaeological resources. In the Archaeological Resources Protection Act of 1979 (ARPA) and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), Congress specifically recognized certain tribal rights and interests with respect to archaeological resources found on reservation lands. Congress has not, however, enacted any statute aimed at regulating paleontological resources, let alone recognized any particular tribal

277. Id. at 431. Cope noted that he "could hardly walk without stepping on them." Id. at 415.
278. Id. at 436-37.
279. Id. at 440 (quoting letter from Cope to Julia Cope (July 25, 1893)); id. at 441-42 (quoting letter from Cope to Annie Pim Cope (Aug. 10, 1893)). Cope also noted in a letter home the "progress" that was being made with the Indians: "[T]he Indians here have every inducement to be good. An Indian department which feeds them and schools them; missions to convert and school them, and an army to whip them if they are bad; it is no wonder that they are generally good at present." Id. at 438 (quoting letter from Cope to Annie Pim Cope (July 15, 1893)).
280. See D. Duffy & J. Lofgren, supra note 9, at 487 (discussing the void created by Congress's lack of regulation); Lazerwitz, supra note 11, at 603. ARPA regulates paleontological resources only if they are found in an archaeological context. 16 U.S.C. § 470bb. In Black Hills I, 967 F.2d 1237, 1239 (8th Cir. 1992), the government originally alleged that BHIGR's actions violated the Antiquities Act of 1906. The government later decided not to rely on the Antiquities Act. Duffy & Lofgren, supra note 9, at 489 n.91. In what is apparently the only case in which the Antiquities Act was applied to fossils, the United States District Court for the District of Montana dismissed the charges against the defendant on the ground that the Act was unconstitutional. United States v. Jenkins, No. CR-74-63-BLG, slip op. (D. Mont. Jan. 13, 1975) (order dismissing case), reprinted in COMMITTEE ON GUIDELINES FOR PALEONTOLOGICAL COLLECTING, NATIONAL ACADEMY OF SCIENCES, PALE-
rights or interests in such resources. A number of commentators have argued that there is a need for comprehensive federal regulation of paleontological resources, at least with respect to federal lands.287

Part IV of this Article discusses tribal authority to regulate paleontological resources on reservation lands, against the backdrop of the discussion of traditional Native American attitudes toward the land and fossils in Part II and the history of fossil collecting on Indian lands in Part III. Tribal regulatory authority over paleontological resources on reservation lands is appropriate for a number of reasons.

In the first place, tribal governments, as sovereign entities, should have regulatory authority over all land and paleontological resources within reservation boundaries on the basis of retained tribal sovereignty, reinforced by treaty guarantees. Recent Supreme Court decisions, however, have weakened tribal regulatory authority over the conduct of non-Indians on non-Indian reservation land.288 Second,

ontological Collecting 96-107 (1987) [hereinafter NAS REPORT]. For related court documents in Jenkins, see NAS REPORT, supra, at 96-106. In 1974 the Ninth Circuit held that the Antiquities Act was unconstitutionally vague. United States v. Diaz, 499 F.2d 119, 115 (9th Cir. 1974). The decision rendered the Act useless in the very circuit that includes the states in which the majority of antiquities are discovered. See Marc Villareal & Elaine Zacharakis, Note, "Where Did You Dig Up That Old Fossil?: Will Universities Own the Research Specimens That They Collect or Purchase?, 20 J.C. & U.L. 225, 233 (1993). But see United States v. Smyer, 596 F.2d 999, 941 (10th Cir. 1979) (upholding the Act's constitutionality). For discussions of the Act's constitutionality and its application to paleontological resources, see Duffy & Lofgren, supra note 9, at 489-94. Lazerwitz, supra note 11, at 609-11; Villareal & Zacharakis, supra, at 231-33; see also Lazerwitz, supra note 11, at 609-20 (analyzing the application of a number of federal statutes and regulations to paleontological resources on federal lands).

287. See, e.g., 138 CONG. REC. S10,933 (daily ed. July 30, 1992) (statement of Sen. Baucus introducing Vertebrate Paleontological Resources Protection Act); Lazerwitz, supra note 11, at 635-36 (discussing the Act). The Vertebrate Paleontological Resources Protection Act (VPRPA), which was introduced in the Senate in 1992 as Senate Bill 3107 but not enacted, provided for federal management of paleontological resources on "lands owned or controlled by the federal government." S. 3107, 102d Cong., 2d Sess. § 4(5) (1992). It contained a finding that "each Indian tribe should adopt a uniform policy on paleontological collecting on the lands of the tribe." Id. § 2(13); see Lazerwitz, supra note 11, at 625-35 (analyzing the VPRPA).

288. See, e.g., South Dakota v. Bourland, 113 S. Ct. 2309, 2316 (1999) (holding that the Flood Control Act and the Cheyenne River Act abrogated the power of the Cheyenne River Sioux Tribe to regulate non-Indian use of former trust land); Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation, 492 U.S. 408, 421-23 (1989) (holding that the Yakima Indian Nation does not have the power to zone fee lands owned by nonmembers within reservation areas that are open to the public); Montana v. United States, 450 U.S. 544, 557-67 (1981) (declining to recognize tribal authority to regulate hunting and fishing by all individuals everywhere within the external boundaries of the reservation).

For a discussion of Bourland, Brendale, and Montana, see Allison M. Dussias, Geographically-Based and Membership-Based Views of Indian Tribal Sovereignty: The Supreme Court's Changing Vision, 55 U. PRATT. L. REV. 1, 58-78 (1993) [hereinafter Dussias I].
tribal regulation is appropriate because traditional Native American beliefs regarding the land, the stones that compose it, and the fossils embedded in it, suggest a special Native American interest in, and competence for, safeguarding paleontological resources against those who regard such resources solely in commercial terms. Finally, the history of encounters between Native Americans and paleontologists in the nineteenth century and the story of BHIGR’s conduct in the Black Hills case reveal that paleontologists often take high-handed attitudes toward tribes and disregard tribal sovereignty whenever possible. These problems could be addressed by recognizing a tribal role in the regulation of paleontological resources on reservation lands.

Part IV analyzes three possible legal foundations for tribal authority to regulate the extraction of paleontological resources from all reservation land: tribal sovereignty, treaty rights, and recognition of regulatory authority through federal legislation. Although tribes may use other forms of regulation—such as a general license requirement for doing business on the reservation—to impose some control over conduct related to paleontological resources on reservation lands, Part IV’s focus is on regulations, such as excavation permit re-

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289. The expansion of the commercial fossil market in recent years poses a serious threat to paleontological resources. One commentator has described the threat as follows:

[M]ore than fifty commercial fossil companies and countless individual prospectors comprise a multimillion dollar industry . . . . Many in the professional community view the commercialization of fossil collecting as posing a direct threat to public and scientific access to paleontological specimens. They argue that commercialization will result in sale to private entities, illegal excavation from public lands, and increased vandalism of fossil sites.

Lazerwitz, supra note 11, at 602 (footnotes omitted).

290. Archaeologists have demonstrated similar attitudes toward Native American rights and tribal interests. See, e.g., James Riding In, Without Ethics and Morality: A Historical Overview of Imperial Archaeology and American Indians, 24 Ariz. St. L.J. 11 (1992). Moreover, some paleontologists gathered human remains in addition to fossils. See, e.g., supra notes 266-267 and accompanying text (discussing Cope’s collection of Sioux skulls).

291. A Cheyenne River Sioux Tribe ordinance, for example, provides that “[i]t shall be unlawful for any person, to engage in, pursue or transact any business [sic] on the Cheyenne River Indian Reservation without first having obtained a license therefor . . . .” Duffy & Lofgren, supra note 9, at 507 n.245 (quoting Tribal Ordinance No. 1). Another tribal ordinance provides for the forfeiture of property that is used in a manner that violates any other tribal ordinance. Id. at 507 n.246 (quoting Tribal Ordinance No. 52a). The Cheyenne River Sioux Tribe invoked this ordinance in seeking forfeiture of the fossil taken by BHIGR because BHIGR had not obtained the required license. Id. at 507. The tribal court held that the tribe could not rely on the forfeiture ordinance in its tribal court suit against BHIGR because it was adopted after removal of the fossil. Tribe Loses Round in Fight Over Dinosaur Named Sue, supra note 13, at 23A. The basic framework developed in Part IV of this Article is also applicable in determining tribal authority to impose these other types of regulations.
quirements, aimed specifically at paleontological resources. The Article will examine each of these three possible foundations for regulatory authority in turn.

A. Tribal Sovereignty as a Basis for Tribal Regulation of Paleontological Resources

In 1832, in *Worcester v. Georgia*, Chief Justice John Marshall characterized Indian tribes as “distinct political communities, having territorial boundaries, within which their authority is exclusive, and having a right to all lands within those boundaries, which is not only acknowledged, but guarantied by the United States.” This view of tribal authority and control over land within the tribe’s territory appears to provide a strong basis for tribal regulatory authority over paleontological resources found within reservation boundaries. In the years since *Worcester*, however, Congress and the Supreme Court have undercut the tribal governmental authority and control over reservation land envisioned by Chief Justice Marshall.

1. The Dawes Act and Its Legacy.—In 1887 Congress enacted the General Allotment Act, also known as the Dawes Act, which provided for the allotment of tribal land to individual tribal members, and the opening up of “surplus” reservation land to non-Indian settlement. The allotment policy had disastrous effects on the tribes and

292. Under the Native American Graves Protection and Repatriation Act, for example, tribal consent—which could take the form of a permit requirement—is required for excavations on reservation lands. 25 U.S.C. § 3002(c) (Supp. V 1993); see also infra notes 429-441 and accompanying text (discussing provisions of NAGPRA).

293. 31 U.S. (6 Pet.) 515 (1832).


296. *COHEN*, *supra* note 67, at 130-31. Although Indian lands had been allotted as early as 1633 and many treaties reserved specific tracts of land for individual Indians or Indian families, the Dawes Act provided for the first comprehensive allotment program. *Id.* at 129-30. The Dawes Act authorized the President to divide tribal lands into allotments for individual tribal members. 25 U.S.C. § 331. Title to the allotments was to be held in trust for the allottees by the United States for 25 years or longer at the President’s discretion, after which a patent was to be issued to the allottee. *Id.* §§ 348-349. Any “surplus” lands remaining after allotment could be sold to the United States for eventual sale to settlers, with the proceeds of the sale held in trust for the tribes whose land was sold. *Id.* § 348. For a more thorough discussion of the Dawes Act and its aftermath, see *COHEN*, *supra* note 67, at 130-43.
the allottees, and was repudiated in the Indian Reorganization Act of 1934. Although the IRA prohibited further allotment of Indian lands, the damage to the Indian land base had already been done. Indian landholdings had decreased from 138 million acres in 1887 to 48 million acres in 1934. The Dawes Act did not terminate the reservations, and consequently the allotted lands, including those conveyed to non-Indians, remained part of the reservations on which they were located. As a result, the reservations survived the Dawes Act, while tribal control over land, as described by Chief Justice Marshall in *Worcester v. Georgia*, did not. After allotment and its aftermath, many tribes no longer had "a right to all lands within [their territorial] boundaries." Rather, on many reservations, non-Indian-owned land had become interspersed with Indian land, often in a "checkerboard" pattern, a phenomenon that has had significant repercussions for tribal sovereignty in general, and for tribal regulatory authority in particular.

2. Judicial Curtailment of Tribal Sovereignty-Based Regulatory Authority.—While Congress undercut tribal control over reservation land through the allotment policy and its aftermath, the Supreme Court similarly has curtailed tribal regulatory authority, at times in explicit reliance on the alienation of reservation land resulting from the

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298. 25 U.S.C. § 461. In addition, existing trust periods and alienation restrictions were extended indefinitely. *Id.* § 462.

299. *Cohen*, supra note 67, at 138. Of the 90 million acres of Indian land that were lost, about 27 million acres passed from Indian allottees by sale; the remaining acres were ceded outright or sold to non-Indians as "surplus" lands. *Id.*

300. The Supreme Court made this principle of continued reservation status explicit in cases such as *Solem v. Bartlett*, 465 U.S. 463 (1984), in which it stated, [O]nly Congress can divest a reservation of its land and diminish its boundaries. Once a block of land is set aside for an Indian reservation and no matter what happens to the title of individual plots within the area, the entire block retains its reservation status until Congress explicitly indicates otherwise. *Id.* at 470.

301. 31 U.S. (6 Pet.) 515, 557 (1832).

302. *Id.*

303. The Port Madison Reservation in Washington, for example, "is a checkerboard of tribal community land, allotted Indian lands, property held in fee simple by non-Indians, and various roads and public highways maintained by Kitsap County." *Oliphant v. Suquamish Indian Tribe*, 435 U.S. 191, 198 (1978). At the time of the *Oliphant* decision, approximately 65% of the land on the Port Madison Reservation was owned in fee simple absolute by non-Indians. *Id.* at 193 n.1; see also *Cohen*, supra note 67, at 509 (noting that this "checkerboard ownership pattern" interfered with tribal culture and society).

304. See, e.g., infra notes 321-342 and accompanying text (discussing *Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation*, 492 U.S. 408, 445 (1989)).
This curtailment is one aspect of the Court's recent efforts to limit tribal sovereignty to authority over tribal members, as opposed to authority over the geographic area of the tribe's reservation.°

The Supreme Court has addressed the issue of tribal regulatory authority in three recent cases.° Although these cases have recognized tribal regulatory authority over tribal land,° they also have established an uncertain framework for examining tribal regulatory authority over nonmembers of the tribe on nonmember land within reservation boundaries. This framework must be examined to analyze the extent of tribal authority to regulate, as part of inherent tribal sovereignty, the excavation and removal of paleontological resources from reservation lands.

In 1981 in Montana v. United States,° the Court considered whether the Crow Tribe had authority on the basis of its inherent sovereignty to regulate hunting and fishing by nonmembers of the tribe on land owned by nonmembers within the boundaries of the Crow Reservation.° The Court held that although the tribe could prohibit

305. See infra notes 336-341 and accompanying text (discussing Justice Stevens's opinion in Brendale).
306. For an analysis of the Supreme Court's recent treatment of geographically and membership-based views of tribal sovereignty and the implications of the Court's increasing focus on a membership-based view of sovereignty, see Dussias I, supra note 288, at 17-96.
308. See, e.g., Montana, 450 U.S. at 557 (recognizing tribal authority to prohibit or regulate hunting and fishing by nonmembers on tribal or trust land); see also Brendale, 492 U.S. at 445 (Stevens, J., announcing the judgment in part and concurring in part) (noting that the Tribe "of course retains authority to regulate the use of trust land"); COHEN, supra note 67, at 465 ("In the exercise of its regulatory authority, a tribe can require a nonmember to purchase a license and to abide by game management rules for the reservation's Indian lands.").
310. Montana, 450 U.S. at 547. As grounds for its regulatory authority, the tribe relied (1) on its purported ownership of the bed of the Big Horn River, which ran through the reservation, (2) on rights under treaties, and (3) on its inherent sovereignty. Id. The
or regulate nonmember hunting and fishing on land owned by or held in trust for the tribe,\textsuperscript{311} its inherent sovereignty did not extend to the regulation of nonmember hunting and fishing on nonmember land.\textsuperscript{312} The Court stated a "general proposition that the inherent sovereign powers of an Indian tribe do not extend to the activities of nonmembers of the tribe."\textsuperscript{313} Reasoning that the "dependent status" of the tribes implicitly had divested them of attributes of sovereignty that involve the relations between the tribe and nonmembers, the Court stated that the "exercise of tribal power beyond what is necessary to protect tribal self-government or to control internal relations is inconsistent with the dependent status of the tribes, and so cannot survive without express congressional delegation."\textsuperscript{315}

The Court, however, was willing to recognize that tribes retain some power over nonmembers, even on nonmember lands, and identified two basic circumstances under which such power is retained:

A tribe may regulate, through taxation, licensing, or other means, the activities of nonmembers who enter consensual

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\textsuperscript{311} Montanta, 450 U.S. at 557. The Court described tribal regulatory authority regarding hunting and fishing on tribal land as follows: The Court of Appeals held that the Tribe may prohibit nonmembers from hunting or fishing on land belonging to the Tribe or held by the United States in trust for the Tribe . . . and with this holding we can readily agree. We also agree with the Court of Appeals that if the Tribe permits nonmembers to fish or hunt on such lands, it may condition their entry by charging a fee or establishing bag and creel limits. 

\textsuperscript{312} Id. at 564-65.

\textsuperscript{313} Id. at 565.

\textsuperscript{314} Id. at 563-64. The Court used "dependent status" as a basis for curtailing tribal sovereignty in 1978 in Oliphant v. Suquamish Indian Tribe, 435 U.S. 313, 208 (1978), a criminal jurisdiction case. See Dussias I, supra note 288, at 28-29 (discussing "dependent status"). Oliphant has been the subject of much scholarly criticism. See, e.g., Russel L. Barsh & James Y. Henderson, The Betrayal: Oliphant v. Suquamish Indian Tribe and the Hunting of the Snark, 63 Minn. L. Rev. 609 (1979); see also Kevin Meisner, Comment, Modern Problems of Criminal Jurisdiction in Indian Country, 17 Am. Indian L. Rev. 175, 187-96 (1992) (questioning the Oliphant Court's interpretation of treaties, case law, and statutes). In addition to losing authority under the dependent status doctrine, tribes also may lose governmental powers by ceding powers in treaties or by congressional divestiture. United States v. Wheeler, 435 U.S. 313, 323 (1978).

\textsuperscript{315} Montana, 450 U.S. at 564. Justice Blackmun later criticized this statement as being "contrary to 150 years of Indian-law jurisprudence and . . . not supported by the cases on which it relied." South Dakota v. Bourland, 113 S. Ct. 2309, 2322 n.2 (1993) (Blackmun, J., dissenting).
\end{quote}
relationships with the tribe or its members, through commercial dealing, contracts, leases, or other arrangements.... A tribe may also retain inherent power to exercise civil authority over the conduct of non-Indians on their lands within its reservation when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe. These circumstances, therefore, were exceptions to the Court's "general proposition" that inherent tribal sovereignty does not extend to nonmember activities. The Court found neither of these exceptions applicable in Montana.

Montana thus recognized tribal authority to regulate nonmembers on tribal land. Furthermore, despite its general proposition limiting tribal authority over nonmembers, the Court found two exceptions, based on retained tribal sovereignty, that extend tribal authority over nonmembers on nonmember land. First, the Court recognized the "consensual relationship" exception, when nonmembers have entered into consensual relationships with the tribe or its members. Second, it recognized the "direct effect" exception, when the conduct on nonmember land threatens or has a direct effect on the tribe.

In 1989, in Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation, the Court again focused on tribal regulatory author-

317. Id. at 565.
318. Id. at 566. The Court noted that non-Indian hunters and fishermen on non-Indian land did not enter into any agreements or dealings with the tribe, the first exception mentioned by the Court in which regulatory jurisdiction would be present. Id. Moreover, the tribe's complaint had not alleged that non-Indian hunting and fishing on non-Indian lands imperiled the tribe's subsistence or welfare, and thus "nothing in this case suggests that such non-Indian hunting and fishing so threaten the Tribe's political or economic security as to justify tribal regulation." Id. Of course, the tribe could not have known the importance of such an allegation prior to the Court's opinion in Montana.
319. See supra note 311 and accompanying text. The Court has reiterated this principle in subsequent cases. See, e.g., Merrion v. Jicarilla Apache Tribe, 455 U.S. 130, 147 (1982) (stating that the presence and conduct of non-Indians on Indian lands "are conditioned by the limitations the tribe may choose to impose."); see also Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation, 492 U.S. 408, 445 (1989) (recognizing tribal authority to regulate the use of trust land).
320. See supra note 316 and accompanying text.
ity over nonmember land, analyzing whether the Yakima Indian Na-
tion had authority to impose zoning regulations on land owned by
nonmembers on the Yakima Reservation in Washington.322 The
Yakima Reservation bore the scars of the repudiated federal allotment
policy.325 Eighty percent of reservation land was held in trust for the
tribe or individual tribal members, while the remaining twenty per-
cent consisted of fee land that was concentrated in one part of the
reservation, the so-called open area.324 The western two-thirds of the
reservation was deemed the “closed area,” and consisted predomi-
nantly of trust land.325

The Court’s attempt to deal with the issue presented in Brendale
resulted in three opinions and two pluralities that established that the
tribe had authority to impose its zoning regulations on nonmember
land in the closed area,326 but not on nonmember land in the open
area.327 A majority focused on Montana328 as providing the basic ap-
proach for analyzing tribal zoning authority over nonmember land,
although the Justices disagreed on how to interpret and apply that
case.

Justice White, in an opinion joined by Chief Justice Rehnquist
and Justices Scalia and Kennedy, argued that under the general prin-
ciple stated in Montana, the tribe had no authority, based on inherent
sovereignty, to impose zoning regulations on nonmember land in
either the closed or the open area.329 Justice White sought to limit
tribal authority under the direct effect exception to Montana’s “gen-
eral principle” on the ground that the exception was prefaced by the
word “may.”330 Justice White argued that the use of “may” indicated
that tribal authority “need not extend” to all nonmember conduct on

322. 492 U.S. at 414.
323. See supra notes 295-302 and accompanying text (describing the policy and its
repudiation).
324. Brendale, 492 U.S. at 415.
325. Id.
326. Justices Stevens, O’Connor, Blackmun, Brennan, and Marshall upheld tribal zon-
ing authority over nonmember land in the closed area. See infra notes 334-335, 336-341
and accompanying text (discussing the opinions of Justices Blackmun and Stevens,
respectively).
327. Justice White, Chief Justice Rehnquist, and Justices Scalia, Kennedy, Stevens, and
O’Connor struck down tribal zoning authority over nonmember land in the open area. See
infra notes 329-333, 336-341 and accompanying text (discussing the opinions of Justices
White and Stevens, respectively).
328. See supra notes 309-320 and accompanying text (discussing Montana).
329. Brendale, 492 U.S. at 428 (White, J., announcing the judgment in part and dissent-
ing in part).
330. Id. at 428-29; see also supra notes 313-317 and accompanying text (discussing the
general principle of Montana and its two exceptions).
nonmember land that threatens or has a direct effect on the tribe. Rather, the impact "must be demonstrably serious and must imperil the political integrity, the economic security, or the health and welfare of the tribe." Similarly, the Court found inapplicable the consensual relationship exception.

Justice Blackmun, in an opinion joined by Justices Brennan and Marshall, took a broader view of the tribal regulatory authority envisioned by Montana. He objected to Justice White's characterization of Montana as "establishing a general rule, modified only by two narrow exceptions, that Indian tribes have no authority over the activities of non-Indians on their reservations absent express congressional delegation." Rather, Justice Blackmun maintained, Montana should be read to recognize inherent tribal authority over nonmember activities wherever those activities "implicate a significant tribal interest."

In the third Brendale opinion, Justice Stevens, joined by Justice O'Connor, announced the judgment of the Court with respect to tribal authority over the closed area. Justice Stevens focused on the extent to which the tribe had lost the power to exclude nonmembers from the open and closed areas of the reservation—a power that

331. Brendale, 492 U.S. at 429.
332. Id. at 431 (emphasis added). Justice White's opinion, which announced the judgment of the Court with respect to the open area, concluded that the tribe could not impose zoning regulations on nonmember land in the open area. Id. at 432. Justice White maintained that neither of the exceptions noted in Montana provided a basis for tribal zoning regulation of nonmember land in the open area. Id. As to the closed area, Justice White believed that the case should be remanded to the district court. Id. at 432-33.
333. There was no consensual relationship between the nonmember landowners and the tribe. Id. at 428. Apparently no consensual relationship existed between the nonmembers and individual tribal members either, because the parties had agreed that the consensual relationship exception did not apply. Id. Presumably, had such a relationship existed, the tribe would have argued that it provided a basis for regulatory authority.
334. Id. at 449 (Blackmun, J., concurring in the judgment in part and dissenting in part). Justice Blackmun concluded that the tribe could impose zoning regulations on nonmember land in both the closed and open areas, reasoning that "[t]his fundamental sovereign power of local governments to control land use is especially vital to Indians, who enjoy a unique historical and cultural connection to the land." Id. at 448-49, 458. In his view, "[i]t would be difficult to conceive of a power more central to 'the economic security, or the health or welfare of the tribe' than the power to zone." Id. at 458 (citation omitted) (quoting Montana v. United States, 450 U.S. 544, 566 (1981)); see also Dussias I, supra note 288, at 66 (discussing Justice Blackmun's opinion).
335. Brendale, 492 U.S. at 450 (Blackman, J., concurring in the judgment in part and dissenting in part); see also id. at 456-57 (contending that Montana should be read "to recognize that tribes may regulate the on-reservation conduct of non-Indians whenever a significant tribal interest is threatened or directly affected.").
336. Id. at 453 (Stevens, J., announcing the judgment in part and concurring in part).
337. Id. ("[T]he proper resolution of these cases depends on the extent to which the Tribe's virtually absolute power to exclude has been either diminished by federal statute or voluntarily surrendered by the Tribe itself."). Justice Stevens concluded that the tribe
"necessarily must include the lesser power to regulate land use in the interest of protecting the tribal community." \(^{358}\) In Justice Stevens's view, tribal regulatory authority based on tribal sovereignty was diminished by the allotment and alienation of reservation land resulting from the Dawes Act,\(^{359}\) even though the Dawes Act did not itself transfer regulatory power from the tribe to state or local governments.\(^{340}\) Justice Stevens distinguished *Montana*, rather than relying on its analysis to recognize or reject tribal regulatory authority.\(^{341}\)

*Brendale* revealed considerable division within the Court, not only over the extent of tribal regulatory authority, but also over the role the *Montana* framework should play in resolving this issue. Moreover, *Brendale* demonstrated how nonmember land ownership resulting from the allotment policy could be used to justify curtailing tribal regulatory authority, despite the fact that nonmember lands remain a part of the reservation on which they are located.\(^{342}\)

The Court made its most recent statement on tribal regulatory authority in 1993, in *South Dakota v. Bourland*.\(^{343}\) In *Bourland*, the Court considered whether the Cheyenne River Sioux Tribe—the same tribe whose interests were largely ignored in the *Black Hills* case\(^{344}\)—could regulate hunting and fishing by non-Indians on reservation lands that had been taken by the United States, mostly from the tribe, could impose zoning regulations on nonmember land in the closed area but not in the open area because the tribe, as a result of the allotment policy, no longer had the power to exclude nonmembers from a large portion of the open area, and therefore had lost the power to define the "essential character" of the area. *Id.* at 444-47.

338. *Id.* at 433.

339. *Id.* at 436-37.

340. *Id.* at 436.

341. *Id.* at 443. He noted that in *Montana* the conduct of non-Indians on non-Indian lands "posed no threat to the welfare of the Tribe." *Id.* In *Brendale*, on the other hand, the planned nonmember conduct in the closed area jeopardized critical assets of the area and threatened the area's cultural and spiritual values, thus having negative effects on the general health and welfare of the tribe and its members. *Id.*

342. See *supra* note 300 and accompanying text (discussing Solem v. Bartlett, 465 U.S. 463 (1984)). Justice Blackmun noted in his *Brendale* opinion that distinguishing between the open and closed areas of the reservation was inconsistent with earlier cases establishing that allotment did not diminish the reservation status of land owned by nonmembers. *Brendale*, 492 U.S. at 463 (Blackmun, J., concurring in the judgment in part and dissenting in part); see also Dussias I, supra note 288, at 72-74 (discussing the Court's rejection of a geographical approach to determine tribal regulatory authority).


344. The Cheyenne River Sioux Reservation was the site of the discovery of the Tyrannosaurus rex that was at stake in the *Black Hills* case. See *supra* text accompanying notes 5-7.
for a dam and reservoir project. Congress had provided that the taken lands would be open to the general public for recreational uses. The taken lands were therefore treated as an "open area" in the Brendale terminology.

The Court relied on the "general proposition," articulated in Montana, that inherent tribal sovereignty did not extend to the activities of nonmembers of the tribe. The Court remanded the case, however, for a determination of whether either of the two Montana exceptions applied with respect to the taken area.

The opinions in Montana, Brendale, and Bourland paint a confusing picture of sovereignty-based tribal regulatory authority over nonmembers on nonmember land. They acknowledge that tribes retain regulatory authority over the conduct of nonmembers on land belonging to the tribe. These decisions also establish that, as a general rule, tribes cannot exercise regulatory authority over

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345. Bourland, 113 S. Ct. at 2313. The taken land consisted of 104,420 acres of trust land acquired from the tribe and 18,000 acres of land acquired from non-Indians. Id. at 2318-14.

346. Id. at 2317.

347. Id. at 2316 n.9. The district court found that the taken lands did not constitute a "closed" area. Id. The Court agreed that the taken area had been broadly opened to the public and it therefore did not need to discuss tribal regulatory authority in a closed area. Id.; see also supra notes 324-325 and accompanying text (discussing the distinction between open and closed areas of a reservation in Brendale).

348. Bourland, 113 S. Ct. at 2320. In a dissenting opinion, in which Justice Souter joined, Justice Blackmun criticized the majority's reliance on Montana and Brendale. Id. at 2323 (Blackmun, J., dissenting). He also repeated the criticism that he had voiced in Brendale of a narrow reading of Montana. Id. at 2322 n.2; see also supra note 334 and accompanying text (discussing Justice Blackmun's criticism of Justice White's interpretation in Brendale of the Montana case).

349. Bourland, 113 S. Ct. at 2320; see also supra notes 316-317 and accompanying text (discussing the Montana exceptions). The district court had concluded that neither of the exceptions applied to any of the taken lands. Bourland, 113 S. Ct. at 2320. The Eighth Circuit had instructed the district court to reexamine its analysis as to the land taken from non-Indians, but did not address the district court's previous findings regarding the taken lands as a whole. Id. On remand, the court of appeals concluded that the consensual relationship exception was not relevant, and that the district court's finding that the direct effect exception was not applicable was not clearly erroneous. South Dakota v. Bourland, 39 F.3d 868, 869-70 (8th Cir. 1994). One member of the three-judge panel, Senior Circuit Judge Heaney, dissented, agreeing with the position of the United States as amicus curiae:

[T]he district court improperly interpreted the second Montana exception to require an extremely strong showing that tribal regulation of non-Indian conduct on the taken lands . . . is necessary to protect tribal welfare. The proper approach must include an analysis of whether non-Indian conduct on the taken lands has a "direct effect" on the Tribe's political or economic health or welfare. Id. at 871 (Heaney, J., dissenting).

350. Montana v. United States, 450 U.S. 544, 557 (1981). This authority should extend to both land belonging to the tribe as an entity, and land belonging to individual tribal members. See Dussias I, supra note 288, at 61 n.259.
nonmembers on nonmember land as part of their inherent sovereignty. Nevertheless, tribes retain regulatory authority over the conduct of nonmembers on nonmember land when nonmembers have entered into a consensual relationship with the tribe or its members, or when nonmembers' conduct threatens or has a direct effect on the tribe. The cases leave unclear the scope of tribal regulatory authority based on the consensual relationship exception. Nor do they resolve the questions of how serious a threat the conduct of nonmembers must pose to the tribe, or how substantial the effect on a tribe must be, for the tribe to have authority under the direct effect exception. Moreover, variations in relative concentrations of tribal and nonmember land from one part of the reservation to another can make determinations of tribal sovereignty-based regulatory authority still more difficult.

Given this uncertain picture, retained tribal sovereignty does not appear to be a secure foundation for a tribal claim of regulatory authority over paleontological resources on all land within the boundaries of a reservation. Montana, Brendale, and Bourland would allow for tribal regulation of nonmembers with respect to paleontological resources on land owned by, or held in trust for, the tribe. Moreover, tribal regulatory authority also should extend to nonmember conduct on land owned in fee by individual tribal members or, as in the Black Hills case, land held in trust by the United States for individual tribal members. Thus in the Black Hills situation, if tribal regula-

351. Montana, 450 U.S. at 565 ("[T]he inherent sovereign powers of an Indian tribe do not extend to the activities of nonmembers of the tribe."); Brendale, 492 U.S. 408, 428 (1989) (White, J., announcing the judgment in part and dissenting in part) ("[U]nder the general principle enunciated in Montana, the Yakima Nation has no authority to impose its zoning ordinance on the fee lands owned by [the nonmember landowners]."); Bourland, 113 S. Ct. 2309, 2320 (quoting Montana, 450 U.S. at 565).

352. Montana, 450 U.S. at 564; see also Brendale, 492 U.S. at 428 (White, J., announcing the judgment in part and dissenting in part) (quoting Montana, 450 U.S. at 566); Bourland, 113 S. Ct. at 2320 (quoting Montana, 450 U.S. at 566).

353. See supra note 311 and accompanying text (discussing Montana's approach to tribal regulatory authority regarding hunting and fishing on tribal land).

354. These cases did not question tribal authority over Indian lands, which include land owned in fee by tribal members. Inherent sovereign power to regulate Indian lands survived Montana because it is not subject to the limitations on tribal regulatory authority that Montana imposed. See also Royster, supra note 309, at 603 (noting that "tribes have inherent, and virtually plenary, sovereign power to regulate Indian conduct and Indian lands within reservation boundaries."). Land held by tribal members in fee still may be subject to restrictions on alienation. Cohen, supra note 67, at 615-16. Such land is thus similar to trust land. Id. A parcel of land owned by an Indian subject to an alienation restriction is referred to as a "restricted fee" allotment. Id. at 616.

355. This question was not specifically decided by Montana, but the Montana Court noted, with apparent approval, the district court's finding that "Montana's statutory and
tions relating specifically to paleontological resources had existed, they should have been applicable to the nonmember conduct on Maurice Williams’s ranch.\textsuperscript{356} Similarly, although Montana, Brendale, and Bourland did not directly address tribal regulatory authority over members, these cases did make clear that tribes retain considerable power over their members by virtue of tribal sovereignty. In Montana, for example, the Court noted that “in addition to the power to punish tribal offenders, the Indian tribes retain their inherent power to determine tribal membership, to regulate domestic relations among members, and to prescribe rules of inheritance for members.”\textsuperscript{357} Tribal regulatory authority over members is not curtailed by Montana’s general principle that “the inherent sovereign powers of an Indian tribe do not extend to the activities of nonmembers of the tribe.”\textsuperscript{358} Rather, such authority over members involves “‘the powers of self-government’” and “‘relations among members of a tribe,’” which have not been lost by virtue of the tribes’ “‘dependent status.’”\textsuperscript{359} In other cases, the Court has recognized explicitly that tribes retain full authority over tribal members,\textsuperscript{360} which should include regulatory authority over the conduct of members with respect to paleontological resources wherever located on the reservation.

The foregoing analysis indicates that nonmember conduct on nonmember land presents the most significant challenge to invoking inherent tribal sovereignty as a basis for tribal regulatory authority over paleontological resources on all reservation lands. To regulate such conduct, a tribe presumably would have to establish that its in-

\textsuperscript{356} See supra note 291 (discussing the tribe’s business license ordinance).

\textsuperscript{357} Montana, 450 U.S. at 564. The Court also described its holding in United States v. Wheeler, 435 U.S. 313 (1978), in which it noted that Indian tribes are “unique aggregations possessing attributes of sovereignty over both their members and their territory” and upheld tribal criminal jurisdiction over tribal members. Id. at 563 (quoting Wheeler, 435 U.S. at 323).

\textsuperscript{358} Montana, 450 U.S. at 565.

\textsuperscript{359} Id. at 564 (quoting Wheeler, 435 U.S. at 326); see also Cohen, supra note 67, at 464 (discussing tribal authority over reservation hunting and fishing by members); id. at 246 (discussing tribal authority, pursuant to treaty, over off-reservation fishing by members).

\textsuperscript{360} See, e.g., New Mexico v. Mescalero Apache Tribe, 462 U.S. 324, 332 (1983) (“A tribe’s power to prescribe the conduct of tribal members has never been doubted . . . .”).
herent sovereignty allows such regulation under one of the *Montana* exceptions. The precise scope of these exceptions is, however, unclear.

Because the Court has not reexamined the consensual relationship exception in any case since *Montana*, the exception's actual scope and application are uncertain.\(^361\) One question that remains unanswered is whether—in the event that a consensual relationship exists between a nonmember and a tribe or tribal member—it provides a basis for general tribal regulatory authority over the nonmember's activities, or only for authority over activities related to the relationship.\(^362\)

In some circumstances, the consensual relationship exception may support retained regulatory power over nonmember conduct with respect to paleontological resources on nonmember land. In the *Black Hills* case, for example, there were commercial dealings—and thus a consensual relationship—between a nonmember (BHIGR) and a tribal member (Maurice Williams).\(^363\) Under the language of the consensual relationship exception, such dealings should have sustained tribal regulatory authority over BHIGR's conduct, even if nonmember land had been involved. Tribes should be able to exercise regulatory authority over paleontological resources on this basis in other instances where there is a consensual relationship between a nonmember and the tribe or a tribal member. Unless the Supreme Court provides further guidance on the exact application and scope of the consensual relationship exception, however, tribes will be un-

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\(^{362}\) The actual language of the exception does not suggest this limitation, but, given the Court's recent efforts to curtail tribal sovereignty, it is not difficult to imagine the Court imposing such a limitation. *See* *Montana*, 450 U.S. at 564; *see also* Malone & Furber, *supra* note 361, at 15 (discussing a possible minimum contacts analysis). In FMC v. Shoshone-Bannock Tribes, the Ninth Circuit rejected the plaintiff's claim that "a direct linkage must exist between the regulation and the particular activity regulated," but also suggested that "at some point the commercial relationship becomes so attenuated or stale that *Montana*’s consensual relationship requirement would not be met." 905 F.2d at 1314-15.

\(^{363}\) *See supra* note 25 and accompanying text (describing the dealings between BHIGR and Maurice Williams).
able to rely on the existence of a consensual agreement to guarantee that courts will uphold their exercise of regulatory authority.

Similar uncertainty clouds tribal use of the direct effect exception, which allows tribes to exercise retained tribal authority when nonmember conduct on nonmember land poses a threat to, or directly affects, the tribe. This exception was discussed but not precisely defined in both Montana and Brendale. Although the Court has provided more analysis of the direct effect exception than it has of the consensual relationship exception, the Justices have disagreed over its precise nature. In Montana, the Court focused only on whether nonmember hunting and fishing threatened the tribe, rather than also looking at whether there was at least some direct effect on the tribe. The language of the direct effect exception indicates that conduct that either threatens or has a direct effect on the tribe can provide the basis for retained regulatory authority. In Brendale, the Justices presented competing views of the direct effect exception. Justice White required a "demonstrably serious" adverse effect, while Justice Blackmun required only that a "significant tribal interest" be implicated. Bourland did not provide clarification.

The direct effect exception refers to "the political integrity, the economic security, or the health or welfare of the tribe." A tribe seeking to rely on this exception to establish retained regulatory authority over nonmembers on nonmember land might argue that the tribe's political integrity, as a sovereign entity with authority over the geographic area of the reservation, would be threatened or directly affected if the tribe were unable to regulate the excavation and removal of paleontological resources. This argument would have particular weight in light of the significance of the land and fossils for Native Americans and the history of the plunder of fossils from reservation lands. The tribe also might contend that its economic security would be threatened or directly affected if it could not regulate, perhaps through a paid permit process, the excavation of these valuable

364. See supra notes 316-318, 330-332 and accompanying text.
365. See supra note 318 and accompanying text.
366. See supra note 316 and accompanying text (quoting the language of the Montana exceptions).
367. See supra note 332 and accompanying text.
368. See supra note 335 and accompanying text; see also Royster, supra note 309, at 605-06 (discussing Brendale).
369. The Bourland Court quoted the language of the two Montana exceptions, but remanded for consideration of whether either of the exceptions was present. South Dakota v. Bourland, 113 S. Ct. 2309, 2320 (1993). For a description of the result on remand, see supra note 349.
resources from reservation lands. Finally, the tribe might argue that the practice of traditional religions, which is integrally related to the health and welfare of the tribe and its members, would be threatened or directly affected if the tribe could not regulate paleontological resources on all reservation lands. Nevertheless, because of the Court's conflicting messages regarding the precise meaning and scope of the direct effect exception, it is difficult to assess confidently the exception's application to the regulation of paleontological resources. A number of lower court decisions have upheld tribal regulatory authority over nonmembers on nonmember land under the direct effect exception, but there is no guarantee that the Supreme Court would follow these decisions. Given the Court's increasing reluctance to recognize the exercise of tribal sovereignty over nonmembers, as well as the changes in the Court's membership since Justice Blackmun argued for a broad view of the direct effect exception in *Brendale*, it is doubtful that the Court will take a broad view of the direct effect exception when it next examines the issue. Thus, as with the consensual relationship exception, it may be difficult for tribes to rely on the direct effect exception as the basis for retained tribal regulatory authority over paleontological resources on all reservation land.

Finally, *Brendale* 's distinction between closed and open areas on reservations deepens the uncertainty over application of the *Montana* exceptions to tribal regulation of paleontological resources on nonmember land. The Court has not yet reexamined this distinction fully. Nor has it provided further guidance as to what proportion of nonmember ownership in an area indicates that it should be treated

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as an open or closed area. Bourland did not clarify the distinction. The Bourland Court noted that the district court had found that the area taken for the dam project was not a closed area, and agreed that the area had been "broadly opened to the public," without further elaboration on the open/closed distinction. Thus, in analyzing possible regulatory authority over paleontological resources on nonmember land, tribes whose reservations have substantial nonmember land ownership concentrated in part of the reservation face additional uncertainty as to whether these land ownership patterns may affect their regulatory authority over nonmembers on nonmember lands.

Uncertainty with respect to the open/closed distinction and the scope and application of the Montana exceptions may make it difficult for tribes to conclude with complete confidence that they can exercise regulatory authority over paleontological resources on all reservation land on the basis of retained tribal sovereignty. Thus tribal sovereignty in the 1990s may not provide much more protection against the taking of paleontological resources from reservation lands than it did in the nineteenth century.

B. Treaty Rights as a Basis for Tribal Regulation of Paleontological Resources

Treaties between tribes and the United States are another potential source of tribal regulatory authority over nonmembers on the reservation. The United States and its predecessors entered into treaties with the tribes as they would with foreign nations. Treaties frequently recognized the tribes' separate sovereignty. Many treaties dealt with issues of criminal jurisdiction over Indian lands, but


374. South Dakota v. Bourland, 113 S. Ct. 2309, 2316 n.9 (1993); see also supra notes 346-347 and accompanying text (discussing Bourland); Singer, supra note 343, at 325 (discussing Bourland's limited precedential value).

375. For a description of treaty making between Indian tribes and European nations before the American Revolution, see COHEN, supra note 67, at 50-58. For a description of treaty making between the United States and Indian tribes before the adoption of the Constitution, see id. at 58-62. The Constitution recognizes Indian treaties entered into before its adoption. See U.S. CONST. art. VI, cl. 2 (stating that "all Treaties made . . . under the Authority of the United States, shall be the supreme Law of the Land . . . ."). For a description of treaty making after the adoption of the Constitution, see COHEN, supra note 67, at 62-107.

376. COHEN, supra note 67, at 65.

377. Id. at 67.
most did not deal expressly with issues of general civil jurisdiction,\textsuperscript{378} let alone regulatory authority. Although formal treaty making with the tribes was ended by statute in 1871, the statute provided that obligations under existing treaties were not to be impaired.\textsuperscript{379} Treaties therefore continue to play an important role in Indian law, and continue to be an important source of tribal rights.

In \textit{Montana}, \textit{Brendale}, and \textit{Bourland}, the Court considered the treaties between the federal government and the relevant tribes, along with retained tribal sovereignty, as a possible basis for regulatory authority over nonmembers. In each of these cases, however, the Court concluded that the relevant treaties did not support tribal regulatory authority over nonmembers on nonmember lands.

In \textit{Montana v. United States}, the Court interpreted the First Treaty of Fort Laramie of 1851,\textsuperscript{380} in which the signatory tribes, including the Crow Tribe, acknowledged designated areas as their respective territories.\textsuperscript{381} Although the treaty specified that the signatory tribes did not “surrender the privilege of hunting, fishing or passing over” any of the lands described in the treaty,\textsuperscript{382} the \textit{Montana} Court concluded that the treaty “nowhere suggested that Congress intended to grant authority to the Crow Tribe to regulate hunting and fishing by nonmembers on nonmember lands.”\textsuperscript{383} The Court also examined the Second Treaty of Fort Laramie of 1868, which established a reservation for the Crow Tribe that was to be “set apart for the absolute and undisturbed use and occupation” of the Crow Tribe, and provided that no non-Indians except authorized federal agents “shall ever be permitted to pass over, settle upon, or reside in” the reservation.\textsuperscript{384}

\textsuperscript{378} \textit{Id.} at 68. A few treaties, however, contained assurances that state laws would not be applied to Indians. \textit{Id.}

\textsuperscript{379} Act of Mar. 3, 1871, ch. 120, § 1, 16 Stat. 566 (codified as amended at 25 U.S.C. § 71 (1988)).

\textsuperscript{380} The First Treaty of Fort Laramie of 1851, Sept. 17, 1851, 11 Stat. 749.

\textsuperscript{381} 450 U.S. 544, 547-48 (1981). The treaty identified approximately 38.5 million acres of land as Crow territory. \textit{Id.} at 548. For a description of the circumstances surrounding the signing of the 1851 treaty, which was designed to secure the safe passage of white travelers to the West, see \textit{Lazarus}, supra note 78, at 16-20; \textit{Utley}, supra note 200, at 61. In addition to the Crow Tribe, the Sioux, Cheyenne, Arapaho, Assinboine, Gros Ventre, Mandan, and Arikara Tribes also signed the 1851 treaty. \textit{Cohen}, supra note 67, at 96.


\textsuperscript{383} \textit{Id.} at 558. The Court further noted that the complaint had not indicated that non-Indian hunting and fishing on the reservation had impaired this privilege. \textit{Id.} at 558 n.6.

\textsuperscript{384} \textit{Id.} at 548 (quoting the Second Treaty of Fort Laramie of 1868, May 7, 1868, Art. II, 15 Stat. 649). The 1868 treaty reduced the territory set aside for the tribe under the 1851 treaty to a reservation of roughly eight million acres. \textit{Id.}; see also \textit{Cohen}, supra note 67, at 104 (discussing the 1868 treaty). The United States also signed treaties with the Sioux, the
Because this treaty obligated the United States to prohibit most non-Indians from residing on or passing through reservation lands, it “arguably conferred upon the Tribe the authority to control fishing and hunting on those lands.” The Court concluded, however, that this authority could only extend to lands on which the tribe has “absolute and undisturbed use and occupation.” The amount of such land had been reduced substantially by allotment and alienation. Treaty rights with respect to reservation lands, the Court stated, “must be read in light of the subsequent alienation of those lands.”

The Court concluded that any tribal power created by the 1868 treaty to regulate or prohibit non-Indian hunting and fishing did not apply to non-Indian lands. Thus the tribe could not base regulatory authority over nonmembers on nonmember lands on the rights guaranteed to it by the United States in treaties.

In Brendale, the Court interpreted an 1855 treaty between the Yakima Tribe and the United States. The treaty provided that the tribe retained the land constituting its reservation for its “exclusive use and benefit” and that no “white man, excepting those in the employment of the Indian Department, [shall] be permitted to reside upon the said reservation without permission of the tribe and the superintendent and agent.” Justice White relied on the analysis of treaty rights in Montana to reject the tribe’s argument that the power to exclude guaranteed by the treaty gave the tribe regulatory

Northern Cheyenne, and the Northern Arapaho Tribes in 1868. Id. at 104 n.354; see also infra text accompanying notes 399-400 (describing the Sioux treaty).

386. Id. at 559.
387. Id.
388. Id. at 561.
389. Id.
390. Brendale v. Confederated Tribes and Bands of the Yakima Indian Nation, 492 U.S. 408 (1989). The treaty between the United States and the Yakima Nation of Indians, 12 Stat. 951, was signed in 1855 and ratified by the Senate in 1859. Brendale, 492 U.S. at 414 (White, J., announcing the judgment in part and dissenting in part); see also Cohen, supra note 67, at 102 n.330 (noting the 1855 treaty).
392. Id. at 415 n.1 (quoting 12 Stat. 951, 952). The treaty also involved the cession of millions of acres of land to the United States and the retention of approximately 1.3 million acres of land by the tribe. Id. at 435 (Stevens, J., announcing the judgment in part and concurring in part).
393. Id. at 425 (White, J., announcing the judgment in part and dissenting in part) (“We would follow Montana and conclude that, for the reasons stated there, any regulatory power the Tribe might have had under the treaty ‘cannot apply to lands held in fee by non-Indians.’”) (quoting Montana, 450 U.S. at 559)).
authority over nonmember land. Like the Montana Court, Justice White viewed the tribe's treaty rights as having been diminished by the allotment and alienation of reservation land, despite the fact that the allotment policy later was repudiated. Justice Stevens also found that when the allotment and alienation of reservation land had reduced the tribe's power to exclude nonmembers from a portion of the reservation, the tribe's regulatory authority, which ran parallel to the power to exclude that had been confirmed by treaty, also had been diminished. Thus in Brendale, as in Montana, a majority of the Court interpreted treaty-based rights to exclude, and therefore also to regulate, nonmembers as having been curtailed as a result of allotment and alienation.

Finally, in Bourland, the Court interpreted provisions of the 1868 Fort Laramie Treaty between the United States and the Sioux, a treaty that was parallel to the Crow Tribe's 1868 Fort Laramie Treaty that

394. Id. at 422-25. The crucial factor for Justice White was the subsequent alienation of lands guaranteed to the Yakimas by the treaty. "[T]reaty rights with respect to reservation lands must be read in light of the subsequent alienation of those lands." Id. at 422 (quoting Montana, 450 U.S. at 561); see also supra notes 381-389 and accompanying text (describing the Montana analysis).

395. Id. at 423; see also supra notes 297-299 and accompanying text (describing the repudiation of the allotment policy in the Indian Reorganization Act). Justice White noted, "the Court in Montana was well aware of the change in Indian policy engendered by the Indian Reorganization Act and concluded that this fact was irrelevant." Brendale, 492 U.S. at 423 (White, J., announcing the judgment in part and dissenting in part) (citing Montana, 450 U.S. at 560 n.9).

396. Brendale, 492 U.S. at 435 (Stevens, J., announcing the judgment in part and concurring in part). In Justice Stevens's view, the 1855 treaty confirmed the tribe's "sovereign power of exclusion" that existed even without a treaty. Id. at 435. After the treaty, "the Tribe's power to exclude was firmly established. The power to regulate land use ran parallel to the power to exclude. Just as the Tribe had authority to limit absolutely access to the reservation, so it could also limit access to persons whose activities would conform to the Tribe's general plan for land use." Id. at 435-36; see also supra notes 337-341 and accompanying text (discussing Justice Stevens's views of inherent tribal sovereignty as a possible basis for regulatory authority).

397. Brendale, 492 U.S. at 436 (Stevens, J., announcing the judgment in part and concurring in part). Applying this approach, Justice Stevens concluded that "[b]y maintaining the power to exclude nonmembers from entering all but a small portion of the closed area," the tribe had not surrendered "its historic right to regulate land use" in that portion of the reservation, and therefore could zone nonmember land in the closed area. Id. at 441, 444. On the other hand, because the tribe no longer had the power to exclude nonmembers from a large portion of the open area, it had no authority to regulate nonmember land use in that area. Id. at 444-45.

398. Unlike the majority, Justice Blackmun focused on inherent sovereignty as the basis for regulatory authority. See supra notes 334-335 and accompanying text (discussing Justice Blackmun's opinion).
was interpreted in *Montana.* The treaty provided that the Great Sioux Reservation was to be held for the “absolute and undisturbed use and occupation” of the tribal signatories, and that no non-Indians (other than government agents) would “ever be permitted to pass over, settle upon, or reside in” the reservation. A subsequent federal statute removed a substantial amount of land from the reservation and divided the remaining land into several reservations, including the Cheyenne River Sioux Reservation. In addition, a series of federal statutes provided for the taking of reservation lands for a dam and reservoir project. The Court concluded that although under the 1868 treaty the tribe had possessed the authority to exclude non-Indians from the taken lands, and arguably to regulate non-Indian use of those lands, the federal statutes had eliminated both powers. The Court relied on *Montana* and *Brendale* as establishing that the loss of tribal lands to non-Indians, at least in an “open area” of the reservation, implied the loss of any treaty-based regulatory jurisdiction over the use of the lands.

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401. *Bourland*, 113 S. Ct. at 2313 (citing the Act of Mar. 2, 1889, ch. 405, 25 Stat. 888). The 1889 Act also authorized allotment of reservation lands. *Id.* Some of these allotted parcels, as well as other parcels that were declared “surplus” pursuant to the General Allotment Act of 1887, ch. 119, 24 Stat. 388, and the Act of May 29, 1908, ch. 218, 35 Stat. 460, ultimately were acquired by non-Indians. *Bourland*, 113 S. Ct. at 2313. As a result of these actions, trust lands constituted less than half of the reservation at the time that *Bourland* was decided. *Id.*


403. *Bourland*, 113 S. Ct. at 2316.

404. *Id.* at 2316-17.

405. *Id.* at 2316. The Court observed:

*Montana* and *Brendale* establish that when an Indian tribe conveys ownership of its tribal lands to non-Indians, it loses any former right of absolute and exclusive use and occupation of the conveyed lands. The abrogation of this greater right, at least in the context of the type of area at issue in this case, implies the loss of regulatory jurisdiction over use of the land by others. *Id.* (footnote omitted).

Justice Blackmun, joined by Justice Souter, dissented. Justice Blackmun distinguished *Montana* and *Brendale*, in which the land at issue had been conveyed to non-Indians pursuant to the Dawes Act, from the situation in *Bourland*, where the land at issue had been
Given the Court's holdings in these three cases, it may be difficult for a tribe to rely with confidence on treaty language as a basis for tribal regulatory authority over nonmembers with respect to paleontological resources on nonmember lands. Although the precise provisions vary from one treaty to another, these cases demonstrate that even treaty language that provides sweeping guarantees of undisturbed use of reservation lands has not been treated as granting regulatory authority over nonmembers on nonmember lands because the treaty language has been read "in light of" the subsequent alienation of reservation lands to non-Indians pursuant to federal statutes such as the Dawes Act. Moreover, although the Court has readily interpreted treaty provisions "in light of" the Dawes Act, it has been unwilling to evaluate the Dawes Act and its aftermath "in light of" the subsequent repudiation of the allotment policy.406

Two additional aspects of the Court's approach in these cases also demonstrate its reluctance to view treaty rights as ensuring regulatory authority over nonmembers on nonmember land. First, the Court did not rely on the basic canons of construction that it has developed for interpreting Indian treaties. According to these canons, treaties "should be construed as the Indians would have understood them, . . . ambiguous expressions must be resolved in favor of the Indians, . . . and . . . treaties [must] be liberally construed in favor of the Indians." The Court overlooked all of these canons in favor of a focus taken by the federal government for the limited purpose of building a dam. Id. at 2323 (Blackmun, J., dissenting). Use of the taken land for a dam and for incidental recreational purposes was "perfectly consistent with continued tribal authority to regulate hunting and fishing by non-Indians . . . . Even if the Tribe lacks the power to exclude, it may sanction with fines and other civil penalties those who violate its regulations." Id. In order for treaty rights to be abrogated, Justice Blackmun argued, there must be "clear evidence that Congress actually considered the conflict between its intended action on the one hand and Indian treaty rights on the other, and chose to resolve that conflict by abrogating the treaty." Id. at 2322 (quoting United States v. Dion, 476 U.S. 734, 740 (1986)). The majority, he said, "points not even to a scrap of evidence that Congress actually considered the possibility that by taking the land in question it would deprive the Tribe of its authority to regulate non-Indian hunting and fishing on that land." Id.

406. In Montana, for example, the Court noted in a footnote that [t]he policy of allotment and sale of surplus land was, of course, repudiated in 1934 by the Indian Reorganization Act . . . . But what is relevant in this case is the effect of the land alienation occasioned by that policy on Indian treaty rights tied to Indian use and occupation of reservation land. Montana v. United States, 450 U.S. 544, 559 n.9 (1981) (citation omitted).

407. Cohen, supra note 67, at 63 n.10 (citations omitted). The Court referred to the liberal construction and ambiguity canons in Bourland, but did not apply them. Bourland, 113 S. Ct. at 2916. In his dissent, Justice Blackmun cited the canon on deferring to Indian understanding. Id. at 2323 (Blackmun, J., dissenting). He found it "implausible that the Tribe here would have thought every right subsumed in the Fort Laramie Treaty's sweep-
on the alienation of land to nonmembers occasioned by federal statutes. The Court might well take the same approach if it is required to construe a treaty as a possible basis for regulatory authority over paleontological resources on nonmember land.

Second, in these cases the Court failed to require the clear expression of congressional intent to abrogate Indian treaty rights that had been required in previous cases.\(^{408}\) In \emph{Montana}, the Court relied instead on its notion of "common sense" in determining congressional intent: "It defies common sense to suppose that Congress would intend that non-Indians purchasing allotted lands would become subject to tribal jurisdiction. . . ."\(^{409}\) Although the Court noted in \emph{Bourland} that "we usually insist that Congress clearly express its intent" to abrogate Indians' treaty rights,\(^{410}\) it was willing to infer intent to abrogate from federal statutes that did not address tribal regulatory authority over nonmembers.\(^{411}\)

In short, the Court's approach in \emph{Montana}, \emph{Brendale}, and \emph{Bourland} to reviewing treaties as possible guarantees of regulatory authority over nonmembers on nonmember land has demonstrated that treaties, as interpreted by the Court, are a questionable basis for assertions of broad tribal regulatory authority. The Court itself, by reading treaty language in light of the alienation of reservation land to nonmembers, in effect has abrogated much of the regulatory authority

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over nonmembers on nonmember land that may have been guaran-
teed implicitly to tribes by treaty provisions.

C. Federal Legislation as the Basis for Tribal Regulation of
Paleontological Resources

Tribal regulatory authority over tribal members and over lands
owned by, or held in trust for, the tribe or its members generally is
accepted as an element of retained tribal sovereignty. Tribal regu-
latory authority over nonmembers on nonmember land is, however,
more problematic. The discussion above has demonstrated the uncer-
tainties involved in relying on retained tribal sovereignty and treaty
provisions as foundations for assertions of tribal regulatory author-
ity over nonmembers on nonmember land, with respect to paleonto-
logical resources or other matters. This part of the Article will discuss
federal legislation as a means of recognizing tribal regulatory author-
ity over paleontological resources on all reservation lands.

1. Tribal Regulation of Archaeological Resources.—Although there is
no existing federal legislation providing for a tribal role in the regula-
tion of paleontological resources on reservation land, two federal stat-
utes—the Archaeological Resources Protection Act of 1979 and the
Native American Graves Protection and Repatriation Act of 1990—
already provide explicitly for a tribal role in the regulation of archaeo-
logical resources. ARPA and NAGPRA provide useful models for con-
sidering the possibility of federal legislation to recognize a tribal role
in the regulation of paleontological resources on reservation lands.

ARPA was enacted in recognition of the fact that archaeological
resources on public and Indian lands—an “irreplaceable part” of the
heritage of the United States—are “increasingly endangered because
of their commercial attractiveness” and are threatened by “uncon-
trolled excavations and pillage.” “Archaeological resource” is de-
fined by ARPA to include “any material remains of past human life or
activities which are of archaeological interest.” Paleontological

412. See supra notes 353-360 and accompanying text.
413. See supra notes 361-374 and accompanying text.
414. See supra notes 406-411 and accompanying text.
418. Id. § 470bb(1) (1988). Only items that are at least 100 years old are to be treated as
archaeological resources. Id. In addition, the Secretaries of the Interior, Agriculture, and
Defense and the Chairman of the Board of the Tennessee Valley Authority were directed
to promulgate regulations after consultation with Indian tribes and others. Id. § 470ii(a)
specimens, whether fossilized\textsuperscript{419} or unfossilized\textsuperscript{420} are not to be considered archaeological resources unless they are found in an "archaeological context."\textsuperscript{421} ARPA established a permitting process for the excavation and removal of archaeological resources from "public lands or Indian lands."\textsuperscript{422} "Indian lands" are defined as "lands of Indian tribes, or Indian individuals, that are either held in trust by the United States or subject to a restriction against alienation imposed by the United States."\textsuperscript{423} ARPA prohibits excavating, removing, or damaging archaeological resources on public lands or Indian lands without a permit issued under ARPA or the Antiquities Act of 1906.\textsuperscript{424} In


\textsuperscript{419} A dead organism becomes fossilized "when the spaces once filled by its organic matter are replaced by mineral substances. It literally turns to stone." \textit{Gayrard-Valy}, \textit{supra} note 114, at 156. In order for an organism to become fossilized, certain conditions must exist:

The dead organism must be quickly buried in the sand, mud, or ooze so that it will not disintegrate. . . . Secondly, there must be no (or very little) decomposition; instead, there must be gradual replacement of organic matter by mineral substances. Thirdly, for a fossil to survive whole for millions of years, it cannot be subjected to folding, heat buildup in the earth's interior, or other potentially destructive disturbances.

\textit{Id.}

\textsuperscript{420} In rare cases, organisms are preserved in an unfossilized state. Woolly mammoths and rhinoceroses, for example, have been found frozen solid in the Siberian permafrost. \textit{Id.}

\textsuperscript{421} 16 U.S.C. § 470bb(1) (1988). The ARPA regulations state further that paleontological resources "shall not be considered of archaeological interest, and shall not be considered to be archaeological resources for the purposes of the Act and this part, unless found in a direct physical relationship with archaeological resources as defined in this section." 43 C.F.R. § 7.3(a)(4) (1994).

\textsuperscript{422} 16 U.S.C. § 470cc(a) (1988). Although ARPA's permit requirements apply only to public lands and Indian lands, as defined in the Act, its trafficking provisions are not so limited:

No person may sell, purchase, exchange, transport, receive, or offer to sell, purchase or exchange, in interstate or foreign commerce, any archaeological resource excavated, removed, sold, purchased, exchanged, transported, or received in violation of any provision, rule, regulation, ordinance, or permit in effect under State or local law.

\textit{Id.} § 470ee(c).

\textsuperscript{423} \textit{Id.} § 470bb(4). "Public lands" include lands that are part of the national park system. \textit{Id.} § 470bb(3). ARPA makes it clear that only public lands and Indian lands are to be affected by its provisions. \textit{Id.} § 470kk(c) ("Nothing in this chapter shall be construed to affect any land other than public land or Indian land or to affect the lawful recovery, collection, or sale of archaeological resources from land other than public land or Indian land.").

\textsuperscript{424} \textit{Id.} § 470ee(a). It also prohibits trafficking in archaeological resources that were excavated or removed in violation of ARPA. \textit{Id.} § 470ee(b). For a discussion of the Antiq-
order for the federal land manager with permitting authority to issue a permit for excavation or removal of archaeological resources located on "Indian lands," "the Indian or Indian tribe owning or having jurisdiction over such lands" must consent. No permit is required for excavation and removal by tribes or tribal members of archaeological resources on the tribe's Indian lands. In addition, if a permit issued under ARPA "may result in harm to, or destruction of, any religious or cultural site," the federal land manager must, before issuing a permit, "notify any Indian tribe which may consider the site as having religious or cultural importance." Indian consent is not


425. Federal land manager is defined in terms of the government department or agency that has primary management authority over the lands in question. 16 U.S.C. § 470bb(2) (1988). The Secretary of the Interior is the federal land manager for Indian lands. 43 C.F.R. § 7.3(c) (1994).

426. 16 U.S.C. § 470cc(g)(2) (1988). The permit "shall include such terms and conditions as may be requested by such Indian or Indian tribe." Id. The regulations elaborate further on the consent required for Indian lands:

When Indian tribal lands are involved . . . the consent of the Indian tribal government must be obtained. For Indian allotted lands outside reservation boundaries, consent from only the individual landowner is needed. When multiple-owner allotted lands are involved, consent by more than 50 percent of the ownership interest is sufficient. For Indian allotted lands within reservation boundaries, consent must be obtained from the Indian tribal government and the individual landowner(s).

43 C.F.R. § 7.35(b) (1994); see also 25 C.F.R. § 262.5(c) (1994). "Allotted lands" are defined as "lands granted to Indian individuals by the United States and held in trust for those individuals by the United States." 43 C.F.R. § 7.32(b) (1994). The regulations make it clear that archaeological resources that are excavated or removed from Indian lands "remain the property of the Indian or Indian tribe having rights of ownership over such resources." 43 C.F.R. § 7.13(b) (1994); see also 25 C.F.R. § 262.8 (1994) (providing coordination with NAGPRA). The regulations also contemplate the possibility of tribal permit requirements by providing that "[t]he issuance of a permit . . . does not remove the requirement for any other permit required by Indian tribal law." 43 C.F.R. § 7.35(d) (1994).

427. 16 U.S.C. § 470cc(g)(1) (1988). If, however, there is no tribal law "regulating the excavation or removal of archaeological resources on Indian lands, an individual tribal member shall be required to obtain a permit" under ARPA. Id. This section clearly contemplates tribal regulation of tribal members' activities with respect to paleontological resources.

428. Id. § 470cc(c). This provision is not restricted to Indian lands and therefore also applies to public lands. The statute itself does not, however, provide any relief to the notified tribe with respect to such a site. The regulations define a "site of religious or cultural importance" as follows:

a location which has traditionally been considered important by an Indian tribe because of a religious event which happened there; because it contains specific natural products which are of religious or cultural importance; because it is be-
required for excavation or removal of archaeological resources on public lands or on nonmember lands within reservation boundaries, even if the site from which the resources are to be removed has religious or cultural importance for a tribe. However, by requiring notification to tribes as to sites with religious or cultural importance, ARPA at least gives tribes an opportunity to raise any concerns they may have about activities at these sites.

NAGPRA, enacted in 1990, was the culmination of a decades-long struggle by Native Americans to obtain protection against grave desecration and to recover the remains of dead ancestors and objects of cultural and religious significance.429 Aptly described by Senator Daniel Inouye as human rights legislation, designed to protect "the civil rights of America's first citizens,"430 NAGPRA reflects the trust responsibility of the United States to Native Americans431 and "the unique relationship between the Federal Government and Indian tribes."432 The Act provides for the repatriation of Native American human remains and certain other protected objects433 from the holdings of federal agencies and federally funded state and local institutions434 under specified circumstances.435
In addition to repatriation, NAGPRA provides protection for Native American cultural items excavated or discovered on federal or tribal lands after its enactment. It also defines "tribal lands" to include "all lands within the exterior boundaries of any Indian reservation."\footnote{436} NAGPRA thus covers objects on nonmember land on reservations, in contrast to ARPA.\footnote{437} Native American cultural items can be removed from or excavated on federal or tribal lands only after a permit has been obtained pursuant to ARPA, and the appropriate tribe has been consulted or, in the case of tribal lands, has consented.\footnote{438} If Native American cultural items are discovered inadvertently on federal or tribal lands, the appropriate federal official (in the case of federal lands) or tribe (in the case of tribal lands) must be notified, and, if the discovery occurred in connection with construction or another activity, the discoverer must also "cease the activity in

ums," defined as "any institution or State or local government agency... that receives Federal funds and has possession of, or control over, Native American cultural items." 25 U.S.C. § 3001(4), (8).

\footnote{435} The repatriation obligation is set out in 25 U.S.C. § 3005. The following is a helpful summary of the repatriation requirement for human remains and associated funerary objects:

NAGPRA requires federal agencies... and museums... to return human remains and associated funerary objects upon request of a lineal descendant, Indian tribe, or Native Hawaiian organization where the museum or agency itself identifies the cultural affiliation of the items through the... inventory process [required by NAGPRA]. In addition, if a museum or agency inventory does not establish the affiliation of the human remains or associated funerary objects, the Indian tribe or Native Hawaiian organization may still obtain the return of the remains or objects if it can prove, by a preponderance of the evidence, that it has a cultural affiliation with the item.

Trope & Echo-Hawk, supra note 424, at 61-62 (footnotes omitted). NAGPRA also provides for repatriation of unassociated funerary objects, sacred objects, and objects of cultural patrimony. 25 U.S.C. § 3005(a)(2), (4), (5). There is, however, an additional requirement for the repatriation of these types of objects, which involves presenting evidence related to the agency or museum's "right of possession." Id. § 3005(c). "Right of possession" is defined in id. § 3001(13). See also Trope & Echo-Hawk, supra note 424, at 65-68 (describing the process for repatriation of such objects).

\footnote{436} 25 U.S.C. § 3001(15). Dependent Indian communities and certain lands administered for the benefit of Native Hawaiians also are included within the definition. Id. For an explanation of the term "dependent Indian community," see COHEN, supra note 67, at 38-39.

\footnote{437} See supra notes 422-423 and accompanying text.

\footnote{438} 25 U.S.C. § 3002(c). The regulations promulgated by the Department of the Interior pursuant to NAGPRA, 25 C.F.R. pt. 262 (1995), set out the procedure for obtaining permits for excavation or removal of archaeological resources on Indian lands, which include lands of individual Indians and of tribes that are held in trust by the United States or are subject to alienation or encumbrance restrictions. 25 C.F.R. § 262.2 (1995).
the area of the discovery, [and] make a reasonable effort to protect
the items discovered before resuming such activity.439

NAGPRA provides for Native American ownership or control of
Native American cultural items that are excavated or removed from
federal or tribal lands after the date of the statute.440 Depending on
the circumstances, an individual Native American or a tribe may own
or control a cultural item.441 NAGPRA thus reflects considerable re-
spect for the significance of human remains and cultural and religious
objects to Native Americans, and for the tribal right to a role in con-
trolling the excavation and removal of these items from reservation
lands.

2. Ensuring a Tribal Role in the Regulation of Paleontological Re-
sources on Reservation Lands.—ARPA and NAGPRA were enacted for
two basic reasons. First, Congress recognized that certain objects, as
well as human remains, had religious and cultural significance for Na-
tive Americans,442 and that the federal government was obligated, as
part of its trust responsibility, to respect this significance by protecting
tribal rights with respect to those objects and human remains.443 Con-
gress also recognized that certain sites have religious or cultural signif-
icance for tribes and provided for at least some protection for tribal
interests in those sites.444 Second, the history of the desecration of
Native American graves and the plundering of Native American
archaeological resources and objects of cultural and religious signifi-

439. 25 U.S.C. § 3002(d). Following the required notification to, and certification of
receipt of the notification by, the appropriate federal official or tribe, “the activity may
resume after 30 days of such certification.” Id.


441. Id. § 3002(a). NAGPRA provides a list of priorities for determining whether an
individual or a tribe shall own or control cultural items “excavated or discovered on Fed-
eral or tribal lands after November 16, 1990.” Id. In the case of human remains and
associated funerary objects, the lineal descendants of the deceased have priority. Id.
§ 3002(a)(1). In cases in which lineal descendants cannot be ascertained, and in the case
of unassociated funerary objects, sacred objects, and objects of cultural patrimony, NAG-
PRA provides for tribal ownership. Id. § 3002(a)(2). If the items are found on tribal lands,
the tribe on whose lands the items were discovered will own or control their disposition.
Id. § 3002(a)(2)(A). If the items are found on federal lands, the tribe that has the closest
cultural affiliation with them will own or control them. Id. § 3002(a)(2)(B). If the cultural
affiliation of the items cannot reasonably be ascertained, but the items were discovered on
land that has been recognized by a final judgment of the Indian Claims Commission or
Court of Claims as a particular tribe’s aboriginal land, that tribe has ownership or control
unless another tribe establishes a stronger cultural relationship. Id. § 3002(a)(2)(C).

442. See supra notes 417-441 and accompanying text (discussing ARPA and NAGPRA).

443. See supra notes 431-432 and accompanying text (discussing the trust responsibility).

444. See supra note 428 and accompanying text (describing the ARPA notification
requirement).
cance demonstrated the need to protect Native American remains and other objects. Given this history, Congress perceived the need for protecting human remains and artifacts that had not yet been excavated, as well as the need to address Native American rights with respect to human remains and objects that already have been removed from reservation lands.

Neither ARPA nor NAGPRA, however, was designed to protect tribal interests in controlling and regulating paleontological resources on reservation lands. ARPA contains language that was designed to exclude paleontological resources from the Act's coverage unless they are found in an archaeological context. NAGPRA does not specifically exclude paleontological resources from coverage, and it is conceivable that a particular fossil might fit the definition of a "sacred object" or an object of "cultural patrimony" under NAGPRA, and thus be protected. Similarly, if a particular fossil were placed with human remains, it could also be protected under NAGPRA. NAGPRA was not intended, however, to provide comprehensive protection for tribal interests in paleontological resources on reservation lands. The concerns that led to the passage of ARPA and NAGPRA, however, justify consideration of federal legislation to ensure a tribal role in the regulation of paleontological resources on reservation lands.

a. Protecting the Sacred Text—As discussed in Part II, traditional Native American thought assigns a sacred significance to the land and to the elements that compose it. Moreover, prehistoric animals and their fossil remains play a role in the myths and traditional healing practices of a number of tribes. This suggests that Native American interests in paleontological resources are similar to their interests in human remains, archaeological artifacts, and other cultural items, as recognized in ARPA and NAGPRA. Thus, the separate treatment of archaeological resources and paleontological resources, often advocated by paleontologists concerned about

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445. See supra note 429 and accompanying text.
446. See supra notes 417-428, 436-441 and accompanying text (describing the ARPA and NAGPRA permit requirements).
447. See supra notes 433-435 (discussing NAGPRA's repatriation provisions).
448. See supra note 421 and accompanying text.
449. See supra note 433 (defining "sacred objects" and "cultural patrimony" under NAGPRA).
450. See supra note 433 (defining "funerary objects" under NAGPRA).
451. See supra part II.A (describing the sacred significance of the land).
452. See supra part II.B (describing the sacred significance of stones).
453. See supra part II.C (describing the sacred significance of fossils).
regulation,\textsuperscript{454} and reflected in ARPA,\textsuperscript{455} does not make sense and deserves reexamination. At the very least, the religious and cultural significance of land and fossils in traditional Native American thought suggests that tribal interests in regulating the extraction and removal of paleontological resources from reservation lands deserve further examination. Of course, only tribal leaders can determine and explain fully the significance of these resources for their tribes and the form of tribal regulation that they deem appropriate. In the \textit{Black Hills} case, for example, officials of the Cheyenne River Sioux Tribe described the fossil taken by BHIGR as being part of their cultural heritage.\textsuperscript{456} Moreover, the trust obligation of the federal government toward Native American people and tribes, which was recognized with NAGPRA's enactment,\textsuperscript{457} also supports federal legislation to protect expressed tribal interests in paleontological resources on reservation lands. At the very least, this trust relationship indicates the appropriateness of federal inquiry into the nature and extent of tribal interests in this area and into whether such interests are being protected adequately.\textsuperscript{458}

It should also be emphasized that these traditional beliefs in the sacred nature of the land, stones, and fossils are not simply of historical interest. Despite extensive efforts by the federal government to destroy traditional Native American religious beliefs and practices as

\textsuperscript{454} Paleontologists, particularly those who are concerned about federal regulation, often emphasize the difference between paleontology and archaeology in their writings. See, e.g., NAS \textsc{Report}, supra note 286, at 11 ("Attempts have been made by various federal agencies to regulate the collecting of fossils under statutes, or derived regulations, intended for archeological objects. This development is attributable to the misconception that paleontology is closely allied to archeology in its methods, objects of study, and goals."). Other paleontologists, however, are willing to admit the overlap between paleontology and archaeology in general. See, e.g., \textsc{Fortey}, supra note 172, at 9 ("The province of the paleontologist overlaps with that of the archaeologist . . . . [I]n the sites where the remains of early man are discovered it is quite possible to find the paleontologist and the archaeologist working side by side.").

\textsuperscript{455} See \textit{supra} note 421 and accompanying text (describing ARPA's exclusion of paleontological resources).

\textsuperscript{456} See \textit{supra} notes 33-34 and accompanying text.

\textsuperscript{457} See \textit{supra} notes 431-432 and accompanying text (describing the trust relationship as the basis for NAGPRA).

\textsuperscript{458} The cultural and religious significance of paleontological resources also supports a tribal role in regulating these resources on reservation lands on the basis of tribal sovereignty. As discussed above, however, given recent Supreme Court attitudes toward tribal regulatory jurisdiction, tribal sovereignty alone provides an uncertain foundation for tribal regulation of nonmember activities with respect to paleontological resources on nonmember lands. See \textit{supra} notes 350-374 and accompanying text.
part of assimilating Native Americans into “American” culture, Native American beliefs and practices have survived and flourished. Thus, to the extent Native American beliefs regarding the land and the elements that compose it are respected through the protection of tribal interests in paleontological resources, the exercise of living religions is protected. The protection of Native American religious traditions through federal legislation that would ensure a tribal role in the regulation of paleontological resources on all reservation lands is consistent with the government’s trust responsibilities. Moreover, such protection is consistent with the commitment to the free exercise of religion embodied in the First Amendment—a right that long has been denied to Native Americans. Finally, providing protection to Native American religious traditions promotes their preservation as an element of American cultural and religious diversity.

For Native Americans, the cultural and religious significance of the land and fossils suggests that tribes may have a greater competence for protecting these resources than do other governmental entities or private organizations. To the extent that tribes regard

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459. The federal government, for example, supported the proselytizing activities of Christian missionaries almost from the beginning of federal Indian policy. LAWRENCE C. KELLY, THE ASSAULT ON ASSIMILATION: JOHN COLLIER AND THE ORIGINS OF INDIAN POLICY REFORM 300 (1983). The government also banned particular religious ceremonies, including ceremonial dances, which were regarded as immoral or at least as interferences with agricultural activities. Id. at 301. Government efforts to stamp out the Ghost Dance among the Sioux led to the massacre of nearly three hundred Sioux men, women, and children at Wounded Knee, South Dakota, in 1890. LAZARUS, supra note 78, at 113-16. As the account of nineteenth century ethnologist James Mooney explains, “There can be no question that the pursuit was simply a massacre, where fleeing women, with infants in their arms, were shot down after resistance had ceased and when almost every warrior was stretched dead or dying on the ground.” James Mooney, The Ghost Dance Religion and the Sioux Outbreak of 1890, in FOURTEENTH ANNUAL REPORT (PART 2) OF THE BUREAU OF ETHNOLOGY TO THE SMITHSONIAN INSTITUTION, 1892-93, by J.W. POWELL, DIRECTOR (1896), reprinted as JAMES MOONEY, THE GHOST DANCE RELIGION AND WOUNDED KNEE 869 (Dover Publications 1973).

460. See supra notes 80-81 and accompanying text.

461. The First Amendment provides that “Congress shall make no law . . . prohibiting the free exercise [of religion] . . .” U.S. CONST. amend. I.


paleontological resources as having cultural and religious significance, rather than as simple inanimate objects to be used solely for commercial exploitation, tribal governments can be expected to protect and preserve these resources. In the Black Hills case, for example, the Cheyenne River Sioux Tribe viewed itself as having a responsibility to protect the fossil taken by BHIGR because of the tribe's role as stewards of the land.464 Given the dangers posed by the rapid expansion of the commercial fossil market,465 allowing greater control over paleontological resources by the tribal "stewards of the land" may result in greater protection of paleontological resources from commercial exploitation.

Just as Congress recognized in ARPA and NAGPRA that human remains, certain objects, and certain sites have religious and cultural significance for Native Americans, and that the federal government was obligated as part of its trust responsibility to respect this significance, Congress also should recognize that the land and the fossils therein have special significance for Native Americans and that tribes must play a role in protecting fossils on reservation lands.

b. Combatting Imperial Paleontology—The history of encounters between Native Americans and paleontologists and other scientists described in Part III466 indicates a systematic disregard for tribal sovereignty and treaty rights. As a general rule, paleontologists sought to take fossils from tribal lands as surreptitiously as possible and to avoid direct dealings with Indians unless such dealings could be useful, such as for obtaining information on the location of fossils.467 Even Marsh, who established a personal relationship with the Sioux leader Red Cloud, seems to have helped gain a public audience for Red Cloud's grievances because doing so was the quid pro quo for permission to excavate on Sioux lands.468 BHIGR's behavior in the Black Hills case shows that paleontologists' failure to consider tribal sovereignty when collecting fossils within the boundaries of tribal territory is not merely a nineteenth century phenomenon. Moreover, although BHIGR provided some compensation to Maurice Williams,

466. See supra part III; see also Riding In, supra note 290 (describing imperial archaeology).
467. See, e.g., supra notes 233-238 and accompanying text (describing Marsh's use of Pawnee guides).
468. See supra notes 241-255 and accompanying text (describing Red Cloud and Marsh).
the $5000 offered was quite small in comparison to the value of the fossil, which experts estimate to be worth several million dollars.469

This history also shows the role played by the federal government, despite its treaty obligations and trust responsibilities, in the removal of paleontological resources from tribal lands. In some cases, the collectors were participants in government-sponsored scientific expeditions.470 In other instances, federal military authorities provided protection for, and participated in, the collecting activities.471 The government even obtained some of the fossils that were discovered for its own collections.472 This behavior, too, demonstrated disregard for tribal sovereignty, despite treaty obligations473 and trust responsibilities.474

This history is similar to the history of the dealings between Native Americans and archaeologists. Native American graves were desecrated and human remains, archaeological artifacts, and other items were plundered without regard for tribal sovereignty, treaty rights, or religious beliefs.475 Moreover, the federal government played an important role in the desecration and plunder.476 Finally, it is worth noting that in certain instances, paleontologists themselves collected human remains along with fossils.477 Apparently, at least some paleontologists regarded the desecration of Native American graves as no different from the excavation and removal of fossils.

The history of the desecration of Native American graves and the plundering of Native American archaeological resources and cultural items demonstrated the need for the protection of Native American remains and other items that is embodied in ARPA and NAGPRA. Similarly, the history of fossil collecting on reservation lands from the nineteenth century to the present demonstrates the need to protect

469. See supra note 25 and accompanying text (describing the compensation for and the value of the fossil).

470. See, e.g., supra notes 207-222 and accompanying text.

471. See supra notes 231-235 and accompanying text.

472. See supra note 269 and accompanying text. Similarly, in NAGPRA, Congress exempted the Smithsonian Institution from the Act's provisions. See supra note 434.

473. See, e.g., supra note 218 and accompanying text (describing treaty rights).

474. See supra note 67.

475. For a historical overview of Native American encounters with archaeologists, see generally Riding In, supra note 290.

476. Riding In, supra note 290, at 19-20; Trope & Echo-Hawk, supra note 424, at 40-41. In 1868 an order of the U.S. Surgeon General directed army personnel to collect Indian crania and other body parts for the Army Medical Museum. Over 4000 heads were collected in the next several decades—"from battlefields, burial grounds, POW camps, hospitals, fresh graves, and burial scaffolds around the country." Id.

477. See supra notes 266-267 and accompanying text.
tribal rights to paleontological resources on reservation lands by ensuring a tribal role in regulating these resources.

V. Conclusion

In the Black Hills case, the Eighth Circuit employed a seemingly straightforward application of state and federal law to decide ownership rights in a fossil found on Indian land. The court based its analysis on an Anglo-American perspective on the nature of land. In reaching its decision, the court did not consider the rights and interests of the Cheyenne River Sioux Tribe with respect to fossils on its reservation, the special significance of the land and fossils for Native Americans, or the history of encounters between paleontologists and Native Americans. An examination of the Native American perspective on land and fossils and the historical perspective of nineteenth century fossil collecting demonstrates the need to recognize a tribal role in the regulation of paleontological resources on reservation lands.

Tribes that are interested in establishing a tribal regulatory role over these resources might claim regulatory authority on the basis of retained tribal sovereignty and treaty rights. Recent Supreme Court decisions, however, have created uncertainty over the extent of tribal regulatory authority over nonmembers on nonmember land based on retained tribal sovereignty and treaty rights. This ultimately may limit tribes' ability to establish regulatory authority over paleontological resources on reservation lands. It is thus necessary to consider the possibility of congressional legislation that would guarantee Indian tribes a role in the regulation of paleontological resources on reservation land. The significance of the land and fossils in traditional Native American thought and the history of the taking of fossils from tribal lands indicate that it would be appropriate for Congress to guarantee a tribal role in this area, as it has already done with Native American human remains and cultural objects.

Moreover, the history of fossil collecting on tribal lands, both in the nineteenth and twentieth centuries, demonstrates that fossil collecting can be viewed as simply another area in which tribal rights have been disregarded, with the active assistance of the federal government. In the nineteenth century, Native American rights and interests were subordinated to white interests on the "paleontological frontier," much as they were on the frontier in general. Just as the federal government ultimately subordinated Native American rights and interests to the demands of white people who were eager to acquire land and minerals, the federal government subordinated tribal
rights and religious beliefs to the interests of white paleontologists and other scientists. Whether the federal government will address this aspect of the continuing conquest of Native Americans remains an open question.