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ARTICLES

FIRST NATIONS DIGITAL SOVEREIGNTY AND “.FN” ON WEB3

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INTRODUCTION

The overarching objective and vision of creating a new country-code top-level domain (ccTLD),³ such as “.fn”, is one that seeks to enable the First Nations, Native American and Indigenous⁴ peoples throughout the world, to forge a sovereign, autonomous, and inclusive digital presence. This initiative is designed to serve as a crucial gateway to web3 by focusing on preserving cultural heritage, empowering entrepreneurs and local businesses, significantly expanding digital access and advancing digital literacy within First Nations communities. Central to this project is the introduction of the “.fn” ccTLD—short for “dot first nations”—which is similar to extensions such as “.com” or country domains like “.ca” and “.uk.” The “.fn” ccTLD aims to become a definitive symbol and practical tool for Indigenous identity, visibility, and unity in the digital landscape, enabled by the unique architecture of web3. Protecting the intellectual property (IP) of Indigenous peoples is crucial for not only preserving cultural heritage but also promoting economic development. In a world with an increasing online presence, a multi-faceted approach to protection must include leveraging existing legal

³ See *Resources for Country Code Managers*, ICANN, <https://www.icann.org/resources/pages/cctlds-21-2012-02-25-en> (last visited Nov. 9, 2025) (explaining the significance of ccTLDs).

⁴ The terms First Nations, Indian, Native American, and Indigenous are used throughout this paper with awareness of their complex histories and varied meanings. First Nations is most commonly used in Canada to refer to Indigenous peoples who are neither Inuit nor Métis. See, e.g., *First Nations in Canada*, GOVERNMENT OF CANADA, <https://www.rcaanc-cirnac.gc.ca/eng/1307460755710/1536862806124> (last updated May 2, 2017) (illustrating the colloquial use of “First Nations” within Canada). However, Australia also uses the First Nations term to refer to the Aboriginal and Torres Strait Islander peoples. See, e.g., *First Nations Cultures and History*, AUSTRALIAN MUSEUM, <https://australian.museum/learn/first-nations/> (last updated Oct. 27, 2025) (illustrating the colloquial use of “First Nations” within Australia). Within the United States, the term Native American encompasses both American Indian and Alaska Native people. See, e.g., *Teaching & Learning About Native Americans*, NATIONAL MUSEUM OF THE AMERICAN INDIAN, <https://americanindian.si.edu/nk360/faq/did-you-know> (last visited Nov. 9, 2025) (noting the colloquial use of “Native American” in the United States, though acknowledging various preferences). Indigenous is used as an inclusive term referring broadly to the original inhabitants of a place and their descendants. The choice of terminology in this paper follows the sources cited and the preferred usage of the communities being discussed as well as the proposed cyber project “.fn” (dotFN).

frameworks and innovative cyber techniques but be respectful of culture and Tribal sovereignty.

This Article will paint a compelling picture of the pressing need and importance of creating a digital space where creative spirits of First Nations communities around the world can flourish. Authors, artists, musicians, inventors, and entrepreneurs will be fully equipped to showcase their talents while asserting both individual and collective First Nations' identity in cyberspace.

The basic premise and underlying principles of “.fn” are a commitment to the *ius naturale*,⁵ or natural law principles common to all humankind: to respect the autonomy and dignity of the First Nations people and all Indigenous peoples around the world.

“Digital sovereignty is not an abstract matter. It is about whether Indigenous Peoples will be able to safeguard their cultural heritage, assert their rights, and exercise self-determination in the digital era.”⁶

I. DISTINGUISHING PRIVACY AND AUTHENTICITY ON WEB1, WEB2, AND WEB3

Dot FN aims to cultivate a space where authors, artists, musicians, inventors, and entrepreneurs can thrive, showcasing their talents while reinforcing the collective identity of the Indigenous peoples online.

The “.fn” ccTLD is intended to serve as a digital meeting ground, providing avenues for internal communication—such as email and web platforms—under a united Indigenous banner. This digital infrastructure will offer secure, community-governed space for interaction and collaboration, reinforcing social ties and supporting community-driven initiatives. These advanced features will be made possible by launching “.fn” on the new architecture and infrastructure on the new web3.

Two important advantages of launching on web3 are 1) protecting privacy and 2) cyber-enhanced protection against theft of IP and Indigenous rights. In addition, safeguards for the authenticity of art, science and content information. But most importantly, “.fn” will be built on the tech infrastructure designed by Ethereum, the Silicon Valley giant and the world's largest blockchain company.

Let us examine the particularly well-designed features and perfect fit of web3 for the “.fn” project. A comparison of web1 and web2 with

⁵ A principle which originates from Roman Law. *See, e.g.*, Ernst Levy, *Natural Law in the Roman Period*, 2 NAT. L. INST. PROC. 43, 43–72 (1949).

⁶ Professor Sheryl Lightfoot, Address at the University of Notre Dame Law School First Nations' Digital Sovereignty Summit (Sept. 6, 2025).

web3 in the context of the “.fn” initiative might be helpful at this juncture, as analyzed in some more detail below.

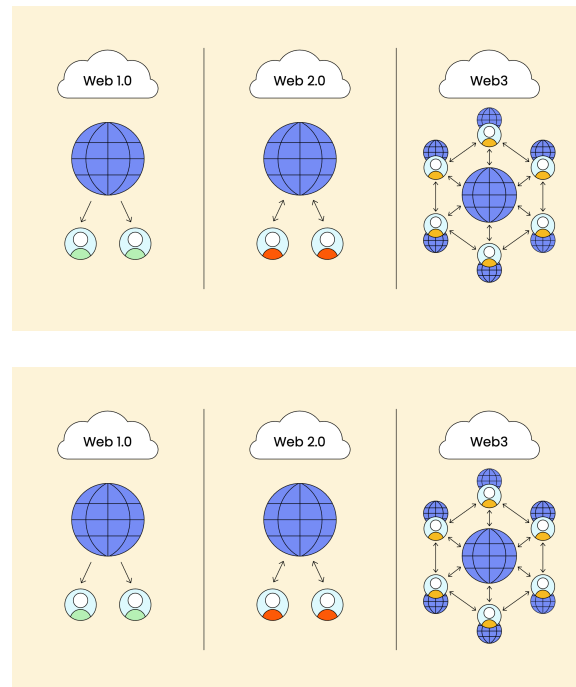


FIGURE 1: A GRAPHIC COMPARISON OF WEB1, WEB2, AND WEB3⁷

A. The Development of Web3 and “.FN”

To appreciate the significant advantages web3 will offer to the “.FN” project, it is helpful to analyze and compare the development of web1 and web2 against the new context of web3.

Society changed forever in 1989 when the World Wide Web—the internet, as it later became known—was launched.⁸ The early age of the internet, known as “web1,” ushered in a new age of information sharing, with most people using the system to research or otherwise browse static websites.⁹ Web1, while a revolutionary tool for long-term data preservation and distribution, was at best a rudimentary system that lacked interactivity between users.¹⁰ The internet transitioned into its “web2” era with the advent of social features such as testimonial and

⁷ *Web3 versus Web 1.0 and Web 2.0*, BRAVE, <https://brave.com/web3/versus-web1-and-web2> (last updated July 17, 2024).

⁸ *Id.*

⁹ *What is Web3?*, MCKINSEY & CO..., (Oct. 10, 2023), <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-web3>.

¹⁰ See *Web3 versus Web 1.0 and Web 2.0*, *supra* note 7.

comment sections on previously static pages.¹¹ Web2 quickly became the internet we know, love, and sometimes hate today. Social features on websites expanded to become entire platforms, launching the age of social media.¹² The draw and infamy of web2, more than anything, was its offering of self-authorship. For the first time, internet users could share their own media with others online.¹³

But the freedom to share and connect also fosters issues with control and privacy.¹⁴ The nexus of these web2-induced issues is the fact that internet users are forced to rely on centralized database operators—governments, and the leading technology and banking companies—to act as the gatekeepers of privacy and authenticity.¹⁵ “While [web2] democratized publishing, Big Tech companies were busy making the Web a dictatorship.”¹⁶ The availability of web2 came at the cost of the users’ control of their data and content.¹⁷ Once users sign up for an account on an internet-based website, users must trust that website operators will safeguard their data.

B. Privacy Issues on Web2

Indigenous peoples have suffered significant and flagrant violations of their privacy in both the physical and digital worlds. In the era of web2, Indigenous peoples often experience no control over their private data, often finding that their private data has been harvested without consent, as illustrated below, often in egregious circumstances.¹⁸ Consequently, for Indigenous peoples, relying on centralized database operators who abuse private data can feel very much like “data colonialism”: a continuation of colonialism in the digital world.¹⁹ “When governments, academic institutions, or other external organizations gather information from Indigenous communities, they can withhold it

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *See id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *See Infra* note Part I.B.1.

¹⁹ Rina Diane Caballar, *How Indigenous Groups Are Leading the Way on Data Privacy*, SCIENTIFIC AMERICAN (June 7, 2023), <https://www.scientificamerican.com/article/how-indigenous-groups-are-leading-the-way-on-data-privacy/>.

or use it for other purposes without the consent of these communities.”²⁰ Despite the misuse of Indigenous information being likely actionable to some extent, the practice has occurred time and again.²¹ Any outside group that provides aid in digital cultural preservation to Indigenous causes²² is treated with caution due to the historical mistreatment of Indigenous peoples. Web3, on the other hand, has built-in safeguards to protect privacy.

1. Violations of Indigenous Data

Data protection is uncertain on web2. For Indigenous peoples, where identity-specific data is significantly intertwined with cultural heritage, a violation of private data means more than a security breach. “Indigenous cultural heritage [] is holistic, meaning it includes physical, emotional, mental, kinship, and spiritual components. [. . .] All are the *belongings* of Indigenous peoples.”²³ Yet, the public is emboldened to hold itself entitled to Indigenous data and cultural heritage. And, the lack of privacy under web2 has played a part in the theft of Indigenous belongings, allowing bad actors to bypass weak security systems with ease.

“Too often Indigenous Peoples have been told . . . they need to contribute their DNA so that it benefits humankind, and unfortunately Indigenous Peoples are the last to benefit . . .”²⁴ Under the guise of legitimate and consensual research, biological matter has been stolen from Indigenous peoples for hidden, secondary research purposes in numerous instances.²⁵ The Nuu-chah-nulth people in Canada and the Havasupai Tribe in the United States have both been victims of DNA

²⁰ *Id.*

²¹ *See Infra* note Part I.B.1.

²² *See* Wend Wendland & Jessyca Van Weelde, *Digitizing Traditional Culture*, WIPO MAGAZINE (June 12, 2008), <https://www.wipo.int/web/wipo-magazine/articles/digitizing-traditional-culture-36286>.

²³ *What is Indigenous Cultural Heritage*, FIRST PEOPLES’ CULTURAL COUNCIL (Nov. 7, 2025), <https://heritage-toolkit.fpcc.ca>.

²⁴ Sandeep Ravindran, *Open With Care: Indigenous researchers and communities are reshaping how Western science thinks about data ownership*, SCIENCE (Oct. 24, 2024), <https://www.science.org/content/article/not-free-all-indigenous-communities-want-limits-how-their-data-are-shared>.

²⁵ *See* Christina M. Pacheo et al., *Moving Forward: Breaking the Cycle of Mistrust Between American Indians and Researchers*, AM. J. PUB. HEALTH (2013); Bailey Ulbricht, *Actualizing Indigenous Data Sovereignty Through Tribal Self-Governance*, 55 NEW MEXICO L. REV. 77 (2025).

misuse.²⁶ In both instances, outside researchers were initially given permission to collect and study DNA for a consented-to purpose, but then used the samples for unrelated studies, and without informed consent.²⁷



FIGURE 2: HEADLINE ON THE EVENTUAL RETURN OF THE NUU-CHAH-NULTH DNA²⁸

Indian Tribe Wins Fight to Limit Research of Its DNA

FIGURE 3: HEADLINE ON THE SETTLEMENT RESULTING FROM THE MISUSE OF HAVASUPAI DNA²⁹

In 2002, as a clear response to the continued abuse of Indigenous DNA by researchers, the Navajo Nation placed a moratorium on genetic research studies in part due to longstanding distrust over genetic exploitation and medical experimentation.³⁰

²⁶ See Ravindran, *supra* note 24.

²⁷ See *id.*

²⁸ See David Wiwchar, *Nuu-chah-nulth Blood Returns to West Coast*, HA-SHILTH-SA (Dec. 16, 2004), <https://dev-www.igb.illinois.edu/sites/default/files/uploads/Wichwar%202004.pdf>.

²⁹ See Amy Harmon, *Indian Tribe Wins Fight to Limit Research of Its DNA*, N.Y. TIMES (Apr. 21, 2010), <https://www.nytimes.com/2010/04/22/us/22dna.html>.

³⁰ See Erin Blakemore, *Why the Navajo Nation Banned Genetic Research*, HISTORY (Nov. 3, 2017), <https://www.history.com/articles/why-the-navajo-nation-banned-genetic-research>. Also of note for the Navajo Nation was recognizing their need for an increased understanding of genetic technology and how Tribal sovereignty and Navajo cultural and religious practice can be to genetic research. See *id.*

Why the Navajo Nation Banned Genetic Research

A 15-year-old ban looks likely to fall, but misgivings will linger.

FIGURE 4: HEADLINE ON THE NAVAJO NATION GENETIC RESEARCH BAN³¹

The same data protection issues are prevalent in the digital world, too. Hackers can do significant damage by targeting Indigenous-specific medical systems. The online databases connected to these medical systems store government-issued identifiers and sensitive medical information under each Indigenous person’s profile.³² When an attack was launched on the First Nations Health Authority in Canada, the data of hundreds of thousands of Indigenous peoples, “any First Nations person with a Certificate of Indian Status card who lived in or recently lived in [British Columbia],” was breached.³³ Such “[p]rivacy-related concerns can prevent equitable participation in health research” for an already underrepresented population.³⁴

Under the weight of the uncertain motives of centralized data harbingers, Indigenous groups are forced to develop their own data protection technologies.³⁵ But, well-meaning Indigenous data protection sites³⁶ in the current state of the internet merely provide a feast for cyber-attacks. By gathering all sensitive data in one location, homegrown data protection sites become a bigger target for hackers.³⁷ One unique feature

³¹ See *id.*

³² See Brenna Owen, *Cyber breach exposed personal data: Indigenous health authority*, THE CANADIAN PRESS (Oct. 7, 2024), <https://www.cbc.ca/news/canada/british-columbia/cyber-breach-first-nations-health-authority-1.7345329>; *Indigenous People, British Columbians and our governments*, BRITISH COLUMBIA, <https://www2.gov.bc.ca/gov/content/governments/indigenous-people> (last visited Nov. 10, 2025).

³³ Owen, *supra* note 32.

³⁴ Riley Taitingfong *et al.*, *A Systematic Literature Review of Native American and Pacific Islanders’ Perspectives on Health Data Privacy in the United States*, 27 J. AM. MED. INFORMATICS ASSOC. 1987 (2020).

³⁵ See Caballar, *supra* note 19.

³⁶ See *Privacy Issues*, INDIGENOUS NAVIGATOR, <https://indigenousnavigator.org/node/270/privacy-issues> (last visited Nov. 10, 2025).

³⁷ See Edward Segal, *Small Businesses Are More Frequent Targets of Cyberattacks Than Larger Companies*, FORBES, <https://www.forbes.com/sites/edwardsegal/2022/03/30/cyber-criminals/> (last

of web2 is the use of “the cloud,” database storage that is accessed through the internet.³⁸ Initially, storage was static and local, limiting the remote accessibility of information.³⁹ The cloud freed up local storage and expanded the overall amount of storage available to users.⁴⁰

Globally, Indigenous culture is, in many ways, founded on oral history and tradition. The Choctaw Nation of Oklahoma, for one, has dedicated time and money to various programs that ensure the preservation of their culture.⁴¹ Indigenous groups are more frequently using the cloud to store this highly endangered cultural data.⁴² For example, before elders pass on, the “first-language pronunciations and oral histories” they carry can be uploaded to the cloud for preservation.⁴³ The Māori developed Āhau, an app that allows users to “record ancestry data, maintain [T]ribal registries and share cultural narratives . . . ,” for this purpose.⁴⁴ But, information stored in the cloud is vulnerable to the same web2 authenticity concerns.⁴⁵ A breach of the cloud can be catastrophic because, often, this data is the last of its kind.⁴⁶ And, Tribal governments only have so much say in how access to their cloud data is authenticated.⁴⁷ Further, Tribal governments can only keep up with threats to the extent that they have the staffing capabilities.⁴⁸ In essence, Tribal governments rely on centralized database operators to maintain the security of their cultural data. Some areas of the world recognize the potentially boundless power that the centralized database operators hold

updated Mar. 24, 2022) (noting that smaller businesses, those with less resources to spend on or dedicate to protection, are more frequent targets of cyberattacks).

³⁸ See Adam Stone, *TribalNet 2025: Native American Tribal Governments Face Cloud Security Challenges*, FEDTECH (Sept. 11, 2025), <https://fedtechmagazine.com/article/2025/09/tribalnet-2025-native-american-tribal-governments-face-cloud-security-challenges>.

³⁹ See Sarah Magozzo, *The Evolution of Data Storage: From Tapes to Cloud Computing*, MONDO, <https://mondo.com/insights/evolution-data-storage-tapes-cloud-computing/> (last visited Nov. 10, 2025).

⁴⁰ See *id.*

⁴¹ See Shelia Kirven, *Choctaw Nation works to preserve the stories of its tribal elders*, BISKINIK, (Feb. 1, 2023), <https://www.choctawnation.com/biskinik/news/choctaw-nation-works-to-preserve-the-stories-of-its-tribal-elders/>.

⁴² See Stone, *supra* note 38.

⁴³ *Id.*

⁴⁴ Caballar, *supra* note 19.

⁴⁵ See Magozzo, *supra* note 39.

⁴⁶ See Stone, *supra* note 38.

⁴⁷ See *id.*

⁴⁸ See *id.*

and cap it by implementing regulatory guidelines.⁴⁹ Yet, “Indigenous peoples are often excluded when . . . discussions of data privacy” take place.⁵⁰ “While this exclusion is occurring, Indigenous communities are suffering from data genocide.”⁵¹ Citizens of the Pawnee Nation of Oklahoma claim that they do not exist within the data.⁵² And, even “if [their] data is there, it is very often not disaggregated in a way that allows for [their] [T]ribal leaders to get the information that they need”⁵³ Omissions of data points attributed to Indigenous peoples greatly skew datasets, and bars Indigenous peoples from crucial knowledge that can help better their communities.⁵⁴

C. Authenticity Issues on Web2

Globally, Indigenous art is big business, however, as artists create jewelry, beadwork, paintings, monuments or installation pieces, the economic footprint and impact is not well understood. This is partially due to the inability to collect reliable data, and this is true even in countries with more advanced legal protections for Native artisans. Within the United States, it is estimated that up to 80 percent of the Indigenous art market is counterfeit.⁵⁵ The infringement of Indigenous IP is particularly problematic in the physical world. For example, jewelry stores, like Gallery 8 and Galleria Azul, in Albuquerque’s Old Town that purported to specialize in the sale of Native American jewelry but were involved in an international conspiracy to sell Filipino-made jewelry as Native American jewelry in violation of the Indian Arts and Crafts Act of

⁴⁹ See *Web3 versus Web 1.0 and Web 2.0*, *supra* note 7.

⁵⁰ Nina-Simone Edwards, *Data Genocide or Just Genocide? A Call for Indigenous Peoples’ Inclusion in Data Privacy Discussions*, GEORGETOWN LAW TECHNOLOGY REVIEW (2023) <https://georgetownlawtechreview.org/data-genocide-or-just-genocide-a-call-for-indigenous-peoples-inclusion-in-data-privacy-discussions/GLTR-12-2023/>.

⁵¹ *Id.*

⁵² See *id.*

⁵³ *Id.*

⁵⁴ See *id.*

⁵⁵ Statement of Sen. Tom Udall, in *Field Hearing Before the S. Committee on Indian Affs.*, 115th Cong., First Session, (7 July 2017).

1990.⁵⁶ This conspiracy included an additional fifteen search warrants executed throughout New Mexico and Southern California.⁵⁷



FIGURE 5: GALLERY 8 IN ALBUQUERQUE, NEW MEXICO⁵⁸

To add insult to injury, in the cyber world, the infringement of IP rights in Indigenous art is exponentially more difficult to understand due to volume, velocity, and virality of online counterfeits and pirated works. The pervasive infringement of Indigenous IP mostly goes unchallenged due to a lack of financial and legal resources by artisans, as well as limited investigative resources. Legal enforcement of IP rights for Indigenous works, on and offline, is an obvious route.⁵⁹ However, sometimes the

⁵⁶ See Pub. L. No. 101-644, 104 Stat. 4662 (1990). In response to growing sales of counterfeit Indian products in the billion-dollar Indian art market, the United States Congress passed the Indian Arts and Crafts Act of 1990. *See id.* The Act is a truth-in-advertising law that authorized the Board to refer complaints of counterfeit Indian Goods to the Federal Bureau of Investigation (FBI) and Department of Interior (DOI). *See id.*

⁵⁷ See Office of Public Affairs, *Three New Mexicans Charged with Fraudulently Selling Filipino-Made Jewelry as Native American-Made*, U.S. DEP'T OF JUSTICE (Oct. 29, 2015), <https://www.justice.gov/archives/opa/pr/three-new-mexicans-charged-fraudulently-selling-filipino-made-jewelry-native-american-made>.

⁵⁸ Galleria Azul Storefront (photograph), *In New Mexico trio charged for violating Indian Arts and Crafts Act*, INDIANZ.COM (Oct. 29, 2015), <https://indianz.com/News/2015/019388.asp>.

⁵⁹ In the United States, the Digital Millennium Copyright Act (DMCA) makes this process easier. *See The Digital Millennium Copyright Act*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/dmca/> (last visited Nov. 8, 2025). Many other countries have similar policies and laws. *See also* Ash Johnson & Daniel Castro, *How Other Countries Have Dealt With Intermediary Liability*, INFORMATION TECHNOLOGY & INNOVATION FOUNDATION (Feb. 22, 2021), <https://itif.org/publications/2021/02/22/how-other-countries-have-dealt-intermediary-liability/>.

solution lies in the smart application of technology. Authentication of original Indigenous art via new authentication technologies is a possible solution.

But, authentication of Indigenous artwork in both the physical and digital space remains challenging. Authentication on web2 involves a username and password system, primarily, with optional precautions like two-factor authentication (2FA) and multi-factor authentication (MFA) becoming increasingly popular.⁶⁰ For instance, blanket, cross-platform authentication means access to one account by an impostor can put any sister accounts in a vulnerable position.⁶¹ Fast forward to web3 authentication technology: the significant advantage of web3 is that it keeps an immutable record of online activity, allowing users to claim identity and concomitant authentication without reliance on centralized database operators.

1. Violations of Cultural Heritage and Indigenous Intellectual Property

Central to many Indigenous communities is the creation of art, with misappropriation and infringements being a constant battle.⁶² Counterfeit products are often mass-produced overseas, sold cheaply, and range from jewelry made in the Philippines to "Navajo" rugs made in Pakistan.⁶³ The prevalence of fakes makes it difficult for consumers to

⁶⁰ See *Navigating Digital Identities: WEB2 and WEB3 Authentication*, EBTECH, https://metabird.io/web_auth (last visited Nov. 9, 2025).

⁶¹ See Justice Levine, *Exploring SSO Security: Benefits and Key Security Challenges*, GUARDIAN DIGITAL (Nov. 16, 2022), <https://guardiandigital.com/resources/blog/how-secure-is-single-sign-on>.

⁶² See, e.g., Joe Dana, *It's a Piece of Native Art From Arizona Except That It's Made in China. Or Pakistan. Or Taiwan. Or...*, 12NEWS, <https://www.12news.com/article/news/regional/native-america/feds-aim-to-fight-counterfeit-native-art-and-crafts/75-25352ce8-4acb-4da4-9aed-b235c2c75e00> (last updated Sep. 28, 2023).

⁶³ See *id.*; see also *Federal Jury in New Mexico Indicts 4 Individuals Linked to International Scheme to Fraudulently Import, Sell Filipino-Made Jewelry as Native American-Made*, U.S. IMMIGRATION AND CUSTOMS ENFORCEMENT, <https://www.ice.gov/news/releases/federal-jury-new-mexico-indicts-4-individuals-linked-international-scheme> (last updated Nov. 18, 2024); Press Release, U.S. Attorney's Office for the Western District of Washington, Two Western Washington Artists Plead Guilty to Illegally Misrepresenting Their Work as "Indian Produced" (Mar. 1, 2023), <https://www.justice.gov/usao-wdwa/pr/two-western-washington-artists-plead-guilty-illegally-misrepresenting-their-work>; Press Release, U.S. Attorney's Office for the Western District of Washington, Man Who Sold Fake Native Art to Seattle Customers Sentenced to Two Years of Probation and 200 Hours of Community Service for Violations of the Indian Arts and Crafts Act (Sep. 27, 2023),

discern authentic items and causes substantial economic harm to Indigenous artists and their communities. These imitations are sold at low prices to tourists looking to take home a unique reminder of their vacation.⁶⁴ Aboriginals, for example, are being forced out of the Australian souvenir market by cheap imitations.⁶⁵



FIGURE 6: AUTHENTIC ABORIGINAL BOOMERANG⁶⁶



FIGURE 7: IMITATION ABORIGINAL BOOMERANGS⁶⁷

<https://www.justice.gov/usao-wdwa/pr/man-who-sold-fake-native-art-seattle-customers-sentenced-two-years-probation-and-200>.

⁶⁴ See Jack Evans, *Fake Aboriginal Art*, ABC NEWS (Sep. 14, 2020), <https://www.abc.net.au/btn/classroom/fake-aboriginal-art/12648450>.

⁶⁵ See *id.*

⁶⁶ *Pigmented, Wooden Boomerang* (photograph), in *Earliest Evidence of the Boomerang in Australia*, NATIONAL MUSEUM AUSTRALIA, <https://www.nma.gov.au/defining-moments/resources/earliest-evidence-of-the-boomerang-in-australia> (last visited Nov. 9, 2025).

⁶⁷ Jennifer Soo, *Boomerangs* (photograph), in Frank Robson, *Dead Heart: The Booming Trade in Fake Indigenous Art*, SYDNEY MORNING HERALD (Dec. 8, 2017), <https://www.smh.com.au/lifestyle/the-booming-trade-in-fake-indigenous-art-20171122-gzqyam.html>.

Indigenous artists face many uphill battles to protect the exclusivity of their cultural heritage. “One of the most significant challenges for many Native artists comes from the inherent exclusivity of their artworks, in part due to limited production numbers.”⁶⁸ “Infringement” of cultural heritage is sometimes punishable, but very rarely.⁶⁹ Thus, infringers who can produce similar, albeit lower quality, copies faster than smaller artists thrive by taking their ideas with ease from digital examples.⁷⁰

When an alleged infringer copies a work related to Indigenous culture, it feels uniquely injurious and painful.⁷¹ For Indigenous peoples that integrate culturally important themes within their works, it is particularly frustrating dealing with intellectual infringements and cultural misappropriation. What imitators and infringers lack is the “cultural competency” to carry the weight of *being* Indigenous.⁷² Instead, insensitive imitators create a sterile version of a previously meaningful work.

⁶⁸ Walter Lamar, *et al.*, *Arts and Crafts Brand Protection – An Indigenous Perspective*, BRAND PROTECTION PROFESSIONAL, <https://bpp.msu.edu/magazine/arts-and-crafts-brand-protection-december2022/> (last visited Nov. 9, 2025).

⁶⁹ *See 2 Artists Have Been Charged With Faking Native American Heritage*, NPR (Dec. 10, 2021), <https://www.npr.org/2021/12/10/1063289291/artists-charged-fake-native-american-heritage>.

⁷⁰ *See* Lamar, *supra* note 68.

⁷¹ *See* Nicole Titihuia Hawkins, *You Can’t Copyright Culture, But Damn I Wish You Could*, SPINOFF (March 20, 2018), <https://thespinoff.co.nz/atea/20-03-2018/you-cant-copyright-culture-but-damn-i-wish-you-could>.

⁷² *See id.*



FIGURE 8: APPROPRIATION OF TRADITIONAL MĀORI TATTOOS⁷³

Both the application of IP and cultural heritage laws (in the limited number of countries where they exist), in an attempt to protect cultural heritage works, are fraught with difficulties. First, “[m]any traditional Indigenous designs are centuries old or were created as a community collaboration and therefore render identification of the artist impossible.”⁷⁴ Second, cultural appropriation is rarely protected under IP laws.⁷⁵ Third, IP protection typically prescribes expiration timelines that do not align with the Indigenous tradition of unlimited protection.⁷⁶ Finally, the high cost of litigation for IP infringement often makes enforcement unattainable for small-time Indigenous artists.⁷⁷

Moreover, as AI progresses, it ingests an increasing amount of data, raising ethical questions about the unauthorized misappropriation caused by generative AI models.⁷⁸ Already, there are reports that images

⁷³ Jean-Paul Gaultier, *French Designer Jean-Paul Gaultier Used Moko Kauae on Models in a 2007 Campaign* (photograph), in *id.*; see also *Tā Moko: Traditional Māori Tattoo*, 100% PURE NEW ZEALAND, <https://www.newzealand.com/us/feature/ta-moko-maori-tattoo/> (last visited Nov. 10, 2025).

⁷⁴ Susan H. Abramovitch, *The (fine) art of copyright protection: Unique Indigenous challenges in visual arts*, GOWLING WLG (Sept. 28, 2021), <https://gowlingwlg.com/en/insights-resources/articles/2021/the-fine-art-of-copyright-protection>.

⁷⁵ See *id.*

⁷⁶ See *id.*; but see, Simona Lavagnini, *ITALY: Cultural Heritage Protection as a Right to the Image*, AIPPI (Nov. 15, 2024), <https://www.aippi.org/news/italy-cultural-heritage-protection-as-a-right-to-the-image/> (detailing the unique Italian rule of perpetual protection for culturally significant items).

⁷⁷ See Abramovitch, *supra* note 74.

⁷⁸ See, e.g., *Using Generative AI*, UNIVERSITY OF ALBERTA, <https://guides.library.ualberta.ca/generative-ai/ethics> (last visited Nov. 8, 2025).

of works labeled as Indigenous art are in fact AI-generated and not true to the style of the culture.⁷⁹ Misconceptions, inaccurate information, and hallucinated data, thanks to AI, will be extremely damaging to the dwindling numbers of Indigenous peoples. When a model is fed information on Indigenous peoples as a whole, without attention to detail or the nuances of different groups, “[t]he result is ‘cultural flattening’ . . . , wherein culture is made to appear more uniform and less diverse.”⁸⁰ Some opponents of AI argue against the use of the models in creating Indigenous art because it “has no Dreaming, it has no kinship, country, or cultural obligations”⁸¹

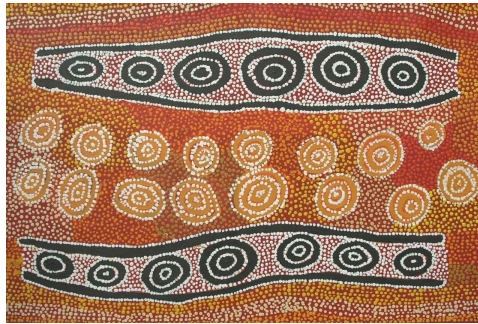


FIGURE 6: AUTHENTIC ABORIGINAL DREAMTIME STORY ART⁸²

⁷⁹ See John McMullan & Glen Stasiuk, *How AI images are ‘flattening’ Indigenous cultures – creating a new form of tech colonialism*, CONVERSATION (March 12, 2025), <https://theconversation.com/how-ai-images-are-flattening-indigenous-cultures-creating-a-new-form-of-tech-colonialism-246972>.

⁸⁰ *Id.*

⁸¹ James Vyver & Tahnee Jash, *Calls to Protect Indigenous Intellectual Property From AI ‘Cultural Theft,’* ABC NEWS (Aug. 22, 2025), <https://www.abc.net.au/news/2025-08-23/calls-to-protect-indigenous-intellectual-property-from-ai-cultur/105680182>.

⁸² Otto Jungarrayi Sims, *Warlu Jukurrpa (Fire Dreaming)* (photograph), in *Aboriginal Dreamtime Stories*, JAPINGKA ABORIGINAL ART, <https://japingkaaboriginalart.com/aboriginal-dreamtime-stories/> (last visited Nov. 9, 2025).



FIGURE 7: AI-GENERATED ABORIGINAL DREAMTIME STORY ART⁸³

In addition, as AI models are trained on data en masse, without accounting for biases, AI often reflects such biases.⁸⁴ “Without safeguards put in place, AI can reinforce harmful biases, exclusion, and lead to further appropriation of Indigenous Peoples’ culture and knowledge without their consent.”⁸⁵ Even with promised potential for language preservation and improved content accessibility, many Indigenous groups do not have the financial ability to take advantage of the benefits of AI.⁸⁶ Instead, Indigenous peoples primarily experience the consequences of increased AI use.

Once in a blue moon, an Indigenous artist will triumph over infringers. But these legal battles are lengthy and exhausting. It took three years for one Coast Salish artist to win what should have been a cut-and-dry copyright infringement case against a gift shop that copied his culturally-based artwork onto souvenirs.⁸⁷

⁸³ ABC News, AI-Generated Image (photograph), in Vyver & Jash, *supra* note 81.

⁸⁴ See Department of Economic and Social Affairs, *Ensuring Indigenous Peoples’ Rights in the Age of AI*, UNITED NATIONS, <https://www.un.org/en/desa/ensuring-indigenous-peoples-rights-age-ai> (last visited Nov. 10, 2025).

⁸⁵ *Id.*

⁸⁶ See *The Digital Shift: What It Means for Indigenous Peoples and the Media*, UNESCO (Aug. 6, 2025), <https://www.unesco.org/en/articles/digital-shift-what-it-means-indigenous-peoples-and-media>.

⁸⁷ See Adam Louis, *Indigenous Art Brand Wins Copyright Lawsuit Against Harrison Business*, WILLIAMS LAKE TRIBUNE (Nov. 17, 2025, 12:17 PM), <https://wltribune.com/2025/11/17/indigenous-art-brand-wins-copyright-lawsuit-against-harrison-business/>. “The Sasquatch . . . is a significant spiritual figure” *Id.* The Sasquatch is particularly important in the Sts’ailes First Nation. See *id.* Harrison Hot Springs, where the infringing souvenir shop is based, exists on Sts’ailes ancestral domain, making the infringement that much more insulting. See *id.*



FIGURE 11: A COMPARISON OF THE COAST SALISH ARTIST'S WORK AND THE INFRINGING COPY⁸⁸

Without more robust authentication methods, internet users are facing an identity crisis. As long as the internet operates in its web2 era, society will continue to be plagued by these seemingly endless privacy and authenticity issues.

* * *

The adoption of the United Nations Declaration on the Rights of Indigenous Peoples Act, provides hope that Indigenous peoples will receive more legal flexibility, “opening the door to Indigenous people creating and enforcing their own laws with respect to cultural knowledge and traditional expressions.”⁸⁹ Expanded legal protections only go so far; in the current state of the internet, Indigenous peoples must rely heavily on enforcement over preemptive protection.

But, a new era of the internet—web3—seeks to solve some of these problems. The art works and intellectual creations of Indigenous artists are provided with a much broader base of smart tech safeguards. Web3 exists at a time of great development for technology such as blockchain, digital assets, and tokens.⁹⁰ At its core, web3 is about user autonomy. Where web2 is centralized, web3 is decentralized.⁹¹ Where authenticity is difficult to verify on web2, the technology available through web3 is

⁸⁸ Native Northwest, Dr. Francis Horne Sr.’s work and the shirt sold at Sasquatch Gifts and Souvenirs (photograph), in Louis, *supra* note 87.

⁸⁹ See Official Records of the General Assembly, Sixty-First Session, Supplement No. 53 (A/61/53), pt. 1, ch. 2, § A (2007).

⁹⁰ See *What is Web3?*, *supra* note 9.

⁹¹ See *Web3 versus Web 1.0 and Web 2.0*, *supra* note 7.

much harder to fool.⁹² Blockchain in the era of web3 takes on the responsibilities of the centralized database operators in the era of web2. With technology that decentralizes and authenticates data, internet users will no longer need to log in to centralized sites, but rather “connect to sites and applications that have some or all of their components hosted on blockchain networks—making them partially or fully decentralized.”⁹³ Web3 technology gives the power back to the user, and sets the stage for a more private and authentic internet experience.

II. THE RESISTANCE TO INDIGENOUS SOVEREIGNTY

Does web3 offer a new possibility of a “digital sovereignty” for Indigenous peoples? Some analysis of the underlying concepts and principles of “sovereignty” in the physical world and the digital world is required to answer this question.

It is trite that Indigenous peoples have faced persistent denials of their sovereign rights in the physical world. In this context, it should be noted that sovereignty is defined as the “supreme or absolute authority over a territory.”⁹⁴ A sovereign state is “a political entity that has complete autonomy and self-determination over its internal and external affairs.”⁹⁵ Within sovereign states, however, sovereignty may be divided among other levels of government.⁹⁶ Naturally, sovereign states are reluctant to relinquish control unless necessary. Thus, recognition by their respective sovereign entities is hard fought for Indigenous peoples.

For example, Native American Tribes federally recognized by the U.S. government operate in a position of dependent sovereignty wherein they are afforded control over their respective reservations and Tribal members, but are ultimately subject to the control of the federal government.⁹⁷ The concept of using what is known as “blood quantum”,

⁹² See *What is Web3?*, *supra* note 9.

⁹³ *An Intro to Blockchain and the Technology That Powers Web3*, BRAVE, <https://brave.com/web3/intro-to-blockchain/> (last updated July 17, 2024).

⁹⁴ *What is Sovereignty?*, COUNCIL ON FOREIGN RELS., <https://education.cfr.org/learn/video/what-sovereignty> (last updated Oct. 26, 2020).

⁹⁵ *Sovereign State*, EBSCO, <https://www.ebsco.com/research-starters/law/sovereign-state> (last visited Nov. 10, 2025).

⁹⁶ The United States has “absolute sovereignty” in the sense that it has complete autonomy within its borders, lower levels of government also have sovereignty to a certain extent. See *Sovereignty*, MILWAUKEE PUB. MUSEUM, <https://www.mpm.edu/content/wirp/ICW-07> (last visited Nov. 9, 2025).

⁹⁷ See *General Principles of Federal Indian Law*, UNIVERSITY OF ALASKA, <https://www.uaf.edu/tribal/academics/112/unit-4/generalprinciplesoffederalindianlaw.php> (last visited Nov. 9, 2025).

or the amount of Tribal affiliation in a person’s ancestry, to determine Tribal enrollment eligibility was introduced in the early 1900s by the U.S. government as a means of both defining and limiting citizenship.⁹⁸ Canada imposed a similar system. While the U.S. federal government may use blood quantum for its own recognition purposes, each Tribe has the legal authority to set its own membership criteria like the use of documentation of a person’s descent from an enrollee on a designated Tribal roll or census records. For instance, the Cherokee use other methods for membership, such as direct descent from a Tribal member listed on historical rolls, rather than a blood quantum requirement.⁹⁹ By imposing the concept of blood quantum onto the Indigenous peoples of North America, the U.S. and Canadian governments effectively limited sovereignty of the Tribes to those citizens whose genes qualified them for Tribal citizenship.¹⁰⁰ The question of Tribal citizenship legitimacy has lingered on the tongues of the U.S. and Canadian governments since their founding.¹⁰¹ This is due to the fact that “Indian”¹⁰² status is more than a term of race but a legally defined term and a political status. Tribes and their citizenry have legal claims to land, water, and resources which

⁹⁸ See *Blood Quantum and Sovereignty: A Guide*, NATIVE GOVERNANCE CENTER, <https://nativegov.org/resources/blood-quantum-and-sovereignty-a-guide/> (last visited Nov. 9, 2025).

⁹⁹ See *Frequently Asked Questions*, CHEROKEE NATION, <https://www.cherokee.org/about-the-nation/frequently-asked-questions/common-questions/?term=&page=2&pageSize=7> (last visited Nov. 9, 2025).

¹⁰⁰ Not every Tribe within the United States uses blood quantum. See *Blood Quantum and Sovereignty: A Guide*, *supra* note 98 (“Today, about 70% of the federally recognized Native nations that share geography with the United States use blood quantum as a metric for citizenship.”).

¹⁰¹ See *A Brief History of Civil Rights in the United States: The Reservation Era (1850 – 1887)*, VERNON E. JORDAN LAW LIBRARY, <https://library.law.howard.edu/civilrightshistory/indigenous/reservation> (last updated Oct. 27, 2025) (detailing U.S. government’s consistent reluctance to relinquish control over Native Americans); Nudrat Karim, *Indigenous Sovereignty in Canada*, THE INDIGENOUS FOUNDATION, <https://www.theindigenousfoundation.org/articles/indigenous-sovereignty> (last visited Nov. 9, 2025) (noting that even the grant of some autonomy over Canadian Tribal land did not also grant sovereignty).

¹⁰² “Indian” is ill-defined by the United States and Canada, yet defined within the laws of both countries to set parameters for the application of Tribal control. See Indian Civil Rights Act of 1968, 25 U.S.C. §§ 1301–1304, 1301(4) (“‘Indian’ means any person who would be subject to the jurisdiction of the United as an Indian . . . if that person were to commit an offense listed in that section in Indian country to which that section applies.”); *About Indian Status*, GOVERNMENT OF CANADA, <https://www.sac-isc.gc.ca/eng/1100100032463/1572459644986> (last visited Nov. 9, 2025) (“Under the *Indian Act*, the precise legal meaning of the term ‘Indian’ refers to First Nations persons who are entitled to registration.” (referencing R.S.C., 1985, c. I-5)).

avaricious non-Indians attempt to have claim over.¹⁰³ To combat this—or to exclude as many Indigenous peoples from their land as possible, critics say—the governments began requiring proof of Tribal affiliation.¹⁰⁴ In 1884, the Bureau of Indian Affairs (BIA), began assigning “blood quantum” using Census data.¹⁰⁵ Each generation would see a half-measure assignment of blood quantum from each parent.¹⁰⁶ Genetically, this is not a sound method of determining blood quantum. With modern technology, scientists have determined that DNA is not distributed in equal halves from each parent, but that slightly more comes from the biological mother.¹⁰⁷ For this reason, many scholars find blood quantum to be a vehicle for the erasure of Native American identity, culture, and, ultimately, land rights.¹⁰⁸ Today, in the United States, the fraction of “Indian blood” a person has is still calculated by tracing their family tree back to the Dawes Rolls.¹⁰⁹ Blood quantum exemplifies just how closely Tribal sovereignty is perpetually tied to decisions of the non-Native Americans. And, not only is the fractional makeup of blood quantum skewed, but the concept of blood quantum as a whole “is not an Indigenous concept.”¹¹⁰ Before 1884, Native communities relied on much softer requirements for Tribal membership, welcoming into the Tribe adoptees and spouses.¹¹¹ Tribes were much more accustomed to a system of belonging and kinship, a duty to fellow Tribal members.¹¹² With hundreds of Tribes on U.S. soil, there is no one way to describe Native American culture.¹¹³ So, why not let Indigenous

¹⁰³ See generally, ALEXANDER TALLCHIEF SKIBINE, *THE TRIBAL RIGHT TO EXCLUDE NON-TRIBAL MEMBERS FROM INDIAN-OWNED LANDS* 4 (2020) (citing illustrative cases).

¹⁰⁴ See, e.g., Maya Harmon, *Blood Quantum and the White Gatekeeping of Native American Identity*, CAL. L. REV.: BLOG (Apr. 2021), <https://www.californialawreview.org/online/blood-quantum-and-the-white-gatekeeping-of-native-american-identity>.

¹⁰⁵ See *Blood Quantum and Sovereignty: A Guide*, *supra* note 98.

¹⁰⁶ See *id.*

¹⁰⁷ See Allison Aubrey, *Weekly Dose of Wonder: Why We Get More Genes From Our Moms*, NPR (June 2, 2023, 4:34 PM), <https://www.npr.org/2023/06/02/1179850142/weekly-dose-of-wonder-why-we-get-more-genes-from-our-moms>.

¹⁰⁸ See *Blood Quantum and Sovereignty: A Guide*, *supra* note 98.

¹⁰⁹ See *id.*

¹¹⁰ *Id.*

¹¹¹ See *id.*

¹¹² See *id.*

¹¹³ There are 574 federally recognized Tribes, and plenty more that are not recognized. See MAINON A. SCHWARTZ, CONGRESSIONAL RESEARCH SERVICE, *THE 574 FEDERALLY RECOGNIZED INDIAN TRIBES IN THE UNITED STATES* 1 (2024); Eilis O’Neill, *Unrecognized*

peoples decide? Genes do not determine cultural understanding, so neither should they be the sole basis for citizenship. As the core of Indigenous culture, Tribal sovereignty should extend to the standard for determining Tribal affiliation.

Even after gaining some semblance of sovereignty, Indigenous peoples have continued to exist as a spectacle, as an “other.” Indigenous groups across the globe have been subjected to egregious experimentation without informed consent.¹¹⁴ A major point of lingering distrust between First Nations peoples and the Canadian government is the alleged testing of tuberculosis vaccines on Indigenous children in the 1930s.¹¹⁵ Lawsuits surrounding medical mistreatment cited horrific

Tribes Struggle Without Federal Aid During Pandemic, NPR (Apr. 17, 2021), <https://www.npr.org/2021/04/17/988123599/unrecognized-tribes-struggle-without-federal-aid-during-pandemic> (“More than 200 tribes do not have federal recognition . . .”).

¹¹⁴ See Katie Dangerfield, *Canada Subjected Indigenous People to ‘Cruel’ Medical Experiments, Lawsuit Claims*, GLOBAL NEWS, <https://globalnews.ca/news/4202373/indigenous-people-medical-experiments-canada-class-action-lawsuit/> (last updated May 11, 2018). In early 2025, Canada signed a settlement for over one billion dollars with those indigenous peoples that had been patients at “Indian hospitals,” and had allegedly been subjected to medical and other abuse. See Kathleen Martens, *Canada Signs \$1B+ Settlement With Survivors of ‘Indian Hospitals’*, APTN NEWS (Mar. 6, 2025), <https://www.aptnnews.ca/national-news/canada-signs-1-b-settlement-with-survivors-of-so-called-indian-hospitals/>; See Tom Blackwell, *Hospital to Pay \$1.7M in Class-Action Settlement After More Than 400 People Tested Positive for Tuberculosis*, NATIONAL POST (Sept. 24, 2014), <https://nationalpost.com/news/canda/hospital-to-pay-1-7m-in-tuberculosis-class-action-settlement-after-more-than-400-people-tested-positive>. Native Americans have faced similar abuse at the hands of American collegiate research institutions. See Kelly Lowenberg, *The Havasupai Case and How to Make Consent Forms Better*, STANFORD LAW SCHOOL: BLOG (Apr. 23, 2010), <https://law.stanford.edu/2010/04/23/the-havasupai-case-and-how-to-make-consent-forms-better/>. In the 1960s and 1970s, Native American women and girls that went into Indian Health Services hospitals for unrelated procedures found themselves forcibly sterilized upon their discharge. See Erin Blakemore, *The Little-Known History of the Forced Sterilization of Native American Women*, JSTOR DAILY (Aug. 25, 2016), <https://daily.jstor.org/the-little-known-history-of-the-forced-sterilization-of-native-american-women/>. These forced sterilizations were the result of widespread beliefs that Native American women lacked the intelligence to follow other birth control methods effectively, and that birth rates among Native Americans were too high. See *id.* Even after the implementation of regulations designed to prevent sterilizations without informed consent, the practice persisted. See *id.*; Jacqueline Agtuca, *et al.*, *Past and Current United States Policies of Forced Sterilizations*, NATIONAL INDIGENOUS WOMEN’S RESOURCE CENTER, <https://www.niwrc.org/restoration-magazine/november-2020/past-and-current-united-states-policies-forced-sterilization> (last visited Nov. 9, 2025).

¹¹⁵ See Bob Webe, *TB Vaccine Tested on Aboriginals, But Living Conditions Not Fixed: Research*, GLOBAL NEWS, <https://globalnews.ca/news/745989/tb-vaccine-tested-on-aboriginals-but-living-conditions-not-fixed-research/> (last updated July 27, 2013); Lauren Pelley, *Mistreated: The Legacy of Segregated Hospitals Haunt*

ramifications, like the removal of a chunk of one victim's lung after extreme experimentation at the Saskatoon Sanatorium in 1955.¹¹⁶ In class action lawsuits, Indigenous plaintiffs have also claimed they "suffered consistent physical and sexual assaults, were deprived of food and drink, force-fed their own vomit and unnecessarily restrained in their beds."¹¹⁷ Claims of medical testing and procedures on Indigenous peoples in residential schools and sanatoriums are, unfortunately, not uncommon.¹¹⁸ Moreover, Indigenous artifacts, art, and remains taken during the various conquests, without permission or in blatant disrespect, hang in museums around the globe, often far from their place of origin.¹¹⁹ The Kennewick man, a well-known archaeological specimen, was determined to be of Native American heritage after genetic testing.¹²⁰ Under the Native American Graves Repatriation Act (NAGPRA), the remains were to be returned to the appropriate Tribe or Tribes.¹²¹ Yet, "a group of scholars sued the federal government . . . to prevent the remains from being returned to the Tribes . . ."¹²² It would take roughly two decades after the Kennewick man's discovery, including over one decade after the discovery of his Native American heritage, for the remains to be put to rest in a Native American burial.¹²³

Indigenous Survivors, CBS NEWS, <https://www.cbc.ca/news2/interactives/sh/jTCWPYgkNH/mistreated/> (last visited Nov. 9, 2025).

¹¹⁶ See Dangerfield, *supra* note 112.

¹¹⁷ *Id.*

¹¹⁸ See *id.*

¹¹⁹ See Peggy Townsend, *Kim TallBear: Protecting Native American DNA and Indigenous Rights*, UC SANTA CRUZ MAG. (Aug. 2022), <https://magazine.ucsc.edu/2022/08/kim-tallbear-protecting-native-american-dna-and-indigenous-rights/>.

¹²⁰ See *The Ancient One, Kennewick Man*, BURKE MUSEUM (Feb. 20, 2017), <https://www.burkemuseum.org/news/ancient-one-kennewick-man>.

¹²¹ See *id.*

¹²² *Id.*

¹²³ See *id.* It should be noted that the Burke Museum, the museum where the skeleton was held, never displayed the remains as an exhibit and did not take part in preventing the return of the remains to the Native American Tribes. See *id.*



FIGURE 8: SKELETAL REMAINS OF THE KENNEWICK MAN¹²⁴

Unfortunately, cultural annihilation and assimilation were so successful that it is frequently difficult to pin down the rightful recipients of such items.¹²⁵ Many U.S. museums have similarly failed to return human remains to their ancestral groups, instead holding on to them for testing and display, claiming that the remains are “too old to determine which Tribes . . . would be the correct ones to repatriate to.”¹²⁶ Yet, in cases where heirs or Tribes *can* be identified, many museums make excuses or outright refusals in response to repeated requests for repatriation.¹²⁷ Such blatant violations and misappropriation of cultural heritage are unreasonable, unacceptable and unconscionable. These stories are echoed by Indigenous peoples across the globe. Under web3, Indigenous peoples can pursue an alternative form of sovereignty. On a more private and authentic version of the internet, cultural data, heritage, art, and, most importantly, identity will be protected from outsiders. Under a new digital standard, Indigenous groups are offered total sovereignty in a way that the physical world cannot.

¹²⁴ See Chip Clark, Smithsonian Institution, *Skeletal Remains* (photographs), in *Kennewick Man to Receive a Native American Burial*, NAT’L GEOGRAPHIC: EDUC. BLOG, <https://blog.education.nationalgeographic.org/2016/04/29/kennewick-man-to-receive-a-native-american-burial/> (last visited Nov. 9, 2025).

¹²⁵ See *Reclaiming Identity: The Repatriation of Native Remains and Culture*, FRIENDS COMM. ON NAT’L LEGIS. (Sept. 14, 2020), <https://www.fcnl.org/updates/2016-09/reclaiming-identity-repatriation-native-remains-and-culture>.

¹²⁶ Logan Jaffe, *et al.*, *America’s Biggest Museums Fail to Return Native American Human Remains*, PROPUBLICA, <https://www.propublica.org/article/repatriation-nagpra-museums-human-remains> (last visited Nov. 9, 2025).

¹²⁷ See *id.*

III. A DIGITAL SPACE FOR INDIGENOUS PEOPLES

With countless unresolved sovereignty issues in the real world, the digital space welcomes autonomy practically without limitation. For Indigenous peoples, autonomy in web3 can be captured under “.fn,” a ccTLD that implements the privacy and authenticity features of web3 technology. Management and allocation of membership on the ccTLD are up to Indigenous peoples. The ccTLD exists to be a sovereign space. It is for this reason that it is important that “.fn” be designated as a ccTLD.

Nearly every country owns at least one top-level domain for its country-specific websites.¹²⁸ Some countries own multiple top-level domains, though this is distinct from their ccTLD.¹²⁹ Interestingly, however, the European Union was afforded the benefit of a ccTLD: “.eu.”¹³⁰ Citizens of countries that are members of the European Union, while diverse in culture, are joined by a certain identity. For those looking to adopt this identity, the “.eu” ccTLD provides an opportunity. The “.eu” ccTLD only “enhances the Union identity and promotes Union values online, such as multilingualism, respect for users’ privacy and security, respect for human rights, as well as specific Union priorities in the digital area.”¹³¹

Moreover, web3 provides the building blocks for autonomy and sovereignty. “When you marry the worlds of web3 and web2 together, you can begin to use domain names as a way of self-sovereign identity.”¹³² As a ccTLD, Indigenous peoples can use “.fn” to operate autonomously in cyberspace. Under web3, Indigenous peoples can play by their own rules. In a permissionless world, “.fn” presents an opportunity for Indigenous peoples to form a system of governance that is essentially global.

¹²⁸ See *Country Domains: A Comprehensive ccTLD List*, IONOS (Dec. 12, 2023), <https://www.ionos.com/digitalguide/domains/domain-extensions/cclds-a-list-of-every-country-domain/>.

¹²⁹ See *Resources for Country Code Managers*, *supra* note 3.

¹³⁰ See *List of Top-Level Domains*, ICANN, <https://www.icann.org/en/contracted-parties/registry-operators/resources/list-of-top-level-domains> (last visited Nov. 9, 2025).

¹³¹ *The Top-Level Domain .eu*, EUROPEAN COMMISSION, <https://digital-strategy.ec.europa.eu/en/policies/eu-top-level-domain> (last updated Oct. 25, 2024).

¹³² Interview with Alex Urbelis, General Counsel & Chief Information Security Officer, Ethereum Name Service Labs Ltd. (Oct. 22, 2025) (recording on file with author).

CONCLUSION

Indigenous peoples today face the constant and tremendous pressure of cultural extinction. Not only have Indigenous peoples often been removed from their homelands, but they also face issues with sovereignty as they exist now. The few boundaries between Indigenous peoples and the borders within which they live create an existence of uncertainty and instability.

Expanding digital capabilities returns privacy and authenticity to the Indigenous peoples. Where web2 connected internet users far beyond web1, it is festering with problems, particularly for Indigenous peoples in respect of the protection of private data, IP, and cultural heritage. In the age of web2, among other issues, users lack control over the use of their personal data and IP, as well as the verification of both. Web3 marries connectivity with increased privacy and authenticity through the use of blockchain and other cutting-edge technologies. Consequently, web3 offers the unique opportunity of individualized autonomy and digital sovereignty.

At this juncture, Indigenous peoples have little to no path for expanded autonomy. After being stripped of their true sovereignty, Indigenous peoples continue to have their remaining individual and collective rights infringed upon. Under web2, sensitive data is too easily accessible, faux Indigenous artwork masquerades as authentic, and Indigenous governing bodies struggle to adapt.

With “.fn” operating under a web3 model of the internet, Indigenous peoples will have access to a space that is wholly their own. “.fn” offers Indigenous autonomy without the controversy surrounding physical sovereignty. Web3 simply carves out a chunk of the new era of a private and authentic internet. Created for Indigenous entrepreneurs, elders, and managers of Indigenous infrastructure systems alike, “.fn” is a compromise that quells the concerns of both advocates for Indigenous sovereignty and opposers.

Adopting and embracing “.fn” empowers Indigenous individuals and communities to create distinct online identities and to share arts, traditions, cultural heritage, and original works on a broader scale in the Indigenous world. The “.fn” ccTLD will encourage entrepreneurship and local business growth, while strengthening the visibility of Indigenous communities and their creative works. Above all, “.fn” will help democratize web access for the Indigenous peoples worldwide.