

Ka Piko Kaulana o ka 'Āina: Additional Context for Understanding the Cultural Significance of Mauna Kea

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“A Hawaiian’s oneness with the living aspect of native phenomena, that is, with spirits and gods and other persons as souls, is not correctly described by the word rapport, and certainly not by such words as sympathy, empathy, abnormal, supernormal or neurotic; mystical or magical. It is not ‘extra-sensory,’ for it is partly of-the-senses and not-of-the-senses. It is just a part of natural consciousness for the normal Hawaiian--a ‘second sense,’ if you will...but it is not ‘sight’ only, or particularly, but covers every phase of sensory and mental consciousness...To comprehend the psyche of our old Hawaiians it is necessary to enlarge the implications of the word ‘relationship’ beyond the limitations of the ‘interpersonal’ or social. The subjective relationships that dominate the Polynesian psyche are with all nature, in its totality, and all its parts[.]”¹

Purpose:

This paper provides a brief overview of the primordial relationship Native Hawaiians share with Mauna Kea and its surrounding environment to illustrate the historic harms that astronomy has imposed on Native Hawaiian people and ‘āina (land). In particular, this paper emphasizes the growing public opposition and encourages further discourse and inquiry into the negative impacts of astronomy on Mauna Kea.

I. Introduction:

In response to the devastating effects of the 1960 tsunami that swept through Hilo, Hawai‘i, the Hawai‘i Island Chamber of Commerce sought new avenues to rebuild the local economy.² Within six years of the Mauna Kea Science Reserve’s genesis, universities and developers collectively erected six telescopes on Mauna Kea despite opposition from the community.³ Hunters, conservationists, and Native Hawaiians organized themselves into coalitions to challenge the rapid development of telescopes on Mauna Kea’s summit.⁴ Community groups raised concerns over the lack of recognition for cultural and religious sites on Mauna Kea, in addition to the cumbersome regulatory process Native Hawaiians must navigate to continue constitutionally protected religious practices on Mauna Kea.⁵

II. Historical Cultural Background:

A. Native Hawaiian Worldviews & Traditions

¹ E.S. CRAIGHILL HANDY AND MARY KAWENA PUKUI, THE POLYNESIAN FAMILY SYSTEM IN KA‘Ū, HAWAI‘I (1998).

² Institute for Astronomy University of Hawai‘i, <https://www.ifa.hawaii.edu/hilo/images/MercTrans/MKhistory.pdf> (last visited Feb. 28, 2018).

³ Senator Kai Kahele, The Future of Mauna Kea at Ka Waiwai Collective (Apr. 11, 2018).

⁴ State of Hawai‘i Auditor, Audit of the Management of Mauna Kea and the Mauna Kea Science Reserve, Report No. 98-615, (Feb. 1998), available at <https://dlnr.hawaii.gov/occl/files/2018/01/Audit-Report-98-6.pdf>

⁵ *Id.* at 23.

A Native Hawai‘i worldview is cyclical; kānaka (Native Hawaiians)⁶ operate in relation to greater natural, environmental cycles.⁷ That is: by caring for the land, the land will in turn care for us.⁸ In fact, this foundational practice and worldview derives from kānaka’s familial relationship to ‘āina as an older sibling.⁹ The holistic praxis that emerges intimately weaves kānaka life cycles (living, reproducing, dying) with natural phenomena.¹⁰ Accordingly, there is a keen understanding of the inherent biological, physical, psychological, and genealogical connections “because we are alertly aware of the dynamic continuity of our relationships. And therefore, recognize that relationships between the animate and inanimate, visible and invisible, human and nature, and between the conscious and sub (un) conscious are inherently indivisible.”¹¹

Our relationship with the environment is absolute; the socio-ecological reality of belonging to and not being separate from our environment is prevalent in the biological, physiological, physical, and genealogical bonds kānaka have forged and continue to perpetuate for centuries. It is this inseparable connection and responsibility that is critical to the perpetuation of kānaka and our environment.

Kānaka come from a highly-skilled oratory tradition; able to retain information verbally through litanies of chants and stories. Passed down from generation to generation, these practices transmit invaluable knowledge and worldviews. Not only is knowledge acquisition mastered in Native Hawaiian oratory practices, a single word in ‘ōlelo Hawai‘i (Hawaiian language) carries multiple nuanced meanings and implicates knowledge beyond a surface-level translation. Further, traditional epithets utilized in oratory practices offer insight built upon generations of practice. The worldviews embedded within these oral traditions and practices cannot be emphasized enough: they embody cultural and religious practices that govern kānaka ways of life and wellbeing. Complete understanding of cultural significance, therefore, is often hidden – accessible only to skilled practitioners.

Over time, however, the transcribed stories and chants became novelties of Hawaiian culture; legends and songs of supernatural phenomena and mythical gods. Chants were often created to mark naturally occurring events, but these stories are rarely synonymized with natural science despite being the equivalent of observational reports.¹²

⁶ This paper uses the term “kānaka” to refer to individuals that can trace their ancestry to people inhabiting the Hawaiian Islands prior to the arrival of Captain Cook in 1778, *regardless* of the arbitrary measure of blood quantum.

⁷ Kekuhikuhipuuone Kealiikanakaoleohaililani et al., *Kīho ‘iho ‘i Kānāwai Restoring Kānāwai for Island Stewardship* 5 (Edith Kanaka‘ole Foundation ed., 2016) [hereinafter *Kīho ‘iho ‘i Kānāwai*].

⁸ MARY KAWENA PUKUI & SAMUEL H. ELBERT, *HAWAIIAN DICTIONARY* (1986). ‘Āina, defined as “land” or “earth,” is also “that which feeds.” See also David Malo, *MO‘OLELO HAWAI‘I*, 36-37 (Nathaniel B. Emerson, trans., 1898) (explaining the difference between “moku” and “‘āina” to emphasize that when humans inhabit a piece of land, a reciprocal relationship emerges.).

⁹ See *The KUMULIPO An Hawaiian Creation Myth*. (Liliuokalani, trans., 1997). See also NOENOE K. SILVA, *THE POWER OF THE STEEL-TIPPED PEN: RECONSTRUCTING NATIVE HAWAIIAN INTELLECTUAL HISTORY* 4 (2017) (highlighting that “aloha ‘āina is a complex concept that includes recognizing that we are an integral part of the ‘āina and the ‘āina is an integral part of us.”); Kekuwa Kikiloi, *REBIRTH OF AN ARCHIPELAGO* 75 (2010) (asserting that “‘āina sustains our identity, continuity, and well-being as a people.”).

¹⁰ *Kīho ‘iho ‘i Kānāwai* at 5.

¹¹ *Id.*

¹² See MARTHA BECKWITH, *THE KUMULIPO: A HAWAIIAN CREATION CHANT* (2000) [hereinafter *KUMULIPO*]. Beckwith defines Kumulipo as “Beginning in deep darkness.”

The Kumulipo is one example of oratory excellence. This two thousand line chant describes the creation of the universe and illustrates that the “interrelationship of all things is an everlasting continuum.”¹³ To this day, the Kumulipo serves as a principal source of information for Native Hawaiians’ genesis and kuleana (responsibility and right) to mālama ‘āina (care for the land).¹⁴ The chant recounts the evolutionary process of the creation of the universe, revealing the conception and birth of each generation. This chant begins with the cosmos and ends with the birth of Ka‘ī‘imamao, an ancestor to King Kalākaua.¹⁵ The Kumulipo was composed for Ka‘ī‘imamao to prove his “divine origin” and chiefly status. Because of this, he could then trace his genealogy through historic predecessors and cosmic forces to the creation of all life, thus imbuing himself and his descendants, including Kalākaua, with sacred power.¹⁶

Mauna Kea’s foremost role in Native Hawaiian genealogies is encapsulated in various mele and mo‘olelo:

Owai la auanei ko lalo la?	<i>Who shall be below?</i>
Owai la, o ka Mauna aia, aia hoi ha.	<i>Who, it shall be the Mountain there indeed</i>
...	...
O hanau ka mauna a Kea,	<i>Born of Kea was the mountain,</i>
...	...
Hanau ka mauna he keiki mauna na Kea,	<i>Born was the mountain, a mountain-son of Kea,</i>
Moe Wakea moe ia Papa,	<i>Wakea mated with Papa,</i>
...	...
Hanau ka mauna he makahiapo kapu na Kea.	<i>The mountain was born, the sacred first-born of Kea.</i>
Oia hoi ha, o ka mauna. Hanau ka mauna	<i>So it is, the mountain. The mountain was born¹⁷</i>

Composed for Kamehameha III, the above mele hānau (birth chant)¹⁸ recounts the creation of Mauna Kea, the first-born mountain son of the gods Papa and Wākea, as proof of his divine origin.¹⁹ Weaving his genealogy into that of Mauna Kea through this mele hānau reaffirms the sanctity of Mauna Kea as the first physical manifestation of Wākea (sky father) and Papa (mother earth), and acknowledges the mountain as kānaka’s first ancestor. These are but

¹³ See KUMULIPO.

¹⁴ KUMULIPO. See also Findings of Fact, Conclusions of Law and Order, Ching v. Board of Land and Natural Resources, Civil No. 14-1-1085-04, p. 24-25 (2018)(Discussing the State of Hawai‘i’s “highest duty to preserve and maintain trust lands”).

¹⁵ ROBERT D. CRAIG, HANDBOOK OF POLYNESIAN MYTHOLOGY 167 (ABC-CLIO eds., 2004) [Hereinafter Craig].

¹⁶ *Id.*; KUMULIPO.

¹⁷ Kepa Maly and Onaona Maly, “Mauna Kea – Ka Piko Kaulana o ka ‘Āina” *A Collection of Native Traditions, Historical Accounts, and Oral History Interviews for: Mauna Kea, the Lands of Ka‘ohe, Humu‘ula and the ‘Āina Mauna on the Island of Hawai‘i* 8 (Kumu Pono Associates, LLC ed., 2005) [Hereinafter Maly].

¹⁸ “Mele hānau” translates to “birth chant.” Ku‘ulei Kanahele, Written testimony in opposition to the construction of the Thirty Meter Telescope (Sep. 16, 2016).

¹⁹ Maly at 8; See also Craig.

two of many examples of how the pilina (connection) to the environment informs k  naka lifestyles and shapes our responsibility to the environment, especially Mauna Kea.

“Mauna Kea” is the shortened form of Mauna a W  kea which means “mountain of W  kea.”²⁰ Standing at 13,796 feet above sea level, the summit of Mauna Kea is the highest mountain on Earth, and is considered a wao akua (place reserved for the gods). K  naka believe that the gods that exist on the summit of Mauna Kea are not ethereal, intangible beings, but the physical embodiments of natural elements that give life: rain, mist, snow, etc.²¹ “Many deities who are embodied as forms of water — *Poli ‘ahu* (snow), *Lilinoe* (mist), *Waiiau* (lake), *Kahoupok  ne* (springs), and storms — reside on and give life to the mountain”²² to this day; their wellbeing is stewarded by k  naka practitioners. Again, this is illustrated in various k  naka oratory traditions. Accordingly, k  naka understand Mauna Kea’s central importance in the hydrologic cycle as the point where clouds gather and begin that cycle for Hawai‘i Island, thus giving life to the land as the first ancestor.²³ This understanding has been verified by generations of keen kilo (observation) and oratory tradition. This holistic contextualization of deities and natural processes denotes the ancestral understanding of Mauna Kea’s importance beyond its spiritual and cultural import.

There are several hundred culturally sensitive sites on Mauna Kea, each significant to traditional and customary practices for which the mountain is a necessary landscape.²⁴ K  naka ascended the summit to collect the sacred waters of Lake Wai‘au, to quarry for adze, and to perform ceremonies. This area was historically important for conducting rituals of universal alignment during solstice and equinox because the summit provides a sweeping 360 degree vantage to track the alignment of celestial bodies and other sites of importance on the earthen plane.

Oratory and written accounts of Mauna Kea reveal that k  naka, commoners and monarchs alike, have made religious pilgrimages to Mauna Kea for hundreds of years despite the historically difficult access to the mountain’s summit. Even then, however, the ascension to the summit was for particular purposes, most often specific religious and cultural practices. Lake Wai‘au, located at the southwestern foot of the summit, is the most sacred water source and is considered a ritualistic landscape.²⁵ Many ‘ohana (families) have made the journey to Lake Wai‘au to deposit ‘iewe (placenta) and the umbilical cords of their newborn children – a highly regarded cultural practice and ritual.²⁶ The slopes and pu‘u (hills) dually serve as the final resting place for iwi k  puna (Native Hawaiian burials)²⁷ As a repository for significant and

²⁰ See Maly. Hawaiian narratives recognize W  kea as the progenitor of both k  naka and ‘  ina. Earth mother, Papa, birthed Mauna a W  kea, the mountain child of W  kea. Ho‘oh  k  kalani, W  kea’s daughter, bore W  kea a stillborn and deformed child, H  loanaka. The pair had a second child, H  loa, the first man. H  loanaka was buried and from him grew the kalo (taro) that sustained H  loa and the Hawaiian descendants to come.

²¹ See Ku‘ulei Kanahele, Written testimony in opposition to the construction of the Thirty Meter Telescope (Sep. 16, 2016) [Hereinafter Ku‘ulei Kanahele].

²² Noe Goodyear-Ka‘  pua, *Protecting Mauna Kea is a Mission Grounded in Tradition*, ZORA BY MEDIUM, Sept. 5, 2019, <https://zora.medium.com/protecting-maunakea-is-a-mission-grounded-in-tradition-38a62df57086> [Hereinafter Goodyear-Ka‘  pua].

²³ See Ku‘ulei Kanahele.

²⁴ See Maly.

²⁵ Ho‘akea, LLC dba Ku‘iwalu, Mauna Kea Comprehensive Management Plan UH Management Areas 1-2 (2009) [Hereinafter Ho‘akea].

²⁶ Maly at 10.

²⁷ Ho‘akea, Areas 1-1.

precious biological matter from the beginning to the end stages of human life, Mauna Kea serves as more than just a mountain; Mauna Kea is revered ‘ohana.

This inherently familial kinship with ‘āina is not reserved solely for kānaka; it is so prevalent across the pae ‘āina (archipelago) that those who are not of Hawaiian ancestry but have birthed, raised, and buried generations of their families in Hawai‘i have acculturated to environmental kinship and developed a familial connection to the environment. It remains difficult, however, for those who have yet to create such a relationship to acknowledge this, or any, familial relationship with our environment. These reciprocal bonds to our environment that comprise Native Hawaiian cosmology are difficult to separate and compartmentalize into the varying disciplines that make up western science.

III. Opposition to Colonialism & the Erasure of Native Culture (Not Western Science)

The well-documented history of Mauna Kea’s mismanagement, while beyond the scope of this white paper, has led to widespread public opposition to the continued use of the sacred summit for astronomy. As early as 1974, then-Governor George Ariyoshi expressed concern for “social pressures” contributing to the uncontrolled development of Mauna Kea.²⁸ This opposition, while certainly in direct response to the proposed Thirty Meter Telescope, reveals larger issues of historical and political injustices. Scientific development on sacred lands such as Mauna Kea perpetuates colonization of Indigenous Peoples, their cultures, and lands, and “is fundamentally indistinguishable from earlier colonization activities.”²⁹ The conflict over Mauna Kea is a culmination of over a century of cultural appropriation, environmental degradation, social injustice, unethical governance, and the wholesale absence of resource stewardship. The use of Mauna Kea’s lands is, thus, inextricably tied to unrelinquished claims of sovereignty and the unique status of Hawai‘i’s public trust lands and any proposed use *must* acknowledge this context.³⁰

A. Resistance to the Thirty Meter Telescope

On April 2, 2015, hundreds of kia‘i blocked construction crews from accessing the proposed Thirty Meter Telescope (“TMT”) site. Thirty-one people were arrested, many of whom were put into handcuffs by fellow kānaka employed as police officers. Four years later, on July 17, 2019, thirty-three kūpuna (elders) were arrested for refusing to move off the Mauna Kea Access Road. In the early morning hours, able-bodied kia‘i chained themselves to the cattle guard and weathered the harsh elements for eleven hours to prevent the movement of heavy machinery to the TMT site.³¹ Later that morning, kūpuna sat in front of the cattle guard, effectively blocking law enforcement from the chained kia‘i and begging the officers to arrest them instead. They wanted to protect the future of those younger kia‘i on the cattle guard from whatever negative implications having a criminal record would cause. When one kupuna was

²⁸ See Mauna Kea, OFFICE OF HAWAIIAN AFFAIRS, <https://www.oha.org/maunakea/>.

²⁹ Leandra Swanner, *Instruments of Science or Conquest? Neocolonialism and Modern American Astronomy*, 47 HISTORICAL STUDIES IN THE NATURAL SCI. 293 (2017).

³⁰ See e.g., Joint Resolution To Acknowledge the 100th Anniversary of the January 17, 1893 Overthrow of the Kingdom of Hawaii, and to Offer an Apology to Native Hawaiians on Behalf of the United States for the Overthrow of the Kingdom of Hawaii, Pub. L. No. 103-150, 107 Stat. 1510 (1993).

³¹ ‘OUR LAST STAND’: Hundreds of TMT protesters block Maunakea Access Road, HAWAII TRIBUNE HERALD, Jul. 16, 2019.

arrested, another took his/her place in the line. A line of women next rose to offer themselves; many of whom “have for years been leading seasonal ceremonies on Maunakea to honor these [woman gods] and other deities on the mountain.”³² That same day, Governor David Ige signed an emergency proclamation, allocating state and county funds and officers to respond to the thousands of kia‘i who gathered at the base of Mauna Kea in kapu aloha (code of conduct grounded in non-violent resistance and aloha). Given that kia‘i have engaged only in non-violent civil disobedience, many felt Governor Ige’s action was unjustified and represented an unnecessary escalation of force against Native Hawaiian practitioners.

By choosing to protect Mauna Kea, the primordial ancestor, these kia‘i are risking job security, financial strain, time away from family, physical health in high altitude, mental and emotional health, and more. As an alternative, a number of k  naka choose to participate in the process as legal observers in an effort to provide another kind of support to fellow k  naka on the frontline. Some of these legal observers have become so traumatized from witnessing up close and personal the recent arrests that they were unable to return to those positions as legal observers. When it is so blatantly clear that k  naka oppose further development of Mauna Kea, it becomes just as obvious that a compromise to allow further astronomy development on Mauna Kea is not a viable solution.

In addition to k  naka kia‘i, many scientists have joined the opposition to the criminalization of protestors,³³ instituting calls to action for ethics,³⁴ and self-reflection of “colonial science.”³⁵ While few dispute that Mauna Kea is the absolute, ideal place for cutting-edge astronomy, many are beginning to consider and value the continuing negative effects on Hawai‘i’s    ina, people, and communities. “Science is inherently responsive to society. Obtaining patient consent for medical research might slow progress, but no one suggests we return to the days when vulnerable people were experimented on without their permission.”³⁶

Finally, the ongoing controversy at Mauna Kea has prompted scholars from a range of disciplines, from law³⁷ to political science³⁸ to physics, to raise their voices in opposition to the desecration of our living Hawaiian culture.

B. Specific Issues in Evaluating the Impact of Astronomy on Mauna Kea

Though Hawai‘i’s administrative and judicial bodies have given TMT a proverbial green light, there are a number of unresolved and nuanced issues that require more discussion;

³² Noe Goodyear- Ka   pua, *Protecting Mauna Kea is a Mission Grounded in Tradition*, September 5, 2019, <https://zora.medium.com/protecting-maunakea-is-a-mission-grounded-in-tradition-38a62df57086>.

³³ [Open letter to the astronomy community opposing criminalization of Maunakea protectors](#)
Signed by over 1,000 members of the scientific community

³⁴ See e.g., Rosie Alegado, Telescope opponents fight the process, not science, <https://www.nature.com/articles/d41586-019-02304-1>.

³⁵ See e.g., Keolu Fox and Chanda Prescod-Weinstein, *The Fight for Mauna Kea Is a Fight Against Colonial Science*, THE NATION, July 24, 2019.

³⁶ See e.g., Rosie Alegado, *Telescope opponents fight the process, not science*, NATURE, July 26, 2019, <https://www.nature.com/articles/d41586-019-02304-1>.

³⁷ See e.g., Charles Lawrence and Mari Matsuda, *Civil Disobedience has Changed the Law*, STAR ADVERTISER, Aug. 18, 2019, <https://www.staradvertiser.com/2019/08/18/editorial/island-voices/civil-disobedience-has-changed-the-law/>.

³⁸ See e.g., Goodyear-Ka   pua.

specifically, those around how these bodies characterized Hawaiian cultural practices at Mauna Kea. It is critically important to highlight that both the Hawai‘i Supreme Court and Board of Land and Natural Resources (BLNR) decisions allowing construction to proceed did so by unduly narrowing the scope of cultural practices in a way that is inconsistent with Hawai‘i law. The Hawai‘i Supreme Court majority opinion undermined established Native Hawaiian rights law in two ways: (1) by suggesting that Hawaiian cultural practices are stuck in the past, and (2) by artificially limiting a court or agency’s required analysis of impacts on Native Hawaiian rights to a specific project site, which disregards any and all broader impacts beyond a project footprint.

Though the Hawai‘i Supreme Court started off its 2018 majority decision describing the cultural significance of Mauna Kea in beautiful, and even poetic terms, the final sentence of this paragraph is problematic:

The summit of Mauna Kea is thought to touch the sky in a unique and important way, as a piko (navel) by which connections to the ancestors are made known to them, or as the piko ho‘okahi (the single navel), which ensures spiritual and genealogical connections, and the rights to the regenerative powers of all that is Hawai‘i. The large number of shrines on Mauna Kea indicate that there was a pattern of pilgrimage, ‘a walk upward and backward in time to cosmological origins,’ to worship the snow goddess Poli‘ahu and other akua such as Kūkahau, Līlīnoe, and Waiau. As discussed later, various Native Hawaiian traditional and customary practices are *derived from* these beliefs, which have also led to *related contemporary cultural practices*.³⁹

Framing today’s “contemporary” practices as “derived” from beliefs about the sanctity of Mauna Kea suggests an artificial and oppressive distinction between “traditional” (i.e., valid) versus “contemporary” (i.e., invalid) practices, contrary to legal and cultural understandings that Hawaiian cultural practices must evolve in contemporary times to support a living culture. Although Hawai‘i case law establishes that practitioners must demonstrate that a particular practice existed prior to 1892, this does not mean that traditional and customary rights are frozen in time and cannot take on new forms.⁴⁰ Indeed, in the Declaration on the Rights of Indigenous Peoples, the United Nations affirmed that Native peoples retain the right to “practice and revitalize their cultural traditions and customs[,] . . . includ[ing] the right to maintain, protect and develop the past, present and future manifestations of their cultures.”⁴¹

The majority opinion also damages Native Hawaiian rights by accepting BLNR’s inaccurate finding of “no evidence . . . of Native Hawaiian cultural resources or [traditional & customary] practices, *within the TMT Observatory site and the Access Way, which it*

³⁹ *Mauna Kea II*, 143 Hawai‘i at 385, 431 P.3d at 758.

⁴⁰ See A. U‘ilani Tanigawa Lum, *Accessing Traditional Kīpuka: Protecting the Storehouse of Knowledge Through the Rule of Law*, 20:2 ASIAN PAC. L. & POL’Y J. (2019) (discussing the dynamic nature of Hawaiian practices as a part of the need to extend protections for Native Hawaiian traditional and customary practices) [Hereinafter *Accessing Traditional Kīpuka*].

⁴¹ United Nations Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007).

characterized as the relevant area.”⁴² Substantial evidence indicates affected cultural resources, practices, and rights not just at or near the TMT project site, but throughout the summit region. This drawing of arbitrary boundaries comes out of nowhere, as there is no legal authority suggesting that analysis of impacts to cultural practices can be limited to a specific project site. In concluding, without rationale, that the two ahu (shrines) built on the Access Way in 2015 did not constitute a “legitimate” cultural right or practice, BLNR characterized Native Hawaiians as “relics of the past . . . mere vestiges of a quickly fading and increasingly irrelevant past.”⁴³

In addition to the false dichotomy of modern versus traditional practices, the validity of Native Hawaiian knowledge and practices are often questioned and undermined. As explained briefly above, the oral traditions of kānaka control the ways in which kānaka interact with ‘āina. “Against the well-established tenets of western property law, the customary rights of a largely oral-based society to undefined and dynamic ‘subsistence, cultural and religious’ practices often suffers or is entirely disregarded.”⁴⁴

IV. Recommendations

As an extension of the greater astronomy community, the TMT project and the hewa (wrongdoings) that surround it exacerbates astronomy’s negative reputation in Hawai‘i. This negative association has contributed to the inaccurate narrative that Native Hawaiians are against astronomy and science as a whole. Moreover, it has aggravated the already palpable distrust between kānaka and State agents managing Mauna Kea (the University of Hawai‘i and BLNR); and, as a result, the astronomy community gets caught in the crossfire.

Thirteen telescopes commandeered by foreign interests currently stand on the summit of what is an undeniably sacrosanct landscape to Native Hawaiians, whose pleas for ending desecration have consistently been met with increased development, violence, and criminalization. Given the importance of Mauna Kea to the field of astronomy over the past forty years, it is imperative that the astronomy community truly understand what Mauna Kea means to kānaka and the devastating effects the economic and physical impacts astronomy continue to have on kānaka, our land, our resources, and our culture. The true cost of developing Mauna Kea for astronomy is the emotional, physical, psychological, and financial hardships that kānaka are forced to endure.

Some recommendations include:

1. Immediately cease all funding for the TMT’s construction on Mauna Kea
2. Institute a moratorium on any future astronomy on Mauna Kea indefinitely; or, until a consensus on how best to move forward with the stewardship of Mauna Kea is reached between the State of Hawai‘i and a diverse community of kānaka, including cultural knowledge holders.
3. Require the State of Hawai‘i to engage in restorative justice efforts with kānaka to operationalize Hawai‘i’s constitutional and statutory protections for Native Hawaiian practices and lands, including further inquiry and in-depth engagement with kānaka. To

⁴² *Mauna Kea II*, 143 Hawai‘i at 396, 431 P.3d at 769 (emphasis added).

⁴³ Noelani Goodyear-Ka‘ōpua, “Protectors of the Future, not Protestors of the Past: Indigenous Pacific Activism and Mauna a Wākea,” *The South Atlantic Quarterly* 116, no.1 (2017): 184.

⁴⁴ Accessing Traditional Kīpuka at 91.

this end, this paper has endeavored to include a number of resources for further research and discussion (via citation and reference).