

Mauna Kea and the work of the Imiloa Center

Steve Miller

Departments of Science and Technology Studies/Physics and Astronomy, University College London, Gower Street, London WC1E 6BT, UK

Abstract

This paper will review the work of the Imiloa Astronomy Center in Hilo, Hawaii, in the light of controversies about the status of Mauna Kea, and Hawaii's post-contact history of cultural encounters and (mis-)understandings.

1. The Imiloa Astronomy Center

The Big Island of Hawaii in the middle of the Pacific Ocean is home to one of the world's two major astronomical observatories, the Mauna Kea Observatory (MKO). At an altitude of 4,200 metres above sea level, its telescopes sit atop the largest mountain on Earth. The first telescope on Mauna Kea, the University of Hawaii 88", opened in 1970. Until recently, however, visitors to Hawaii would have found little to indicate the importance of the island to astronomers internationally, let alone to celebrate its achievements.



The Imiloa Astronomy Center and its gardens

The Imiloa Astronomy Center in Hilo opened in 2006, after much hard fundraising by the State's veteran Senator, Daniel Inoue. From its inception, however, the Imiloa Center was conceived of, and developed as, much more than a standard astronomy centre, complete with exhibits, images and a planetarium. Imiloa's function was to unify the traditional seafaring culture of the Polynesian settlers, who crossed the Pacific some time in the early centuries AD, and their understandings and

stories of the cosmos with the latest results from modern astronomy. Quite a challenge!

2. Some historical background

In 1959, the British science politician and novelist C.P. Snow drew attention to what he saw as growing gulf between the "traditional, mainly literary" culture, and the upcoming scientific enterprise [1]. Whilst much of Snow's thesis was based on his experience of the UK, he saw it as a problem affecting "the whole of Western society", with major implications for the developing, as well as the developed, worlds. Snow saw the problem as one of misunderstanding leading to growing hostility.



The Death of Cook, by George Carter

The history of Hawaii, viewed from the standpoint of Europeans/Americans starts with just such a cultural misunderstanding. When Captain James Cook arrived for the second time in the islands, in 1779, he had been identified in Hawaiian eyes with the god Lono [2]. Very nice for Cook, but when he behaved out of keeping with what was expected from Lono, he set in train a series of events that were to lead to his death on the shore of Kealakekua Bay.

Over the two centuries that followed Cook's death, Hawaii faced immigrations from Europeans and Americans that eventually led to the decimation of the native Polynesian population, the annexation of the territory, and finally its incorporation into the United States as the 50th State in 1959. Alongside this, native Hawaiian traditions were marginalized, at best, and discriminated against, at worst. But since statehood, Hawaiian traditional culture and activities have seen a resurgence: the founding of the Merrie Monarch Hula Festival in 1964; the voyage of the Hokulea to Tahiti in 1976.

3. Mauna Kea – sacred or profane?

When the decisions were being taken in the 1960s and 1970s to establish the Mauna Kea Observatory, decision-making powers were, effectively, shared between the State of Hawaii and the Institute of Astronomy, University of Hawaii, Honolulu, on the island of Oahu. Little attention was paid to claims by native Hawaiians that Mauna Kea was a sacred mountain, and visiting it was to pay homage to your "kupuna" (elder). But the mountain is contested.

In November 2004, Mauna Kea Anaina Hou and the Royal Order of Kamehameha I joined forces with environmental activists in the Sierra Club to file an appeal against plans by the Keck telescope to build six outrigger telescopes. In 2006, the judgement came through: in the absence of a full environmental management plan for the summit, Keck could not go ahead. In 2009, however, objections to siting the 30-meter telescope on Mauna Kea were turned down.

4. The work of the Imiloa Center

In many ways, the Imiloa Astronomy Center sets out to bridge the cultural gulfs that have arisen in Hawaii, instilling pride in both the advances made by modern astronomy and the achievements of Polynesian traditions and understandings. Entry to all parts of the Center takes you down a "corridor" replete with images and comments in English and Hawaiian, and through a show demonstrating traditional creation and classification stories of the origin of species.

Galleries sponsored by the telescopes that make up MKO give visitors a clear understanding of the work of the observatory and the scientific advances to which it has contributed. Hands-on exhibits

make understanding the principles of the Solar System easy and fun to grasp. A taxi takes you for a ride through the galaxy, and you can bake a universe in a cosmic kitchen.



Imiloa gallery exhibits

For the original settlers of the islands to come to Hawaii meant voyaging across thousands of kilometers of empty ocean on sturdy sailing canoes, crossing the equator, with no certainty of landfall. Alongside the astronomy exhibits are galleries devoted to Polynesian navigation and navigators, and their use of the traditional and personalized star-charts, to augment their deep understandings of currents, winds and bird flight.

And bringing these two together is the introductory planetarium show "Mauna Kea: between Earth and Sky". Quite deliberately, this show makes use of the voyage of the Polynesians, their myths of gods and mountains, and the Kumulipo traditional creation chant to lead viewers into the work of MKO. Two cultures do not *have* to divide.

5. References

- [1] C.P. Snow (1959): *The Two Cultures*, Canto Cambridge, 2000.
- [2] Marshall Sahlins: *How Natives think: about Captain Cook*, for example, University of Chicago Press, 1995.