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Education and Background:

My Hawaiian `ohana comes from three main groups who were in Kohala, Hawai`i; Makua and Kahana, O`ahu; and Ka`anapali, Maui. If we follow my maternal line, we can trace back to Mele Makini (4th great tutu) who was related to Kalakaua and Liliuokalani. Coincidentally, she married the Chinese entrepreneur and businessman Hu Pak Sing, who for a time owned one of the sugar mills on Hawai`i, owned the ahupua`a containing Kahana valley, and was the first association president of the Manoa Chinese Cemetery. As an astrophysicist who specializes in cosmology, this connection to the Kalakaua line afforded to me through tutu Mele, connects me to the Kumulipo and therefore back to the Big Bang! So for me, using the TMT which will allow us to look back in time as far as possible, is in the Hawaiian sense, literally investigating my ancestors.

When I graduated from St. Louis High School, there were two things I wanted to do – play football and study theoretical general relativity – the physics that Einstein invented. I knew that I would have to say goodbye to Hawai`i as there was no option to do both here at the level I wanted. I went to the University of Notre Dame to accomplish both those goals.

I graduated with a BS in physics and a few broken fingers. Notre Dame won two national championships in football while I was there (no thanks to me). Next, I applied to the graduate program at the University of Pittsburgh where one of the true geniuses of Relativity (Professor Ezra “Ted” Newman) was a faculty member. He advised me that since I was a Hawaiian, perhaps I could shift my interests slightly to astrophysics and physical cosmology. He knew that new telescopes were being built on Maunakea and thought that this might give me the chance to go back home. He also confided in me that if he were just starting out in physics, as I was, he would do exactly this. Ted is one of the smartest men I have ever met – so of course I took his advice.

After earning my PhD in physics, I began applying for jobs back home in Hawai`i. The Institute for Astronomy was moving along and becoming one of the best astronomy institutes in the world – this meant that I would have to do pretty well also in order to be considered for any jobs back home. There were six telescopes on Maunakea at that time and one of them (the James Clerk Maxwell Telescope – JCMT) was the only telescope in the world which could answer a problem in extragalactic astrophysics that I was interested in. Access to telescopes on Maunakea depends on your affiliation. If you are a member of an institute which has guaranteed time, you may apply for that time. You will, of course, have to beat the competition by having a highly rated observing proposal.

I didn't get either of the jobs I applied for in Hawai`i back then, but I was hired as an Institute Postdoc at the University of Groningen in the Netherlands. What was originally supposed to be only a 2 year job turned into a permanent position which I left after 8 years. During those years, I unsuccessfully applied for jobs in Hawai`i many, many times. As the years went by, my record of my work and experience, papers published, etc. got better and better.

Fortunately, the Netherlands is one of the partner countries in the UK telescopes on Maunakea which meant that I could also apply for time for those telescopes. I used to joke that I had to go almost to the other side of the Earth in order to be able to use the telescopes in Hawai'i because the competition for telescope time was so tough. Since coming home to the IfA, the competition has gotten much less. I only have to compete with the 40 plus astronomers here for telescope time – instead of the thousands in the rest of the world. Every second of time on Maunakea is used and I find it almost laughable when I hear people say that we don't use the time allocated for us. If they only knew how precious telescope time is on Maunakea (with typical oversubscription factors of five to ten – meaning that as many as ten different projects are applying for the same time on the telescope that you are).

Hawaiian Cultural Practices and Mauna Kea

My first professional visit to Maunakea happened in 1987 as I started the project with the JCMT – which lasted six years. There were no cultural practices being followed on the mountain at that time. At that time few people other than astronomers and support crews, ascended above the Hale Pohaku level. Nowadays, there are many visitors and it seems anyone older than 15 with a 4 wheel drive vehicle can visit the summit.

In 1988 I began my own research on cultural significance of Maunakea, talking with my Tutu and other elders (including GTE workers who spent many hours at the high altitudes on Mauna Loa and Maunakea). From those sources, I learned some of the stories of the mountain and the special relationship of Poliahu and her sisters. I even published a paper in 1993 describing our astronomy project and the goddesses of the snow mantles. During those years, I talked to as many elders as I could find and read as much of the published materials on Maunakea that I could get my hands on. My Tutu was especially helpful as she pointed out good places to start and corrected me when I went astray.

I learned that Maunakea was a special place, to be treated with all due respect. Most of the old Hawaiians I spoke with were concerned that the place remain open to hunters who helped control the populations of wild pua`a and goats. The only other cultural activities were concerned with Lake Waiau. There were no “sightline” ceremonies, no equinox celebrations, and with the exception of the treatment of piko in Waiau, no cultural practices at all. The reason is that it is just too hard to get to the summit! No one would want to endure all the hardship necessary to get to the summit for a ceremony which could be better done at lower elevation. It is only thanks to the access road being built, that these other ceremonial events happen at all.

How sacred is Maunakea? How important is it to the Hawaiian people? These are questions which must be answered by each Hawaiian, but my answer is simple. My auntie Momi Mo`okini Lum is the kahuna nui of the Mo`okini luakini heiau in Kohala and I consider that heiau to be more important than the summit of Maunakea to our people. In fact, I can point to many other places which I consider to be much more important than Maunakea.

Maunakea is not mentioned in the Kumulipo – contrary to some popular misconception. This can be easily checked by looking at any of the versions of the Kumulipo (two of which are on line and searchable).

As a people, we are extremely proud of our multilingual, educated past. We were one of the most literate countries in the world for the approximate century that the Hawaiian Kingdom existed. At the time of the overthrow, many Hawaiian language newspapers and magazines had been in existence for decades and were available to the general public. Thankfully many were saved by the Bishop Museum, Mission House Museum, and others. These volumes of written history have recently been digitized and made searchable with modern computer technology by various groups.

Every effort that I am familiar with, to search these large repositories of knowledge, have found **no** mention of Mauna o Wakea. In fact, only passing mention of Mauna Kea in a handful of articles usually describing a visit by a dignitary to the summit, have been found in all the hundreds of written texts. The stories often highlight the difficulties involved in travel by horseback – no mention of the sacredness of the mountain can be found! This lack of historical support for the “sacredness” of the mountain is in direct contradiction to the claims of the protesters.

I believe Maunakea is a sacred place, but not so sacred that it cannot be used for the betterment of our people. The old Hawaiians had ways of removing Kapu on things if the people could benefit from those rules being removed. For example, some Ali`i were so sacred, that the normal person could not even talk to them without incurring a penalty of death. The Hawaiian’s solution was to invoke an oli which removed the penalties temporarily, thus allowing the ruler to converse with his or her subjects. The restrictive rule was set aside for the benefit of the people.

Now, allowing astronomy on Maunakea is definitely one of those things which brings benefits to Hawaiians. It provides proven economic benefit to Hawai`i. It diversifies the economy so we do not have to rely on the economic vagaries of tourism. It instills pride, fosters educational benefits, and provides a source of income in a clean green field.

If the TMT comes to Maunakea, it will guarantee that Hawai`i is the leader in world astronomy for the next thirty or so years. We will be able to attract the best young scientists and continue our programs of outreach and teaching which are doing so well. It takes more than 10 years of post-high school education to get to the astronomer level (and a few years beyond that to be competitive in the field of astronomy), but we can continue to “grow our own” and literally take over astronomy in Hawai`i.

I find this very appealing since I know that the defining characteristic of a Hawaiian is astronomy. Our mastery of astronomy, and its application – long distance voyaging – is the one thing that separates us Hawaiians from our other Polynesian brothers. It represents coming full circle from being masters of astronomy in the past to being the masters of astronomy in the future. I seriously urge all parties involved to support astronomy in general and the TMT in particular in order to allow our children to have a future which is really very much in keeping with our most important Hawaiian cultural traditions. Let’s take astronomy back!!!