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For a decade now, we have both wanted to highlight local Indigenous ways of appreciating and understanding celestial phenomena and the night sky. Fortunately, with a group of other colleagues and students, we were able to combine the resources of the Manfred Olson Planetarium and the Electa Quinney Institute for American Indian Education (EQI), both at the University of Wisconsin-Milwaukee. As a result, our group has built a relationship that is fruitful for all parties concerned: the UWM Planetarium, EQI, students, and the broader community.

Last spring our group produced *Indigenous Voices: Sharing the Wisconsin Sky,* which was attended by 850 people. We hope the program will reach even more through school programs. This production has had some great outcomes, the most amazing of which was that many Native students became engaged with the project, which helped them feel a stronger connection to their language and culture.

The show reminded all visitors that we share one sky. Although we were highlighting American Indian people in Wisconsin,

we think that many of the lessons we learned would be useful anywhere in the world. We describe our experiences here to encourage other planetarians to reach out to native, or under-represented, communities so together they can highlight sky-Earth connections that are not celebrated broadly.

### Starting

Think about your goals: What outcomes are you looking for? For example, do you want live program(s) with guest speakers in the planetarium, or a stand-alone record-

Facing page: Detail from the Indigenous Voice program, credit: UWM Planetarium/Nathaniel Schardin. This page, top: the four main contributors, from left: Nathaniel Schardin, Dr. Jean Creighton, Dr. Margaret Noodin, and Dr. Bernard Perley. Credit: UWM Photo/Troye Fox Bottom: Stockbridge-Munsee-Mohican community members: Dr. Jolene Bowman, Jamie Sparks, Nathalee Kristiansen, Patsy Delgado, Elizabeth Delgado, and Jennifer Sparks; used with permission.

ed program for your planetarium or another venue such as a library or classroom?

Think about your resources: expertise, space, audiences, funds, publicity.

Think about intended audience(s): children, adults, senior citizens, general audiences. What do you hope to accomplish?

Planetarium Director Dr. Jean Creighton wanted live presentations in the UWM Planetarium. For the short term, she wanted to try a few 30-minute midday programs; for the long term, she envisioned a series of live 60-minute evening performances that would highlight the Nations of Wisconsin.

Dr. Margaret Noodin, director of EQI, wanted to continue the work of linguistic and cultural revitalization. She and Dr. Bernard Perley, professor in the UWM anthropology department, frequently look for projects that can help native and non-native students and scholars understand Indigenous and ongoing connections to the land.

Together our team engaged in a project that could be viewed as a form of reconciliation between Indigenous peoples and the settler society that surrounds their nations. This work can benefit everyone as communities and entire countries move together into a future where land, water and the night sky need the stewardship of many people.

# Reach out to people in your immediate community

Ask if colleagues at your work place (e.g., university, school, museum) or neighbors in your area would be interested in building a coalition that connects Indigenous cultures with the stars; they will be your links with the broader Indigenous community.

If possible, seek out Indigenous faculty who teach courses in Native American and Indigenous Studies<sup>1</sup>. In our case, Creighton reached out to Noodin and Perley. Both respond-

1 You can also contact Indigenous student support offices to get more information about tribes whose students attend local universities and colleges.



ed enthusiastically with a real interest in the night sky.

Noodin had once taken part in a similar project with the planetarium at the Natural History Museum at the University of Michigan, and both Noodin and Perley had recently worked on a digital humanities project that communicated appreciation for the cosmos by combining Perley's art and Ojibwe language lessons (http://ojibwe.net/projects/prayers-teachings/landbody-conference/).

Creighton also was lucky to find Michael Zimmerman Jr., who incorporates study of the cosmos into his elementary and middle school Ojibwe classes and is well versed in the local star stories of several Nations. This core group was a great way to build an alliance across our campus.

If you cannot find interested partners immediately, attend events in your vicinity such as a Pow Wow or a Native art exhibition in order to meet people. If people do not

respond to email, visit them in their office or wherever else you can find them. You will probably need to reach out more than once people want to make sure that you are genuinely interested in a long-term project.

Don't be discouraged. Many Indigenous people who are citizens and descendants of American Indian nations have been asked to visit or perform in classrooms or for groups of people, but they have not always had the experience of someone genuinely wanting to work with them to find knowledge together and preserve it. They want to be equal partners in planning, not an afterthought or a minor contributor.

#### Be patient

Creighton reached out for the first time in April 2014 and again, after a couple of smaller projects, in April 2017, with a specific proposal for a series in spring 2018. After months

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of working and adjusting the program, we *opened Indigenous Voices: Sharing the Wisconsin Sky* in March 2018.

### **Gearing up**

# Start with a pilot project to see how well you work together

We started in July 2014 with an evening summer program offered to incoming students in the UWM American Indian Science Scholars Program. Creighton talked about what causes the northern lights and Zimmerman discussed the various words for aurora in different languages and what they signified to Indigenous people. This program was so successful that we have offered it every year since then.

In the fall of 2014, we collaborated to offer the Anishinaabe Star Stories series, which included three 30-minute programs over three weeks. We took turns looking at different patterns in the sky: the Fisher (a.k.a the Big Dipper); Sweat Lodge (a.k.a. Corona Borealis); the underwater panther Mishibizhiw (a combination of Leo and Hydra).

### Ask questions

One of the questions that came up very early in our conversations was what terms are preferred. We found that universally, whenever possible, Indigenous people prefer others to use the name of their specific nation. Our project involved Ho-Chunk, Maliseet, Mohican, Odawa, Ojibwe, Oneida, and Potawatomi. The terms American Indian and Native American were both used in instances where sources and organizations had chosen one term over the other for specific political reasons.

The National Congress of American Indians, founded in 1944, is the oldest, largest, and most representative American Indian and Alaska Native organization, while the Native American and Indigenous Studies Association is the largest international scholarly organization that engages in Indigenous issues. The term Indigenous is the preferred adjective in the United States; in Canada, the terms First Nations and Aboriginal are also common. Generally speaking, it is good practice to discuss preferences with your collaborators.

### Double-check facts

Sometimes it is hard to get simple facts straight, such as the order in which the different Nations first inhabited Wisconsin. Collaborators can help the planetarian avoid incorrect statements that could inadvertently alienate people. For example, Creighton read that the Menominee people had always been in Wisconsin and were the original inhabitants of this land. It was pointed out that the origin story of the Ho-Chunk Nation also started in Wisconsin, in the Green Bay area, and both groups consider themselves direct descendants of the ancient cultures who lived

in the area immediately after the ice age. This clarification helped Creighton avoid a major embarrassment.

Another type of factual information that is crucial for the program is the ability to identify the Nations in your region. There are several ways to think about this. One is to determine which tribal nations near you are recognized by the federal and state governments, which can easily be checked using the Tribal Directory at the National Congress of American Indians website (www.ncai.org).

A second way to understand Nations is as large confederacies or ethnic groups that existed prior to colonization. Several communities still value these connections and relate to one another through language and culture. The Three Fires Confederacy, for example, is a term used in the Great Lakes region to connect the Ojibwe<sup>2</sup>, Potawatomi, and Odawa

Indians or the Mole Lake Band of Lake Superior Chippewa. In many other cases, tribes have been given inaccurate names; for example, the Ho-Chunk people were called Winnebago for many decades.

# The plan evolves over time

In Spring 2017, Creighton discussed with Noodin and Perley the idea of a series of seven programs that would contain a brief overview of all local Nations, highlighting one each week with its culture and depiction of the night sky. By October 2017, we had concluded that there would be two presentations each night for the seven Fridays (March 23-May 4); that Native students would gather content on topics that could include celestial bodies, constellations, creation, the afterlife, and clan images; and that the UWM Planetarium staff would attend the UWM Pow Wow.





Three generations during the 2017 UWM Pow Wow: Monea Warrington (on left) with her two nieces Akyra O'Kimosh and Alayia O'Kimosh and Margaret Noodin (on right). Used with permission.

people—they all refer to themselves as Anishinaabe. In the U.S. and Canada there are over 200 small Nations that would be considered part of this larger group, and yet each one of them has a specific legal name, such as the Lac du Flambeau Band of Lake Superior Chippewa

2 In some treaties the Odawa and Ojibwe are called Ottawa and Chippewa, which are merely spelling variations.

By mid-November the significance of language had begun to emerge: the idea that we would hear words and maybe songs in the different languages was first discussed. A major breakthrough at the end of November was finding origin stories on Wisconsin Public Television. These clips provided the backbone of our content for months.

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In January, an attractive flier was conceived with significant guidance from EQI staff. The idea emerged of highlighting American Indian university students who have cultural ties to Indigenous people of Wisconsin and beyond. By late February, the show had a shape: a recorded welcome and invocation by a UWM grad student from the Menominee Nation; a 20-minute presentation about all Nations, with maps, imagery, people talking different languages, words on slides in each language; a 15-minute stargazing session in the domed theater; and a discussion during which the audience could ask questions of the host and/or guest of the day.

At this point, it helped to have a written plan with deadlines, thus clarifying the next steps, especially because the final product shifted as circumstances and needs changed. During dress rehearsals in March, for example, we realized that there was too much video and not enough time for live interaction. We had to determine what to cut.

The creation stories had many similarities but needed to be told in a fairly ritualistic tone to show respect, which was awkward in a dark room with comfortable seats. Though a dedicated 60-second block for an origin story is a tragic restraint, it did permit us to retain the important information while also allowing time for authentic conversations.

# Producing Reality can sting

During the months between our major talks and the beginning of production (February 2018), we discovered something surprising and upsetting: many Indigenous people in the region did not respond. It became clear that it would not be possible to have a full program for every Nation, either because most communities are still in the process of recovering these stories, or the few elders and young experts who know them are extremely busy or far too humble to claim expertise on the topic.

There were also extreme differences between the various tribes. The Ojibwe tribe has six separate nations in Wisconsin, the Ojibwe language is taught on campus, and we easily found information about the night sky and several constellations, including some songs. However, for the Stockbridge-Munsee-Mohican Nation, we found no star stories whatsoever.

This lack of information can be directly correlated to the relationship each Nation has had with the United States. The large inland Ojibwe diaspora spans both the United States and Canada and co-existed with small numbers of traders and settlers centuries before colonization began.

Meanwhile, the Stockbridge, Munsee, and Mohican tribes were originally located near

# "Beaver Star"

Long ago, there was a time when one Great Beaver was created—much larger than the beavers we have today.

In that time, the Beaver would build a great lodge wherever the Beaver settled. Also, the dams this Beaver built would flood vast areas of land. Many times the Anishinaabe people would have to move and resettle another area because their land would be flooded.

Eventually, the Anishinaabe people grew tired of having to always move from areas that provided great hunting, gathering, and other essentials to live their lives. They asked Gizhemanidoo, the Creator, to help them with their problem of always having to deal with the flooding from those dams.

One day, the Creator sent a Thunder Being to remove the Great Beaver. When the Thunder Being arrived, a great fight began between the Thunder Being and the Great Beaver. At one point, the Thunder Being used its claws to grab the Beaver, and then began to lift the Beaver into the sky.

As the Beaver squirmed and writhed to gain release from the claws, blood fell onto the land and formed many small pools. From these pools, smaller versions of the Beaver began to rise out and are the reason why the beavers of today look as they do.

The Thunder Being carried the Great Beaver up into the sky where the Beaver was eventually left as a reminder to the Anishinaabe people about this part of their history. Where the Beaver was left is where the constellation Gemini is located, though the old ones refer to it as Amik Anong (Amik = Beaver, Anong = Star).

Beaver line drawing from archives of Pearson Scott Foresman, donated to the Wikimedia Foundation. Public domain.

the Atlantic coastline and suffered both physically and culturally when the first colonies were established. Eventually, they were relocated to Wisconsin and many of the survivors chose assimilation as a path forward.

Student members of each Nation worked with primary documents, oral histories, and various archival ethnographies to find as many stories as possible, mostly in Ojibwe, Menominee, and Oneida.

# Rely on liaisons to reach out to the Native communities

Our collaborators sometimes had to call in favors to have speakers come because Indigenous people can be unfamiliar at best, or even suspicious, of institutions and their intentions. This distrust is not surprising: many Indigenous peoples have been marginalized by institutions, including schools and colleges. Also, schools have historically been used to erase and suppress Indigenous language and culture<sup>3</sup>. We found that a modest stipend (\$200) for speakers showed our respect for their time.

Despite our best efforts, on March 20, we had confirmed hosts for only three shows (out of the seven). Noodin invited more than 15 people from a particular nation before one person accepted tentatively. It was a deli-

3 The violent and abusive history of boarding schools is well documented and, in Canada, led to the recent formation of a Truth and Reconciliation Commission.

cate situation that Noodin helped negotiate. She understood that the person felt nervous about participating in the program because he couldn't speak his people's language, so we invited him to come to a program and observe its structure, after which he became more comfortable hosting. This was a pattern: people were more willing to participate when they understood the scope of the project, the planetarium's ongoing commitment to Indigenous culture, and how they would fit in.

# Enable communication between the guest and the audience

We prepared questions for the guest speakers so they could focus on positive experiences with questions such as "How do you celebrate your culture?" Since most speakers did not know star stories, we sought to connect culture with the natural world through the question "What is your favorite season and why?" We felt strongly that the event should celebrate specific Indigenous cultures in our region rather than focusing on its more difficult history. The prepared questions helped the audience to ask questions as well; we found that audience members often hesitated to ask questions, but often had many questions once the discussion began.

#### Be flexible

Many ideas turned into dead ends. Some members of the team thought we could film during a campus Pow Wow in October to (Continues on page 38)

provide footage for our event, so several non-Indigenous students attended a Pow Wow and filmed the event. However, we could not obtain permission from participants to use this footage.

Most Indigenous people are not willing to be filmed unless it is clear how the footage will be used and they did not understand how their dancing would relate to astronomy. It was also obvious that our campus needed to do more to connect Indigenous and non-Indigenous students so they can collaborate more often in the future.

### Use what you can

When it became clear that for some tribes we had no star stories, we began exploring the possibility of highlighting the different languages spoken in our region. We thought it would be important, whenever possible, to show the words for, say, earth, sky, sun, moon, and stars in Menominee, Ojibwe, Oneida, and Potawatomi.

This made it easy to see which languages (Ojibwe and Potawatomi) come from the same branch of Algonquin languages, whereas Menominee comes from a different one. Oneida is radically different (being from the Iroquoian family of languages) and Ho-Chunk represents yet another language family (being Siouan).

Even though we were unable to have entire programs on each nation's star stories, we did 1) present an overview of the names and locations of the various bands of the Wisconsin Nations, 2) introduce a current UWM student from that nation (either live or recorded), 3) have a short video of origin (with permission from Wisconsin Public Television), 4) show stars in the city and country with any star stories from the week's highlighted Nation (or a different Nation if necessary), and 5) have the guest discuss some aspect of their culture and answer questions.

# Morph loss into revitalization

During the process of collecting material, many Native American students felt heavily the loss of their culture and language. These students were saddened because they couldn't

find simple words in their language such as "sky," never mind the word "constellation," while Creighton was easily able to tell the stories of stars preserved by her own Greek culture. A few of them needed one-on-one discussions with mentors to deal with this sadness.

They were helped to turn that corner when Perley articulated the role this program can play in revitalizing language and culture in these communities and getting more students engaged in this process. The students learned many things about each other's culture and were hopeful that one day their star knowledge might be much more familiar to people living in the region.

### Have back-up plans from the start

Because the UWM Planetarium programs are live, we felt strongly that there should be three presenters, including Creighton, who could help with stargazing as needed. The idea was that if one of the presenters was unable to come at the last minute (which happened twice), there would be at least one person who could talk about their culture, either the host from EQI (student or faculty) or the guest speaker. Even if your program is prerecorded, some live components give it greater impact.

# Widely advertise the program

Many news outlets are interested in this kind of programming if they know about it. Wherever possible we tried to set up interviews over the phone or in person with two of us present. On one occasion, it was surprising how the interviewer emphasized the conflict between science and the Indigenous sky stories without accepting that one of the delightful things we found during our collaboration was that science is incorporated into the language and stories.

The EQI collaborators provided some insights into how words for astronomical objects captured nuanced truths about such objects. For example, one of several words in Ojibwe for the aurora borealis is "waasnoode." The first part of the word "waas" is used in "waasa" (distant), "waaside" (to glitter or shine) and "waasamowin" (lightning). The

second part of the word is related to the word "noodin," which is wind or current. Since the lights are produced by solar wind interacting with the magnetosphere, this is a particularly insightful description.

Another example: the Oneida word for "star" (o-tsis-tah) has the same root as "fire" (o-tsi-se-le), which suggests an object

that makes its own light.

Take pictures for publicity; share the pictures with both speakers and students to spread the word even after the production is over. Even if some of your usual audience is unable to attend, they will be pleased with the kind of welcoming and inclusive programming you offer.

# Wrapping up

Write about what worked: We consider the whole program very successful. Not only were these programs sold out; they addressed a great need to make Indigenous peoples more visible. Many American Indians of the diaspora would like to learn more about their own culture and other Indigenous peoples' cultures. Frequently, students surprised one another as they shared their own stories.

Also, general non-native audiences are thirsty to learn more. There are many misconceptions about contemporary American Indians and Indigenous languages and culture. These stereotypes are perpetuated in the popular culture and have established a limited perception of Native cultures and peoples.

This entire project not only contributed to the knowledge of the cosmos, it also added to the multicultural competency of the campus and our urban community as a whole. Many people still think of American Indians as all looking alike, or fitting a certain stereotype they may have encountered in history books or films. Instead, everyone was reminded that citizens of the 573 Indigenous Nations in the United States represent a wide range of languages, traditions, historical circumstances and physical characteristics.

Write about what didn't work: One thing we concluded is that students might have been more active if their research was built in their courses as small or large assignments. The ideal scenario at our institution would be to plan a year in advance and work with the undergraduate research program to ensure that students would be paid or earn credit for their research, which would help ensure their hours would be incorporated into their semester schedule.

### What might be the next steps?

Our first step was to write up how this program came together and share what we have learned with the planetarian community. Our next step is to promote the program to schools and libraries in the region.

We imagine that these collaborations might look different in different contexts around the world. We hope that our experience will encourage you to build your own collaboration with Indigenous peoples in your area, and we look forward to seeing what you learn from it.



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