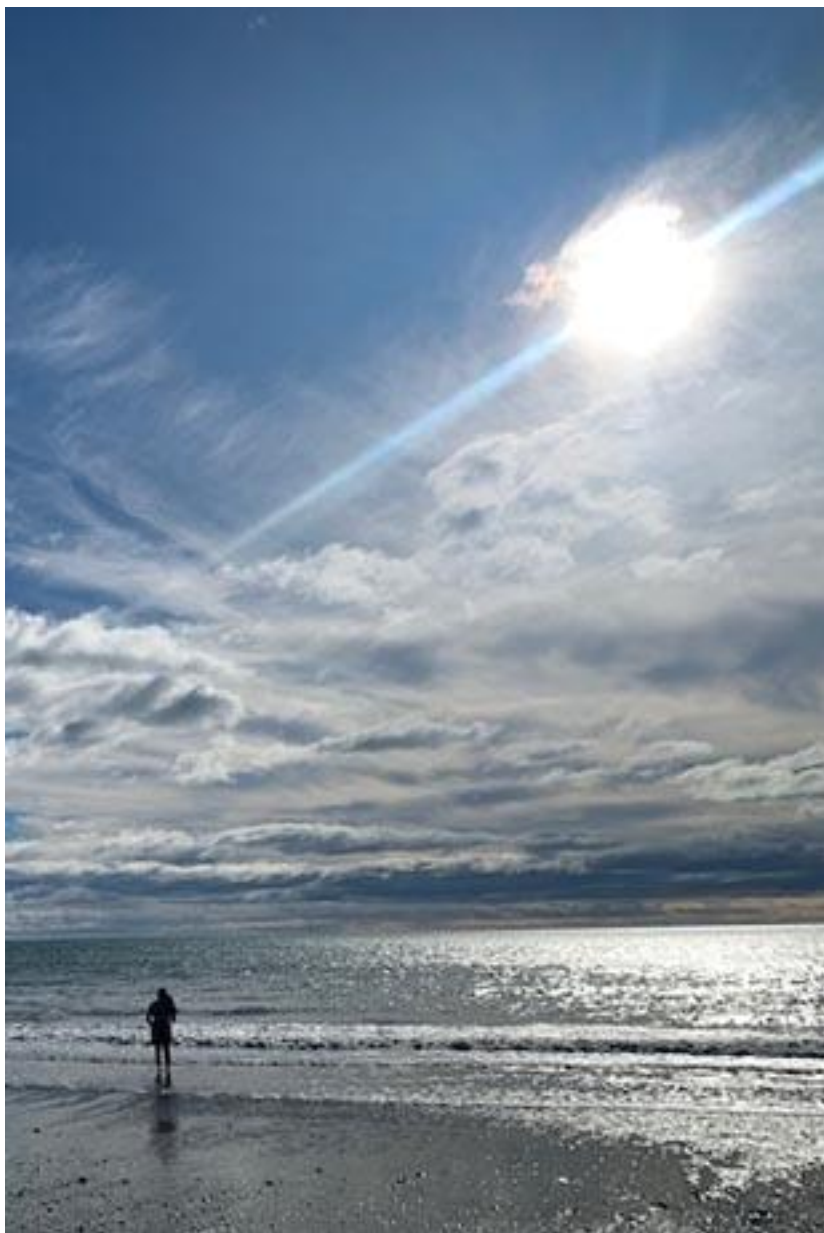


A photograph of a forest with many standing stones scattered across a grassy clearing. The stones are of various shapes and sizes, some tall and thin, others shorter and wider. The forest is composed of tall, thin trees, likely pines or spruces, with some bare branches visible. The ground is covered in dry grass and moss. The sky is bright and clear.

Living with Community for the Land

IKhana Fund 2025
Tapestry Institute



Living with Community for the Land

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List of Photographs for this paper begins on page 122.
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**Welcome to the Third Volume
of a Four-Part Series.
Here is how you should read it.**

Standing Our Ground for the Land was the first volume of this series. The three new volumes build on the fundamental principles of Indigenous Knowledge we explained in that work. *Standing Our Ground* is available for free download [here](#).

The three volumes that follow *Standing Our Ground* are sequential 2025 publications that must be read in order:

Living in Ceremony for the Land
Living with Community for the Land
Living Out Story for the Land

Each of these new volumes includes an Opening Ceremony and a Closing Ceremony. We respectfully ask each participant in this relationship with us to read Ceremony as they begin and finish reading each of the volumes and come to those pages.

Each volume also includes a small introductory passage entitled "Three Baskets of Knowledge." Once it has been read, it can thereafter be used simply as a reference when needed.

NOTE: Isolated or grouped quotes attributed to IKhana Fund team members, presented in this font style, are from sessions of our May 2023 gathering.

List of Photographs with full credits begins on page 122.

Opening Ceremony

Ohoyo vt nana kanoihmi nan vnnoa anoli.

*Listen now as Earth sheds her skin
Listen as the generations move
One against the other to make power*

*We are bringing in a new story
We will be accompanied by ancient songs
And will celebrate together*

from "Prepare"
Joy Harjo. *Poet Warrior: A Memoir*. 2022.
W.W. Norton & Co.

We honor, with deepest gratitude, the Land of northwestern Nebraska's Pine Ridge and the shortgrass prairie northward from there to the Black Hills. This Land, whose agency directs and powers our work, is the traditional homeLand of the Arapaho, Cheyenne, and Lakota nations.

The photograph that completes our Opening Ceremony is of the shortgrass prairie immediately north of Pine Ridge. This photograph constitutes a "site-ation," following a practice established by *Secwepemc* artist, curator, and professor Tania Willard. A site-ation photograph permits Indigenous scholars to cite the Place or other Land-based source of the Knowledge shared in print or a presentation. This photograph was taken at the moment one of the more significant pieces of Knowledge shared in this paper was gifted us. The Land of Pine Ridge in northwestern Nebraska, and the shortgrass prairies at its feet, is the source of much of the Knowledge that emerged in and since our meeting, that is shared in this publication. The photograph, taken at that moment, by Jo L. Belasco, Esq., is used with permission.



Sunset. January 24, 2024. Yakoke. We thank you for Knowledge.

And then in the wider, in the spiritual space, that's where we talk about a sense of belonging. The connection to your place and the people, and your reconnection with the land where you are from. Where you have a place that you can stand on, knowing who you are.
-- Fiona Cram

What is coming out is that people are becoming more aware that they have to protect the land, and that we shall have these personal divisions. However, though difficult, we must stand up for the land and seek this reconciliation for the sake of the next generation.
-- John Njovu



To me, we're accountable to all our relations, which means to the Land, and the everything that we're related to -- not necessarily to a funding organization. We can translate that accountability to everything, to the cosmos, in how we work that into some wording that allows Ikhana Fund eventually to be giving out in a good way, bonding to people so that they can do the work they need to do to be accountable to all their relations.
-- Shawn Wilson



There is a risk to receiving funding. I think we need to slow it down and require the more powerful groups to really look at the risk of what happens when you receive funds, especially if you've been marginalized. -- Jess Venable

Risk mitigation is about the things that we take for granted not happening. There are risks of cultural stuff not being allowed to occur or happen. -- Fiona Cram.

Western due diligence is all about finances. That's where the ethical system is. So, it's all about how people are keeping their books, whether they've had an audit. I think that our due diligence has to be about relationship. That's really the place where we've always had the relational accountability built in. That allows for the mutual trust and for the knowing that we're on the same page in terms of value systems. - Dawn

I am thinking of some of the challenges I have in training grant writers. They're so limited by the application process and the format that everything needs to go in. Just the fact that there are any set of options and pathways and that those options and pathways can be defined by the community of recipients is a great way to do this. I can see how it builds and folds into that slowing down, and allowing the people who are going to benefit from the funding to define the terms upon which they receive it. -- Jess Venable

I really love the idea of serving with a connection-connecting function rather than authorization because I think you're right, in terms of that relational accountability will kind of keep things on track in a way. -- Jules Wassenas



Three Baskets of Knowledge

Knowledge wove itself through our voices and words on the third and then the fourth day of our gathering. Knowledge emerged because we were in a space opened by and for Ceremony, and we were therefore well-connected with the Land. Our on-line Community held that space open so Knowledge could emerge. The outcome gifted us was three big baskets of Knowledge:
Ceremony. Community. Story.

The first thing we understood, when Knowledge emerged, was the essential nature of ceremony and community in IKhana Fund. This is that Knowledge as we recorded it then:

Community and Ceremony are deeply interwoven. The community that we are creating is important for several reasons. If our IKhana Fund community does our work as ceremony, it makes it possible for the Indigenous people whose work we fund to do it as ceremony too. The function transmits. If our IKhana Fund community does our work as ceremony, it makes it possible for the Western people who fund our work to do their work as ceremony too. Again, the function of community transmits. The functions of

Ceremony and Community transmit in both directions from us, to both grant-givers and grant-receivers. This generates a giving-and-receiving community that moves in ceremony.

Indigenous readers will notice at once that these statements have profound implications on IKhana Fund itself, on the Indigenous recipients of IKhana Fund grants, and on the individuals and foundations who give money to IKhana Fund for re-distribution as grants. But these highly significant consequences are ones it's difficult for most of our Western allies to perceive, much less understand well enough to participate. So transmitting Ceremony and Community "in both directions from us, to both grant-givers and grant-receivers" is an asymmetrical process.

We were also given Knowledge about the role of Story in IKhana Fund. The focus was at first on how deeply colonized our own language already is, and the ways this has wrenched our perceptions and actions out of appropriate Indigenous space. This is how we recorded that Knowledge during our meeting:

There is a pattern of talking we need to change. We need to be more mindful of the story we use to talk about what we do. We typically use a metaphor of leaving a ruined place when we want to talk about the work we want to do: "This place in the city (or in my neighborhood or in this park) is damaged, so I want to go to a different place that's nicer, that's more pure, that's more unspoiled." The other story we often use as metaphor is that of the pioneer, which is very similar: "It's too crowded here, everyone already has the land, I need to go somewhere new." We have used

the language of this story in IKhana Fund work when we have said that our dissemination publications make a map that marks the route we take so others can follow. That is Pioneer Story language. Pioneer is the foundational story-engine that drove European colonialism. So it is inimical to the work we are trying to do in IKhana Fund.

Flipping a dominant-culture Pioneer Story into an Indigenous Land-based Story requires the same change in perspective that's required to flip Western ceremony into Indigenous ceremony. In Western culture, people tend to use ceremony to change their environment (whether people or circumstance) so it will better serve their own needs and wants. Indigenous people engage in ceremony to change themselves instead, to bring themselves into better alignment with the natural world so that everything can be maintained in healthy balance.

In the dominant culture, if you're not happy with the place you live, you go somewhere else or you change the place you live. If you change the place you live, you do it through physical actions that alter the environment -- building a dam so there's more water, for example, or trapping animals in one place and releasing them in another to make it "wild" again.

In a Ceremony way of life, however, if you're not happy with the place you live, you change yourself in a way that permits you to better align with that place. Once a person aligns with the place through Ceremony, they can help the place restore its own

health. Then, as the place begins to heal, the larger community in that place begins to heal even more. This on-going process of relationship and reciprocity permits the whole community to come home to who it is. It can become a community living in ceremony, all of it in balance. If a place is degraded, it's degraded because it's out of balance. If you leave, it has no chance to get back into balance. The only way to restore balance is to stay there and do ceremony, restoring inner balance in everything so that the entire community can, together, restore itself to health.

At this point of the process, still on that fourth day of our gathering, we began to try to apply the Knowledge we were being given so we could understand it more thoroughly. But because we did not yet perceive the appropriate Story for the work we do, mostly what we tried to do was think through what would happen if we at least stopped using Pioneer story. This was difficult, but it did help us circle back around to the roles of community and ceremony in IKhana Fund and understand those things better. So we were able to more clearly see how very important it was to stop using Pioneer story language about "marking trail" or "going somewhere new." A lot of places that matter very much to Indigenous people have been seriously damaged or destroyed by the practices of Western culture. It is very difficult to do restorative things or to feel safe doing ceremony in such places. So of course we find ourselves falling into the Pioneer story that created these problems to begin with. In this way, the Pioneer story system perpetuates itself. It is not easy to tear ourselves out of that story when it has had so much impact on our lives.

Giving up the Pioneer story, that we want to "go somewhere nicer that hasn't been ruined," is a life course few of us can easily live. So we are not proposing that anyone has to forego trips to the country or to places that feel safe and restorative. But as we do this work we are doing together, we might experiment with a different Story we can share, one that speaks differently about what it is we're engaging in together -- as something other than "going to a new place and leaving behind the painful place of our wounds." This is a very challenging thing to do.

We understand that we can share community by trying to live it. We are not there yet but we can at least understand what this might mean we need to do.

We understand that we can share ceremony by trying to live it. We are still working to understand how this is so, but we are starting to get there together. The Knowledge that's emerging in this gathering speaks to that.

But . . . How do we heal our world by living a different Story? How do we share a different way of envisioning a Story that does not use the language of "Thank goodness I got out of the filthy, ruined city!" or "We have to go pioneer a new place"? How do we think about and talk about the idea that what we have to do is come home to ourselves, with Ceremony and with the help of our community? We can see that we have to come home to ourselves in a true and pure way that allows us to use Ceremony to begin to heal the problems that are right here where we are. So

then we can be part of that healing. What language can we use for that, to talk about it, that is not "making a map" or "breaking trail" to a "new place" but that somehow still helps us understand what it is we're doing together? We realize now that when we say we are breaking trail or making a map for others to follow, it sounds like the process in which we're engaged is an individual journey. But it's not. Ceremony and Community make it very much not an individual journey.

Even though at this point in the process, we still could not see the appropriate story we needed to use, and we were feeling deeply troubled by the implications of using Pioneer language in our lives as well as in our work, the Knowledge that was emerging among us began to put IKhana Fund in a powerfully important context we had not previously seen.

*All of this understanding changes the work we are doing together. We thought we were just finding a way to award money to people doing Indigenous Knowledge research, and that by doing this we'd allow them to carry out initiatives that would heal their Lands. In that model, we in IKhana Fund are removed from those initiatives, rather like the Wizard of Oz in the movie of that name, who stood in a booth behind a curtain, working the levers that moved things at a distance from himself. But in this model of IKhana Fund that's starting to manifest, we **are** the process we model, whatever that Story is that we can't see yet. We **are** the community. We **are** the ceremony. So every single thing we do is part of the Ceremony -- and because we walk in ceremony,*

our community is forming Community. And all of us walking together in Ceremony, as healed and healing Community, that is what heals the Land.

This is what we live out as IKhana Fund, that moves into the world through the Indigenous peoples and Lands with which we engage, within the Ceremony of the IKhana-mediated reciprocal relationship the Land is bringing into existence. It makes the processes we develop and implement to solicit, review, award, and respond to grants not merely procedural, but Ceremony. It means that designing our "grant protocols" is a far bigger responsibility than we've realized.

Throughout the next week of our meeting, we explored what it might mean to say that IKhana Fund is Ceremony, that IKhana Fund is Community, that all of us walking together in Ceremony, as healed and healing Community is what heals the Land. We began to explore the fact that these criteria of Community and Ceremony create a much larger giving-and-receiving community operating in ceremony than we had at first imagined. Not only would those whose work we supported become part of a community that walks within ceremony, the Western individuals and organizations who contribute resources to IKhana Fund for redistribution through our grant awards would also become part of this community. They would also move with us through Ceremony. There is no way it can be otherwise.

Yet bringing Western allies into an Indigenous Community that is walking in Ceremony presents some very important problems we have to resolve.



LIVING with COMMUNITY
for the LAND

Chapter 1



A slender moon was rising. The autumn sky was indigo. It was a perfect evening for the nature center's owl walk.

My son Harrison, who was four years old that night forty years ago, loved the urban regional park that crested the hills of the San Francisco Bay's eastern rim. A group of about thirty parents and children, many brandishing powerful flashlights, were already gathering around a ranger as we pulled in to park. The waiting children were playing beams of light on the nature center building, the cars in the parking lot, and each other as the adults visited, laughed, admonished the kids who ran too far out into the parking lot, and broke up arguments over whose turn it was to use the family flashlight next. Five minutes later, when we set out down the boardwalk that had been built through the woods for nature hikes, I expected the ranger to quiet peoples' voices and tell everyone to turn off their lights. After all, the boardwalk had a railing anyone could put a hand on if they felt uncertain of their footing in the dark. But twenty minutes later, children were still shrieking with excitement, adults were talking over the children, the park ranger was walking backwards in front of the group telling jokes, and flashlight beams were strobing and probing the woods in every direction with long, intrusive fingers.

I didn't say anything to my son, but we exchanged looks and he silently mouthed the word "owl" to me. I nodded,

and a few moments later we took one another's hands and slipped around the outside of the group, quietly got ahead of them, then hurried into a silent run as soon as we were in darkness. After a bit, we got far enough ahead of the group to hear crickets singing again in the undisturbed woods around us and stopped to look back. The tumbling knot of people and lights far behind us looked and sounded like an undulating explosion, its glow drifting like smoke between the black bars of tree trunks in silhouette. "Mom," my son whispered, "why don't they know they're going to scare away all the owls?" And I had to tell him I didn't know. Because I didn't. We walked on, he and I, hand in hand through the dark woods far ahead of the slowly advancing group, pausing periodically to look up at the stars and feel the breeze. We enjoyed our walk even though we didn't see any owls. But I thought my son's observation about that was apt too. "If I was an owl," he said, "I would move to a woods far away from here."

"If what a tree or a bush does is lost on you,
You are surely lost. Stand still. The forest knows
Where you are. You must let it find you."

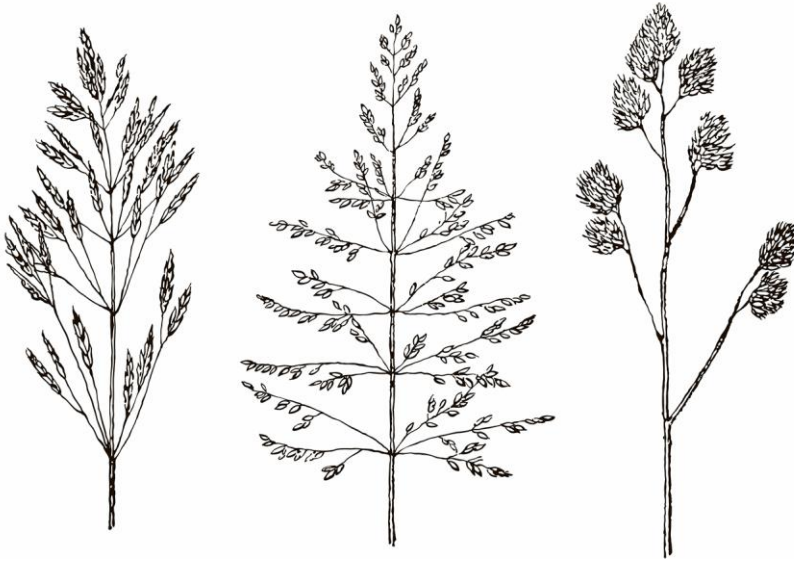
David Wagoner wrote those words in a poem hauntingly and fittingly titled "Lost" (Wagoner 1999). That forest, the one that knows you, the forest that knows where you are so that you are no longer lost, is the place Western people expect Indigenous people to take them. It is the place they *want* Indigenous people to take them. They gather at the trailhead, waiting, playing their flashlights on trees and talking, laughing, busily running back and forth to the parking lot. They've been doing this for such a long time that all the owls slid far away in silence long ago. The night itself is the only thing left. It is the stars that must take us home.

Turn off your flashlight. Shut down your cell phone. Let the trees surrounding you merge with the darkening shadows. Pay no mind to the small rustlings you hear as silence seeps in on the currents of night. Step off the boardwalk onto the earth, onto the soft drifts of papery fallen leaves among the gnarled tree roots. Sit down. Now lie back and rest your head upon the cool ground. Feel the massive miles of solid rock rising beneath your back. The sun is still warm beyond the horizon where it set not long ago. The full moon rising, counterweight, is pale yet luminous. Look upward through the depths of gathering night into the translucent sky over you. Wait. Be patient. Be patient still more.

Let the stars find you.



Chapter 2



The thing that we do is about returning people to the land, returning the land to the people, reinstating, reinvigorating people to take responsibility for the land.

-- Fiona Cram

Several years ago, a conservation group in London asked me to present an online talk about the relationship between myself, as an Indigenous person, and the prairie lands of the Great Plains, to people in England. The first thing I thought about, when I sat down to prepare my talk, was the fact that there isn't any real prairie in Europe. So I wasn't sure how many of the people who came to my online talk would have even set foot on a place like the Great Plains. They probably wouldn't know what it's like to walk out onto ground that the roots of prairie grasses have made as solid and secure as bedrock. They'd never have seen grasshoppers scatter from blue grama like confetti at their every step, or felt the playful tug of a little runneling breeze chasing its littermates to the distant horizon. *How, I thought, can I explain my relationship with prairie land to people who have never even met it?*

Then, almost at once, it occurred to me that people who live in North America and have access to the Great Plains generally don't set foot on the prairie either. People of the dominant culture tend to appreciate hiking through and taking pictures of mountain vistas and rocky coastlines, and they'll go out of their way to lay eyes and digital cameras on colorful canyon walls. But there's a strong correlation between how flat the land is and how quickly people barrel their cars down every interstate highway that crosses the Great Plains. It's no coincidence that Arbor Day was founded in Nebraska, or that Willa

Cather's famous books set in a number of locations on the Great Plains lovingly describe all the different kinds of trees settlers planted as they moved into places so recently emptied of inhabitants by conquest, warfare, famine, and disease.¹

At this point, I suddenly remembered a very old European description of the southern prairie I'd read more than 50 years ago. But that statement suddenly had a lot more meaning now than I'd seen back in high school. It took only a short search to find the passage because I remembered the source had been a *conquistadore* -- and only a few of those infamous explorers ever led an expedition into the southern Great Plains of North America. Furthermore, all the ones who did left records. So I quickly found the one I'd remembered: Coronado.

In 1540, Francisco Vasquez de Coronado led a large body of Spanish *conquistadores* northward from the west coast of *Nueva España*, now Mexico, into southwestern and southcentral parts of North America. An entire generation had been born and grown to adulthood since the Spanish had arrived and brutally colonized the land and its peoples there, to plunder it of gold, silver, gems, hides, medicines, tobacco, foods, and enslaved labor. Now Coronado was pushing farther northward to find a gleaming city the Spaniards had heard was built entirely of gold (Donoghue 1952). First the *conquistadores*, with their handful of attending priests and government officials, traveled due north to look for the fabled city. When the abyss of the Grand Canyon yawned across their path, they backtracked southward, then turned in a different direction and struck out to the northeast. This second and much longer foray took them into what is now

central Kansas (NPS 2025).

As the Spaniards crossed the southern Great Plains in search of the rumored city of gold, they traveled through a vast section of prairie land so flat and uniform that it utterly confounded them. This was the *Llano Estacado* of present-day west Texas and eastern New Mexico, and the words I had remembered reading were from a letter Francisco Vasquez de Coronado wrote about their



The *Llano Estacado* of West Texas.

experience there to the King of Spain in 1541. The part I had remembered was this statement in one of his letters (TSHA 2025):

I reached some plains so vast, that I did not find their limit anywhere I went, although I traveled over them for more than 300 leagues ... with no more land marks

than if we had been swallowed up by the sea.

Now I discovered that in Coronado's more detailed expedition records, he elaborated on the consequences of the men finding themselves in a place "with no more land marks than if we had been swallowed up by the sea."

. . . many of [the] men who went hunting got lost and were unable to return to the camp for two or three days. They wandered from place to place without knowing how to find their way back . . . It must be remarked that since the land is so level, when they had wandered aimlessly until noon, following the game, they had to remain by their kill, without straying, until the sun began to go down in order to learn which direction they then had to take to get back to their starting point (Almaráz Jr. 1992).

All of a sudden, I realized that this *conquistadore*, writing about the prairie nearly 500 years ago, had seen the Great Plains exactly the same way people of the dominant culture see it right now! So here I was, wondering how to lead a group of Western-culture people in London through the vast space between where *they* live and the prairie where *I* live, so they'd be able to form at least a little relationship with the Land of the prairie -- only to realize that the problem isn't specific to people in England at all. *Most* Western people aren't able to perceive the Land of the prairie for what it really is, so of course they are not in relationship with it.

That was exactly the situation Coronado's men found themselves in. Those hunters *thought* they were lost because there were no landmarks to guide them -- "not a

stone, nor bit of rising ground, nor a tree, nor a shrub, nor anything to go by" (TSHA 2025). But really, they were lost because they didn't understand how to be in relationship with the Land of the prairie. And since Knowledge emerges from relationship (Adams et al 2022), the Spaniards could not access the Knowledge that would have made them "at home" everywhere they went on the *Llano Estacado*. They kept getting lost instead.

The people of Western culture who drive through the Great Plains now at white-knuckled *Autobahn* speeds are lost the same way. They don't know how to be in relationship with the prairie any more than Coronado's men did 500 years ago. When I perceived this parallel, I realized the hunters of Coronado's expedition were the key to understanding how *all* Western people can find their way home to relationship with the prairie -- and with the larger Land of which the prairie is an integral part, too. And yes, that "larger Land" includes regional parks and the owls who live there. So the *conquistadores* had provided me a key to figuring out how to help *all* Western people find their way home to relationship with the Land. To use that key, I just needed to understand how I could have helped those Spanish explorers find *their* way back home in the 1540s. And I mean this literally. Because if those men could have restored their relationship with the Land, Indigenous Knowledge would have gotten them safely back to camp every single time they left it.

The only problem was, I couldn't figure out how to do this. How, in practical terms, could I have helped those lost Spaniards understand their relationship with the Land of the *Llano Estacado*? Whatever information I gave these men would have had to be basic and simple, something

the men could use from then on without any additional tools, something that would unlock the Knowledge that surrounded them even when they thought they were isolated, lost, and alone. It seemed a tall order, imagining how to reweave restored relationship between the prairie and a group of *conquistadores* half a millennium and half a world away. I didn't even know where to start.

So I went to the Land for help. I had no idea, when I did, that it was about to give me one of the Knowledge keys we needed to implement the baskets of Knowledge we would be given several years later in our second IKhana Fund meeting.



Wind Cave prairie, buffalo, southern Black Hills, South Dakota.



At the time all this was happening, Tapestry operated out of a small town on shortgrass prairie, near a long escarpment called Pine Ridge that angles about a hundred miles across the northwestern corner of Nebraska, from South Dakota at one end to Wyoming at the other. To get the Land's help, we drove a few miles south of town to a beautiful place on the Ridge that looks northward out across the prairie to a broad, dark mass, low on the distant horizon, that is the Black Hills. I sat down on the grass there, did a small Ceremony, centered and aligned myself with the Land, and asked for Knowledge about how I could approach this problem. And of course, now that you've read about Ceremony, you understand what I'm telling you here, about what I did and why.

The question I asked was, *How could I have helped Coronado's men perceive their relationship with the prairie Land, so they could have accessed the Indigenous Knowledge that was always there for them and not get lost anymore?* And then, because the context for all this was the Knowledge I'd been asked to share with those people in London, I went on to ask, *And once I understand this, how can I use the same information to help people in Western culture today form relationship with the prairie, then use that relationship to start finding their own way home to the Land where they themselves live?*

As I finished making my offering, I looked up . . . and my eyes fell at once upon the tree you see in this picture. Yes, this is the actual tree I saw, as it looked at that very moment from the place I had sat to do ceremony. The photograph you're looking at shares actual Knowledge from the Land in the form it was given to me. Take a good look at the picture of what I saw then. Do you see the Knowledge it provides, that the lost Spaniards could have used to get back to camp? I will give you a hint. *Look at the tree's shadow on the ground.*

Not quite working for you yet? What if I tell you the time of day was mid-afternoon when this picture was taken? It was 2:30 pm. Another crucial piece of time information is the time of year: it was autumn, specifically early October. *Where is the sun at mid-afternoon, in October, in the northern hemisphere?*

If you still find yourself stuck, think it through. It is after the hour of noon. *Where is the sun at high noon?* You know the answer to that question, I'm pretty sure. Yes. The sun is roughly straight up overhead at noon. So where is it several hours **after** noon? That's right: it is on the western side of the sky, heading for sundown in the west. It can't be on the eastern side of the sky once noon has passed. Right? So it's got to be on the western side of the sky by mid-afternoon.

And yes, what I am sharing with you right now is actual Indigenous Knowledge, the real thing. It's practical and natural, not supernatural or woo-woo. And no, there won't be a test . . . unless you get lost on a hike someday.

Now. In the sun's daily track from east to west across the



sky, as it slides from the place of sunrise towards the sunset point each day, does it move across the *northern* half of the sky, or across the *southern* half of the sky? If you don't know, promise me you will look up tomorrow when you go outside and see where the sun is. If you look straight up first, you'll be able to tell whether the sun is south of straight up or north of straight up. There is probably a compass on your phone that tells you which way north is, if you need to check your directions.

If you live in the northern hemisphere like I do,² the sun is always south of straight up in the middle of the day. Whether morning or afternoon, the sun slides across the sky in an arcing path that's mostly south of straight up. In October, that arc of the sun's path across the sky has started dropping a little farther south each day, so the sun shines at more and more of a slant or an angle to us, instead of nearly straight down on us, as winter arrives. After Winter Solstice, the arc of the sun's path across the sky starts getting higher and somewhat closer to a "straight overhead" position again.

So now we'll simply put these two things together. The sun is *south* of straight-up because I'm in the northern hemisphere here. The sun is also on the *western* side of the sky because it is past noon. So, overall, the sun is in the *south-western quadrant* of the sky at midafternoon in the Northern Hemisphere. There's no other place it can be. This means the sun is southwest of the tree. So the tree's shadow -- which falls opposite the sun -- points to the northeast.

Tree, Sun, and Earth together create a natural compass. If Coronado's men understood how to find their way back to

camp by looking at the setting sun to find west, they really should have been able to understand how to read this natural compass too. So why didn't they?

You might think maybe the *conquistadores* couldn't do that because there were no trees on the *Llano Estacado*. Well, here is our own shadow that day, in a photo taken maybe 45 seconds after the tree picture was taken. The head you can see on the right is Tapestry's co-president Jo Belasco, who is taking the picture for me as she stands directly behind me. I am still sitting on the ground in the place I did ceremony to ask for help. (I'm the big blob at the bottom.) The smaller shadow to the left is my dog. As you can see, we had at this point turned to face the direction in which our shadows fell. So what direction



were we facing at this moment? *Northeast*. Our relationship with the sun, as seen in our shadows, tells us this, the same way it did with the tree. So now we know which way north is, east is, and all the rest of the directions.

The *conquistadores* on the *Llano Estacado* sat down when they got lost. They had to wait for sundown to know which way was west so they could find their way back to camp. But they could have just looked at their own shadows when they got lost, standing up if they needed to make their shadows longer and easier to see.³ Coronado's men were part of this same living compass I am showing you, simply by virtue of their own relationship to the Land -- which, please notice, includes not just the earth, but also the sun, and the spatial and functional *relationships* between these things. Granted, if the sky had been completely overcast, or if the *conquistadores* had been beneath the canopy of a dense forest, they'd have been out of luck. But it's usually pretty sunny on the *Llano Estacado*. And there were certainly no trees blocking the sunlight. In fact, that was the problem, was that the Spaniards thought there were no natural markers or signposts. They didn't realize that the marker they needed was literally right at their feet -- the shadow traveling right along with them no matter where they went.

What you see here is a very basic demonstration of the fact that we all live in relationship with the Land, *even if we're not aware of it*. That's simply Reality. The shadow that a lost *conquistadore* cast across the grassy plain of the *Llano Estacado* in bright sunlight oriented him in space even when he didn't know it did so. This is one of the simplest of the many reasons Indigenous people say

that *relationship* is the source of Indigenous Knowledge. The relationship between the sun's seasonal (time-of-year) and diurnal (time-of-day) positions, a specific given place on the earth's surface, and a human being standing on that place provides everyone with basic Indigenous Knowledge about where they are and which direction to travel if they want to go somewhere else. You can see now why we also say that Indigenous Knowledge is practical and natural, not supernatural or ethereal. Indigenous Knowledge is in fact the opposite of ethereal because it is literally *grounded*. It is grounded in the Land in the deepest possible sense of that term.

When I asked the Land for Knowledge and did ceremony to align myself with it so I could see things with the Land's perspective, my eye fell upon that Ponderosa pine tree and the shadow it cast on the ground. At once, everything I have shared with you here fell into place in an instant of flooding insight. This did not happen because some ethereal voice "spoke" to me or some supernatural being materialized to point to the tree's shadow.⁴ It happened because aligning myself better with the Land through ceremony permitted me to *see things through the Land's perspective*. That's what ceremony *does*. When that happened, I could suddenly *see* what was around me, right there on that hillside, that provided the information I needed and had asked for. This information had been there all along but I simply hadn't perceived it until then.

This is why, when I was writing *Standing Our Ground for the Land*, I asked Moose to show you the crucial importance of perspective, sharing that Knowledge with you the same way he'd shown it to me twenty-five years before. Knowledge is always available to us but our

perspective is often simply too limited to see it. That's just part of being human. When we align with the Land in Ceremony, though, we become more a part of the Land. Then we are able to see things with the Land's perspective, the way I saw the tourists that day with Moose's perspective. The afternoon we took the pictures of the shadows I've just shared, once I aligned with the Land better in ceremony I was able to see those shadows *and their significance, their meaning, with the Land's perspective*. This is how we acquire the Indigenous Knowledge we need in a particular situation.

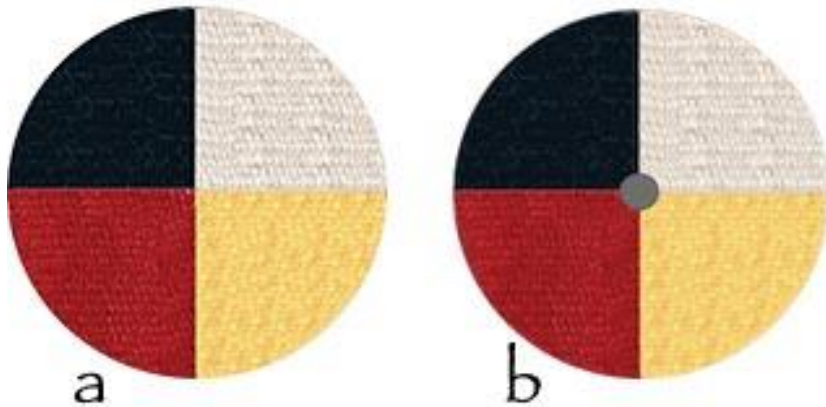


So thanks to some funding that we received, I was able to look at the interface between Western people who for the most part, if they want to fund this, they have good hearts and they want to help the land, they want to help the animals, the planet, all of it. But I gotta' tell you, they just, they don't know where Indigenous people are. And I've walked that, I am still walking that path. I'll walk that path 'til the day I die, as I tell everybody. And there are times Dawn says things and I just go, "I have no idea what you're talking about." So, we have to work it out. And I've been at this for 25 years, like day in and day out for most of it. So I started using what I knew to help some Western funders start to see what's going on -- that what they think has to go on, actually doesn't. It can change. And the laws don't necessarily say what people think. We get stuck in ruts.
-- Jo Belasco



So now let's look at the very simple set of relationships we've just been exploring, between the sun, the earth's surface, and everything on the earth's surface that's big enough to cast a shadow.⁵ This set of relationships creates a sort of base map for Indigenous Reality. One variant form of it that I've reproduced here (in "a" of the figure on the next page) is represented throughout the pages of this volume on Community. The basic map has several different names even just in English, so of course it has a great many Indigenous names -- as many as there are Indigenous peoples who happen to use it. It's often called the Medicine Wheel or the Sacred Circle in English, and it's very often simply called by the metonymic term "the Circle." The vertical and horizontal dividing lines that mark off the quadrants are the directional axes that run north-south and east-west. The directions can be designated by a variety of colors, though often no color is used at all. When colors are used, they are not always the four shown here (and not even those four are always in the same positions).⁶

Now let's look at why I called this Circle a map. It's actually a picture of the natural compass I've just described, that I showed you in the image of the pine tree and its shadow and told you Coronado's men could have used to get back to camp -- if they'd known how to see and understand it, that is. In the image labeled "b" in the figure you just saw, the center spot (gray in color) where



these axes cross is the place where you are standing or sitting on the surface of the earth. If you wish, imagine the gray dot in Circle "b" is round because we are looking down on the top of your head. The point here is that you are, *in fact*, part of the Sacred Circle wherever you happen to be, *because you are ON the Earth*.⁷

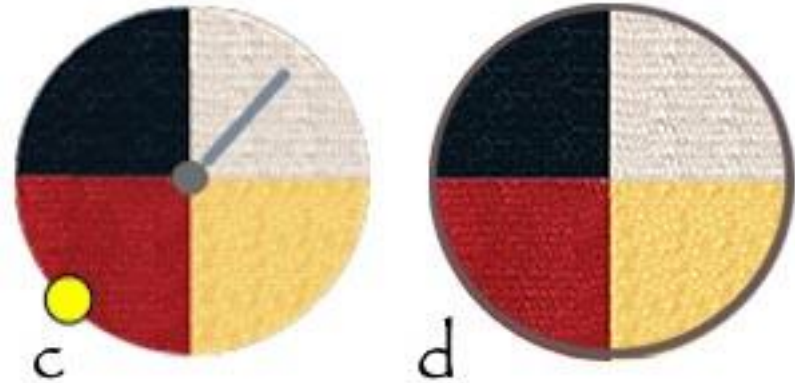
If you turn to face North right now, wherever you are sitting in the center of that Circle, to your right is East, South is behind you, and to your left is West. The Circle is literally laid out the same way a contemporary map is, and for the same reason. It is a picture of the actual Land with you as part of it, *and it is also a philosophical and conceptual representation of the very practical Land-based Reality Indigenous people experience* -- a reality for which the Circle is a metonym.

So here is what happened with my shadow, and also with the tree's shadow, in the photographs I showed you. We know by the time of day and the season then that my shadow and the tree's shadow both fell to the northeast. That long line extending to the northeast on the Circle you

see in the next image ("c" at the bottom of this page) is the shadow cast by the person or the tree standing at the central gray spot. Notice this means the sun in the sky is part of the Sacred Circle though you don't see it in the diagram as it's usually drawn. If you did, in this particular situation it would be in the place I've put a little bright yellow sun-circle shape in the southwest quadrant.

Of course the sun moves moment by moment, so we don't include it in the Circle diagram. But it's nevertheless there in the real Circle we inhabit. It moves above us across the sky according to the time of day and the season, and you simply have to keep that in mind to read the Circle as the map it is.⁸ The ground under your feet, all the way down, is also part of this map. At its most fundamental level, the Sacred Circle or Medicine Wheel is the Land itself, from you to the horizon in every direction, including all the visible sky and everything under your feet.

The most interesting thing about all this to me, in the context of Coronado's lost men, is that the Spaniards actually **met** Indigenous Land and Knowledge on the



prairie -- *but they did not recognize it for what it was.* Read the following words that Coronado included in his letter to the King of Spain. As you do, look again at the Circle. Imagine a Spaniard sitting down in the center where the directional crossbars intersect. He is looking at the Land of the prairie all around him, extending to the horizon in every direction. Coronado actually described this very experience in his letter to the King of Spain (Almaráz Jr. 1992:172):

The country is like a bowl, so that when a man sits down, the horizon surrounds him all around at the distance of a musket shot.

The dark gray line I drew around the outside of the Circle in image "d" (previous page) is the horizon line Coronado described seeing. **The bowl the Spaniards saw was the Sacred Circle.** *They saw it!* And they experienced themselves as being within it, at its *center*, with the rim of it all around them! But they *did not understand what they were seeing* because Western culture *doesn't* understand this. Please notice, as well, that in this regard the prairie of the Great Plains, in particular that of the *Llano Estacado*, is the one place it's *easiest* to see the Circle that exists everywhere but that is not always as easy to perceive in places with trees or mountains.



In Western culture, communities are generally defined as groups of humans who share things such as geographic proximity, familial lineage, culture and language, or "areas of interest" that range from professional occupation to spiritual practice, and from politics to fandoms (Merriam-Webster 2025). A Spaniard on the *Llano Estacado* was a long way from home but still had such community. The friends, brothers-in-arms, and officers in his military unit were his most immediate community -- his place of belonging. The priests and government officials who accompanied the expedition embodied the power and authority of Spain itself, a much larger community headed by King and Catholic Church. The group of camp followers -- support people who routinely trailed ground armies until the early 20th century (Beckett 2021) -- constituted a third community. Here, that community was of Catholic-converted Indigenous and mixed-blood slaves and servants who acted as cooks, laundresses, prostitutes, and horse handlers. They spoke Spanish, prayed Catholic, and embodied *Nueva España*, a satellite extension of old Spain in the "new" world -- which is to say, a *colony*. All these people and institutions together comprised the *conquistadores'* whole, larger *community*.

The lost *conquistadores* sitting in the center of the Circle it turns out they actually saw, that Coronado even described in a letter to the King of Spain without

recognizing its significance, epitomize the Western perception of community as a web of human relationships. Despite what they thought, they didn't get lost because of the prairie's characteristics. They got lost because Western culture's definition of community as "humans like me" is too restricted. So once these men left their expeditionary group, they were alone in a way that an Indigenous person never is or even can be. Coronado's men saw the setting sun's westerly position as a one-shot *tool* they could use, as opposed to seeing the sun itself as a relation, as a member of their community that provides Knowledge all the time.

Contemporary Western views of community have now been expanded to include ecosystems and biomes. But even these communities are usually defined on the basis of geographic proximity or a common habitat in which animals or plants "make a living" in similar ways.⁹ NASA's famous 1972 "Blue Marble" photograph of the Earth (NASA 2025) was hailed as a powerful message at the time it was taken, because it expanded Western perceptions of community to the entire planet as an ecological whole, instead of defining communities on the basis of political or geographic boundaries. But the bigger impact of that image on most people then was the same as the impact of the *Llano Estacado* on Spanish explorers in 1542. The Blue Marble's "depiction of Earth's fragility, vulnerability, and isolation amid the vast expanse of space" (Wikipedia 2025d) produced the same deeply chilling sense of "We are all alone out here" that the Spanish hunters felt when lost on the prairie.



NASA image of Earth taken by Apollo 17 astronauts in 1972.

But we aren't alone at all. Here's a different "blue marble" type of photograph of the earth to demonstrate one reason I say that. See that dark blotch just north of the center of the image? That's the moon's shadow. The people on the



NASA image of a 2024 solar eclipse over North America.

ground in that North American location at that moment were experiencing the total solar eclipse of 2024 (NASA 2024). You can see a short video clip of the moon's shadow running across the earth's face during that eclipse (as the earth rotates beneath it) at the same referenced NASA site this image is from. A solar eclipse happens when the earth, moon, and sun are perfectly aligned with one another, with the moon between the sun and the earth. When that happens, the sun casts the moon's shadow on the earth the way you see it happening here. So why do I say this image shows that we, on the Earth, are not at all isolated and alone in the darkness of space?

Well, remember this picture taken one October afternoon on Pine Ridge? What if I sent you this picture, and I said "Oh woe is me! I am all alone in the cold, cruel world!" I hope you might clear your throat and ask me, "If you're all

alone, who's making that shadow to your left?" You might even be observant enough to also ask me, "And who's sitting on the ground behind or in front of the standing person? There's a big blobby shadow where the standing-up person's legs should be." It's very clear there were two other individuals present at that moment, in that place. So now look back at that eclipse picture again. Directly visible or not, *the moon is in that picture*. And, though it might not be as obvious to you, *the sun is in that picture too*. For



that matter, the sun is in the picture of our shadows on the grass at Pine Ridge. After all, if the sun was not present in both pictures, there would be no shadows -- and also no light! The picture would be completely dark.¹⁰

The tricky part for Western allies learning to perceive relationships is that Western culture focuses on

individuals -- objects, and things -- instead of on *relationships*. So it's easy for allies to miss seeing *the relationships between earth, moon, and sun* that are very clearly visible in that solar eclipse photo. When you really open your eyes and *look* at that photograph of the eclipse, though, you can see at least some of the relationships that exist between the earth, moon, sun, and you-in-place. After all, you see an eclipse when it happens only because *you* are lined up with the sun and moon too, as person-in-place. Think about it: the people on the South American continent you can so clearly see in the lower right-hand portion of the earth in that picture did not see the 2024 eclipse that day, did they? They're not in the place the moon's shadow fell. That's why eclipse-watchers pick up and move themselves across the face of the earth when there is a total solar eclipse, is so they can be a person in the place where that perfectly aligned relationship plays out then.

The more deeply grounded expression of Community visible in that photograph of a solar eclipse is that *community is the complex and dynamic web of relationships between all the things that exist*. That's also how community was visibly expressed that day on Pine Ridge, when the dynamic relationships between sun, earth, and person-in-place (a tree in one image, us in the other) produced a very specific shadow that conveyed powerful Knowledge. Let me show you, once again ("c" on page 22), that image of yourself, your shadow, and the sun as they exist within the very same Circle that Coronado's men saw on the prairie but did not understand. Even without the little "extra" pictures of sun and shadow I added to it so you'd understand what you're seeing, the Circle lays out cardinal directions *that are determined by*

the relative motions of earth, sun, and your own self through both time and space. Your movement is part of this because your shadow, even your ability to see something like an eclipse, will be different *depending on your location*.

That very same set of ever-changing and ever-moving relationships between you, the earth, and the sun generates the patterns of weather and climate that determine your access to water and food. The plants that all animal communities depend on for survival, for example, rely on daily cycles of light and dark to regulate growth and flowering. They rely on seasonal cycles of winter-summer or dry-wet to regulate the major physiological processes that keep them alive and healthy. Annual changes in cycles of daylight and seasonality exist because the earth is tilted on its axis with respect to the sun. So daylight and seasonal cycles are *also relational* phenomena. Even the weather and climate patterns of equatorial regions, where the earth's tilted axis is of less local significance, are impacted by the massive engines of oceanic and atmospheric circulation that the earth's tilted axial relationship to the sun engenders.

Energy output is another, and very different, element of the sun's dynamic existence that impacts its relationships with the earth and with us. You may already know that the sun's energy output varies in an 11-year solar cycle,¹¹ but it also varies in longer-cycle changes as well as more random ones.¹² Changes in earth's orbital proximity to the sun also impact how much energy we receive from it. For example, one regular 22,000-year cycle in earth's orbit "is known to have affected the timing of the ice ages" and now appears to impact equatorial air and ocean temperatures

related to the El Niño and La Niña events that drive large-scale patterns of temperature and rainfall across much of the earth's surface (Sanders 2022).

The moon is a deeply interwoven part of this relationship web. The earth has seasons because its axis of rotation is tipped 23.5°. Yet most planets whose axis of rotation is tipped that far develop a rotational wobble big enough to disrupt their seasonality in highly destructive ways. Our unusually large moon stabilizes the earth's rotation enough to protect seasonality (Li 2024). Furthermore, as reported in a 2020 research paper in the *Journal of Molecular Biology* (Andreatta and Tessmar-Raible 2020:3525):

". . . [A] multitude of scientific studies has documented that the lunar cycle times behaviors and physiology in many organisms. It is plausible that even the first life forms adapted to the different rhythms controlled by the moon. Consistently, many marine species exhibit lunar rhythms, and also the number of documented 'lunar-rhythmic' terrestrial species is increasing. Organisms follow diverse lunar geophysical/astronomical rhythms, which differ significantly in terms of period length: from hours (circalunidian and circatidal rhythms) to days (circasemilunar and circalunar cycles)."

The entire system of even just the three relationships between the sun, the earth, and you (and all other earth residents) is *dynamic*, which means "moving."¹³ The opposite of dynamic is static. A thing that's static does not move, but is fixed and does not change. Western people have tended to plan their water use, energy use, and

infrastructure design on the assumption that the natural world is almost static and will therefore change so slowly as to essentially not change at all. That one misunderstanding is the root of many serious environmental problems, and it's the reason I want to point as clearly as possible to the fact that even the simple natural relationships between just the sun, earth, and your own self are *dynamic*. It is vitally important to understand that every natural system is in constant motion, and that the dynamic relationships in these moving systems are therefore always changing in complex ways. Sometimes, especially with things like massive bodies of rock, the speed of that motion or change appears slow to our human senses -- but it's still happening.

And that's not the end of it. As we shall see, lifting your eyes to an Indigenous perception of *community as the complex and dynamic web of relationships between all the things that exist* -- relationships such as those between yourself-in-place, the ever-moving earth, and the ever-changing sun, as well as all the things that emerge from just that small group of three core relationships, and from which those things themselves emerge -- grounds Community within the larger cosmos, the timelessness of the Ancestors, and Knowledge itself. And this is what brings us, finally, to an **Indigenous** understanding of *Community*, one that manifests in, and is expressed by, the powerful metaphor of this little Circle. And, in that context, remember too that the Circle has profound *functional* significance throughout the natural world as well (Adams et al. 2022).

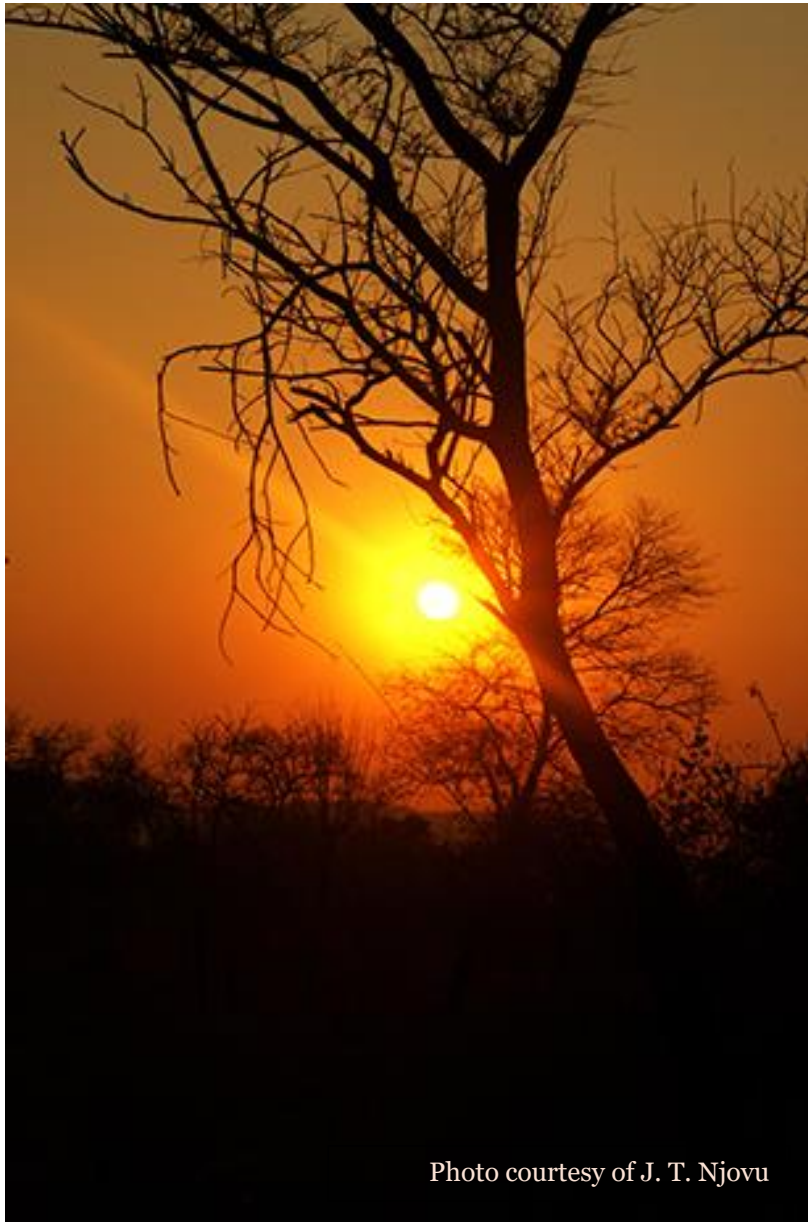


Photo courtesy of J. T. Njovu

Chapter 6

Community was one of the three baskets of Knowledge that emerged in our 2023 gathering. So we need to look again at the initial statement about Community we received that day. This time I've put the word "community" in bold font so you can track it through the text to remember the context of the discussion we are having here -- which is to say, the reason we're talking about community with so much care.

***Community** and Ceremony are deeply interwoven. The **community** that we are creating is important for several reasons. If our IKhana Fund **community** does our work as ceremony, it makes it possible for the Indigenous people whose work we fund to do it as ceremony too. The function transmits. If our IKhana Fund **community** does our work as ceremony, it makes it possible for the Western people who fund our work to do their work as ceremony too. Again, **the function of community transmits**. The functions of Ceremony and **Community** transmit in both directions from us, to both grant-givers and grant-receivers. This generates a giving-and-receiving **community** that moves in ceremony.*

You'll notice that I highlighted one entire statement in bold font as well, that "the function of community transmits." I did this specifically to call attention to the

fact that community is defined here in *functional* terms. That's very different from the way that Western culture commonly approaches community, which is as a *social construct*. A construct is a structure, a noun. A function is a process, a verb. So a statement that begins "the function of a community" is *conceptually* bold to a Western ally, not just a word in a bold font. But if you look back at the way we've just explored the simplest relationships between yourself in a certain location, the earth itself, and the sun, you will see why community really is defined by function -- specifically by the functional engine of relationship.

The sentence in that quoted passage of the Knowledge given us in 2023 takes the functional process definition of community an extra step further than this, though. It says this *function is transmissible*. Obviously it's not the noun-based identity aspect of community that would or should transmit. If you create community by making others speak your language, become fans of your own favorite rock group, or marry into your family so your relatives are now their relatives . . . well, that's colonization at best, and imperialism at worst. It's immoral. So of course it's the *function* of community that has to transmit if we're going to be ethical about it. The question is how that function is even understood to begin with, much less how it's transmitted.

But the Knowledge we were given that day didn't stop there either. As was the case with ceremony, we were told the IKhana Fund community is to transmit function to both Indigenous grant-receivers *and* Western grant-givers. And that, right there, lands us on the doorstep of the simple little statement that led us such a merry chase

in the volume on ceremony -- that this generates a *giving-and-receiving **community** that moves in ceremony*.

Anyone who's read this far recognizes that last statement as the powerhouse of potential trouble it most certainly is. In fact, even just in the context of the introductory comparison between Indigenous and Western understandings of community I've drawn so far, it's clear this seemingly innocuous statement towers over future cross-cultural collaboration like a supercell thunderhead spreading into a hot summer sky. That's because the way people of Western culture think about community, and the lived experience of community that Indigenous people know -- and into which we are told collaborative allies are to join us -- are very different things. Thinking about how to weave the Knowledge we were given in such a way that our allies can fully and functionally be in *ceremony* with us was hard enough. But explaining the Knowledge we were given in such a way that our allies can understand how to do ceremony *in community with us*, at the same time and as part of the same process . . . ? The moment I even thought about trying to do such a thing, I was sure I heard the deep rolling boom of distant thunder.

But then I thought about the Spanish *conquistadores* who wound up lost because they didn't understand that they were literally moving within a Circle of community defined by the sun, earth, and themselves-in-place. It seemed to me that if those men had learned they could use the sun and their own shadow to find their way back to camp, they'd have been able to start seeing that Circle they were so oblivious to. It was the horizon of the *Llano Estacado* all around them, but of course it existed everywhere else too. Once they could really *see* that Circle

and understand how it related to the compass of their own shadow, they might have been able to see the dynamic nature of the sun, earth, them-in-place relationship elsewhere -- and then to notice some of the *other* natural relationships of which these things and they, themselves, are an integral part.

Of course, the *conquistadores* might not have been even remotely interested in the sun-shadow compass anyway, much less the rest of it. But I was pretty sure a contemporary Western person sitting down long enough to read these publications would care enough to pay attention to this information. And if they did, they might start seeing the connections pretty easily. After all, those connections are the Knowledge that emerges from precisely the relationships they'd be starting to pay attention to. So the sun, earth, person-in-place relationships began to seem like a good key for opening Western perceptions to a Land-based experience of reality.

The common ground I knew I could start with was maps. Everyone is given maps to color in elementary school, to study in history and geography classes, and to use when planning business and vacation travel. So everyone knows about east, south, west, and north. The cardinal directions are not esoteric or even difficult knowledge. You also know from experience that the way you are oriented in space affects your relationship to the rest of the directional space around you, meaning you know this particular knowledge is *contextual* (Adams et al. 2020:37).

If you ask me, "Is north to my right?" you know that my answer depends on which way you are facing when you ask me that.¹⁴ That's why the directions you give someone

to your house start by you asking them where they already are. Before you tell someone to "turn north" or "turn right" on Oak Street, you have to know which freeway exit or highway they'll take to get to Oak Street, and which direction they're traveling at the moment they reach that intersection. So people in Western culture understand that directions are *always* relative to any individual person's location -- which is exactly what we saw in the story about the pine tree, its shadow cast by the sun, and the Circle. So even without the dot at the center of the Circle, and even without the image of the Circle itself actually being present, it's pretty easy to understand that the place the north-south and east-west directional axes cross is the place you are standing at any particular moment. The Indigenous Circle and the Western map clearly share a common, ontologically real base of origin. That common base is the earth itself and the simple fact that humans exist on this earth.

So now we've found a cognitive bridge that can permit people familiar with Western maps to access the Circle and, thereby, the Land-based Knowledge that the Circle manifests. So it's time to finally wave *adios* to the *conquistadores* who were lost in so many more ways than they even realized.¹⁵ The day I did ceremony on Pine Ridge for the prairie talk, the only reason I asked for Knowledge about how I could have helped Coronado's men perceive their relationship with the Land, so they could access the Indigenous Knowledge that was always there for them, was that I'd realized they saw the prairie the same way most Western people I know still see it today. But it was those people of today -- including you, now -- that I really wanted to figure out how to reach.

And now you have a basic understanding of the Circle in your hands. You know that if you simply step outside your door at different times of day and season, and look at your own shadow on the ground every time, you can start to *really see* and then really *think about* the ways it changes during the day and from season to season. By doing this, you will start to access real experiential knowledge of the relative movements, positions, and *relationships* between the sun, the earth, and you, yourself, in the place where you live on the earth.



I try to live in such a way that every time I learn something, it gets incorporated into how I live my life. -- Shawn Wilson

Chapter 7

The Circle is so powerful because it metaphorically expresses the reality of the Land itself. It would be easy to miss the point of a statement that seems so innocuous, so let me hit it again in a little different way. *Because it is a manifestation of the Land itself, the Circle manifests Land-based Knowledge.* But the Circle metaphor only begins to find full expression within a person's awareness once they consciously understand that it works the way it does *because* the sun and every living being, including you, yourself, are -- *along with* the earth itself -- *deeply inter-woven parts of that thing Indigenous people call "the Land."* And then you have to realize that when we say *community is the complex and dynamic web of relationships between all the things that exist,* we are talking about and recognizing the deep kinship of all these things through which the Land *manifests*.

If you're a Western ally who wants to start understanding an Indigenous view of community, you have to first consciously transcend the flat perspective of the Earth's surface that's visible in Western maps with which you're already familiar. The first step in doing this is to raise your perception upward from the earth's surface to include the role of the *sun* in the Circle. The second step is expanding your perception outward from an internal landscape view of your self, alone, to the role of yourself as *person-in-place* in the Circle. Once you take these first two big cognitive steps upward and outward, and you start to

perceive that the Circle manifests *all* of the Land -- up and down, inside and outside, past and future, not *just* the planetary surface and not *just* at this moment in time -- you can begin to perceive that "all of the Land" also includes the *dynamic processes of relationship between* sun, earth, and all the things on, within, and of the earth.

This awareness can then expand to encompass the way seasonal cycles, diurnal cycles, and all the atmospheric and oceanic movements that are part of the dynamic and complex system we call "the Land" also manifest themselves in the Circle. In fact, the Circle actually manifests even more Land-based Knowledge than just the types I've mentioned here. As the Aboriginal scholar Tyson Yunkaporta has pointed out (2020:104), "When metaphors have integrity, they are multi-layered, with complex levels that may be accessed by people who have prerequisite understandings." And the Circle, my friend, is a metaphor of almost unspeakable integrity.

Knowing how to read a standard Western map is the "prerequisite understanding" that Western allies can use to start comprehending the Circle metaphor at the first and most basic level in which it manifests Land-based Knowledge. Then these allies can move upward and outward and within-ward and complex-ward from that initial level to richer understandings (plural) of the Land-based community Indigenous people perceive and experience. But when we consider why the Circle provides Knowledge that permits people to be at home in community everywhere, rather than lost, we are accessing just *one layer* of the Land-based Knowledge, and of the Land itself, for which the Circle is a rich metaphor. But this layer is important because it's the one Western allies

can potentially comprehend as an entry point, specifically because of its similarity to a map.

The trick, though, is that Western map-reading skills can only bring an ally to the place this understanding *starts*. To begin to level up your comprehension from map to Circle, you have to weave in the three crucial elements of the Circle that are not part of most Western maps.

1. **The natural world.** The sun is part of the Circle, even though it's not graphically depicted on a standard Circle image such as the one I shared with you. But, as you've just seen, the sun establishes the Circle's directional axes and quadrants. So it's certainly there, but *functionally* rather than materially depicted. The stars, planets, and other bodies of the universe are part of the Circle too,¹⁶ and their relationships with the earth and the people who stand on its surface at a specific location manifest in other Circles constructed by Indigenous peoples. Of course, the earth includes everything from winds to redwoods and penguins to bayous, so these are part of the Circle too.¹⁷ The processes that move in and through the living Land are also part of the Circle. For instance, the color of the Circle's red quadrant is often said to pulse with the life force of both blood and red stones. The color of the black quadrant is said to voice the rolling power of thunders heavy with rain. But those manifestations are not universal, for the Circle is specific to people and place. As just one example, some Indigenous peoples' Circles have a quadrant that manifests the generative power of the plant nations' green leaves.

2. **Time.** A Western map generally doesn't incorporate time but shows only place, not the processes that happen

there over time.¹⁸ The four quadrants of the Circle and the color schemes sometimes used for them express, at different levels of the Circle metaphor, diurnal time or seasonal time -- which is why you use sun, *season*, and *time of day* to read the cardinal directions off your shadow on the ground. The quadrants also manifest other types of time, such as that which plays out in the age-stages of living things (e.g., birth, adolescence, maturity, old age). *Time is actually an exceedingly important part of the Circle because the Land is dynamic.* In fact, it is the naturally dynamic, constantly-moving nature of the Land that "writes" time into the metaphor that is the Circle. It's literally not possible for time *not* to be part of this metaphor. It's also important to notice here that this time element infuses the Circle's metaphorical expression of community with the *verbs* that create and describe the *relationships* between the noun-things such as earth, sun, and person-in-place.

3. Yourself-in-place. Indigenous people often use the term *Place* for a person's lived location on the earth's surface. Place includes all the things that exist at that location, as well as its latitude, longitude, elevation, soil, climate, and other aspects of geography. The few Western maps that have a "you are here" mark to ground and orient a user in the space depicted show a specific "place" such as a shopping mall, airport, or zoo that is far smaller and more limited than is a typical Indigenous "place." Western "you are here" maps are set up to help people find and then get to a specific destination such as a bookstore or gift shop from one universal "start here" location in a specific place humans have created or curated. Using and thinking about this type of map can often help an ally understand the way they are "on" or "in"

the Circle, and therefore a part of it. But the "you are here" spot at the center of Indigenous peoples' Circle is always located wherever you're already standing. You don't have to look for a big map printed on a permanent sign or platform, then physically move yourself to that map's location in order for things to work. The Circle itself, in whose center you stand, exists everywhere you happen to be, and is all around you in every direction. No matter where you go, the Circle is centered on your location at that moment.

So now we're ready to explore these three elements in a way that moves from the Western maps most people are familiar with to the Circle of the Land. Then, once everyone is standing within this powerful metaphor that is the Circle, those who are new to all this can begin to perceive the more Indigenous experience of community that is Land-based. Our goal, after all, is to stand together within a space of Land-based community so we can live out the three baskets of Knowledge given to us in our second IKhana Fund meeting.

And somehow, in the process of doing that, we want to figure out what question the Land perceived and responded to by giving us that Knowledge, when we had simply asked how to develop Indigenous grant protocols. It's easy to lose sight of that point, what with owl-seeking kids shining flashlights in our eyes and gold-seeking *conquistadores* clanking through the offices and living rooms where we're reading these words. But our purpose here has always been to find a way we can satisfy the Land's vision of IKhana Fund as a *giving-and-receiving community that moves in ceremony*. Regardless of why the Land gave us that task, it's a pretty tall order. And it

can only happen if everyone who's part of IKhana Fund really understands what it means to say that **community is the complex and dynamic web of relationships between all the things that exist.**



Back when I was on the lecture circuit, it was fascinating to learn how differently people in Western culture thought about community, compared to the way I thought about it. It didn't matter whether I was addressing faculty in a symposium, college students in a classroom, or families in a museum public education program. If I put a slide depicting some aspect of the living Land on the screen and used the word "community" to refer to what was pictured there, certain images caused such strong reactions that I'd stop and ask people what was going on. I mean, you have to understand how people hear things if you want to communicate.

What these people told me, every time, was that certain things in the image *were* part of community, but that other things most certainly were *not*. They didn't see this as a difference of opinion, but as a mistake I'd inadvertently made and would surely want to correct. Yet, interestingly, they often disagreed with one another about where that demarcation line between community and not-community existed. Nevertheless, there were some clear major patterns in how people saw this issue.

Most non-biologists were willing to accept certain animals as part of a community people are in. Eagles? Cool animals. Thumbs-up. Black bears? Yeah, they're pretty cool too. So maybe bears. Lions? People would shift uncomfortably in their seats. Lions don't naturally live in

North America, they would say, so they aren't really part of our community. But of course they're part of the community in, say, the Serengeti. So I asked, *What about the lions in your town's zoo?* That was a mistake. Things tended to get ugly fast if you brought zoos and zoo animals into a discussion of community. So I asked about their pets. Dogs, cats, and horses got a yes. Gerbils? Seat-shifting commenced again. Gerbils are awfully small and not very smart, they would say -- telling me the traits of gerbils that apparently disqualify them from community, but not saying *no*. Other domestic animals? Well, here's a public speaking tip: Do *not* ask a roomful of people who don't know each other well if the cows and chickens they eat are part of their community. Trust me on this. I also asked them, at various times, about fire ants, salmon, the Atlantic Ocean, Alpha Centauri, a thunderhead, wheat, algae in a pond, mosquitoes, octopi, redwood trees, the moon, humpback whales, Jupiter, blue jays, *E. coli* bacteria, bumblebees, the Mississippi River, polar ice, the wind. I bet you have a good idea, yourself, of the general response each gets from you. If so, this would be a good time for you think about what criteria *you* use to define community. Really. Stop and think about that right now, before you go on.

Interestingly, biologists usually thought specifically rather than generally. For example, the Atlantic Ocean (they might say) is technically not part of the marsupial rainforest communities of coastal Australia . . . except, of course, that the major ocean currents are primary drivers of climate world-wide, so there's undoubtedly at least an indirect connection between the two systems. If I asked if this meant that the marsupial rainforest communities of Australia are part of their own town's community (in, say,

Boston), the answer was an awkward but definite *no*. That's not what "community" means in ecology, they would say, "it's more local than that." So are the *humans living in Australia* part of that marsupial rainforest community, I'd ask then.¹⁹ And generally the immediate answer was "no" because standard models of ecology research observe and analyze relationships between non-human organisms and their natural environments.²⁰ But I'd been asked to speak, in part, because I'm Indigenous. So they'd often pause and then add, "well, except for the local Aboriginal people of that place . . ." -- then trail off, unable to do more than just prop open that door. But at least I could tell they'd heard we see community a little differently from the way they do.

Pretty much *everyone* drew a hard line somewhere in earth's atmosphere, though. Depending on the person, I could sometimes get them to acknowledge that "*technically*" the sun and moon were part of our communities here on earth, given the roles these play in climate, tides, and endocrine systems,²¹ to name three big inter-relationships between us. But other planets, stars, and galaxies were all a firm no-go. The trait that disqualified these things from community was *unreachably distant*. A lot of things right here on earth -- mountains, rain, thunderheads, and rocks for instance -- also got a firm "no" as community members. The word used to disqualify this batch from community was *inanimate*. They could be important to ecosystems and communities, people said, as resources for example. But they were inanimate, and communities are composed of living things.

As you're probably beginning to see by now, Indigenous

people tend to see community in terms of *relationship*, and the relationships as reciprocal in a healthy community. Members of a community that emerges from relationship also have a common heritage that's both familial and historical. That's not just an Indigenous perspective, either. The root for the English words *relative*, *relation*, and *relationship* (Online Etymology Library 2025b) is essentially the old Latin and Old French verb used for "to relate" -- as in to "bring back, bear back" -- used as early as 1300 to mean "connection" or "correspondence" and by the 1500s to mean the "act of telling in words." You can see the forward-moving process inherent here, and the pattern it forms, of *re*-creating a thing that's already happened, then carrying it forward, by putting it into words that now others carry forward. You can see the same process producing a pattern of people that a family lineage carries forward, re-creating certain talents and physical characteristics and moving them along through the world. A lot of Western people think about bloodlines in a more individual or personal way when they think about familial relationship though, and Western practices of first-born son inheritance wound up framing many peoples' thoughts about familial relationship in patterns of exclusivity and privilege.

Indigenous people see familial relationships as *inclusive* rather than exclusive. A phrase often spoken as something like an invocation in Lakota gatherings, for instance, is *Mitákuye Oyás'ĭŋ* or its English translation *All My Relations*. American Indian people appreciate the Lakota way of so neatly summing up and honoring the fact that "All humans, all animals, all plants, all the waters, the soil, the stones, the mountains, the grasslands, the winds, the clouds and storms, the sun and moon, stars and planets

are our relations and are relations to one another. . . connected to each other in multiple and vital ways" (Tapestry Institute 2020). Of course our relations are alive, just like we are. They are our *relations* -- our *relatives*. Aren't those you call your relatives alive? And of course All Our Relations are sentient, and can share Knowledge. Isn't that true of your relatives too? Indigenous people are just more inclusive about who our relatives are than you might be used to if you think about relationship in a more colonial framework. That inclusiveness is the essential bottom line to Indigenous concepts of *community*, compared to the exclusive way in which Western people typically see community. It rests on the fact that Indigenous people know the Land itself as alive -- a concept that nullifies the use of "inanimate" as a criterion that can be used to disqualify any natural entity from the community of which we're a part.

The key factor many allies miss in a discussion of this type is that because our non-human relations are not humans, Indigenous people do not expect them to behave as humans. Our relations are their own nations and they have their own perspectives, their own ways of doing things, their own agendas, their own wisdom. After all, that's how it is even among different humans, right? Yet it's very hard for people in the dominant culture to understand this. They somehow imagine that if horses and stones and pine trees are alive and sentient like humans are, they must think and feel and talk with one another the same way humans do. And in fact cartoon animation and CGI both project humans into non-human living beings in exactly this way. But that has not been my experience in relationship with any horse or stone or group of pines. I think Western culture's human-based

assumptions about what it means to say something "is alive" are one of the biggest obstacles our allies face as they try to access Indigenous space.

Distance, which is the other big qualifier for the people of the dominant culture, does play a part in how Indigenous peoples think about community -- but not in the same way it does in Western culture. If we have frequent interactions with a thing, then we have *a closer relationship* between us. But if not, the distance between us is one of limited interaction, not of a limited kinship. For instance, the stars of the constellations Little Bear (Ursa Minor), and their larger relative, Big Bear (Ursa Major), are in the sky over my head. Together, they show me where the North Star is (see Dyches 2021). So these are important star relations in my life. I hear there is an important group of stars called the Southern Cross that can be seen in Australia and Aotearoa, and that these stars show people there where South is (see Constellation Guide 2022). But I have never had any personal interaction with those southern stars because they live somewhere else than where I am. They are my relations but I don't know them personally. It's like they are a cousin who is an important part of my family but lives far away, so I've never met them in person. This means that if I was to have a dream of those southern stars that seemed to bring me information, I could not understand the dream by myself. I would have to take my dream to an appropriate Elder among people who do know those stars, who is in close relationship with them.

I had to do just this when I first met moose 25 years ago. I did not grow up in places where moose live, so although they are my relations, I did not know them in a personal

way. Then Moose called me in a dream to come up north so he could give me some teaching. I had to ask some Elders about it, to know what to do and where to even go. Later, after the time I met the moose I told you about in *Standing Our Ground for the Land*, a woman moose gave me a particularly hard message to interpret. So I had to ask an Elder from another place to help me make sure I understood it. That Elder and I didn't even speak the same language, so another Indigenous person had to translate for us. But it all worked out, and now moose and I are close relations, and that Elder and I are close relations too -- brother and sister through our common close relative Moose. But Moose was my relation, part of my community, the whole time -- even when I didn't know him yet.

I am trying to explain to you that *real connections* between everything *exist*. So we are literally all related. But we are closer in *relationship* to the relatives who happen to live where we do, that we can interact with and come to understand. And they understand us as well, this way. But the ones that live where we cannot interact with them are still our relations. They are just ones we don't know very well. But they find us where we are if they need us or we need them, and they find a way to reach out. Sometimes, like the rabbits who engaged me in dance at some very important times of my life, they even reach out in very powerful ways that we have forgotten were possible. They could not do this if they were not our relations. In the case of those rabbits, the relationship was so deep that it was written right into my peoples' history. It was a big relationship, not just a personal one. It was a relationship that carried Ceremony because rabbits are and always have been part of my community. Because I

told you those stories about our relationships -- *related* those stories to you about the rabbits and their relationships and their Dance -- now rabbits are part of your community too. They always were, but you might not have known it.²²



There's been a real personal element of learning and growth. I've been working quite closely with Jo in terms of the functionality of things and there needs to be a reconciliation with the philanthropic community and the language we use. How do we communicate to others, to bridge that Western cultural gap – which is huge – and of course, some things are already changing, for sure. Organizationally, I feel like we're an Excel spreadsheet, one number gets inputted and an algorithm changes everything. So (as an organization), we shift as much as we possibly can to adjust accordingly. I feel like there isn't a day, a moment, an hour that goes by where this isn't a part of my life. I mean, I've probably spent a third of my existence in this work since June, maybe more. It's a huge privilege and an incredible journey to be in this with all of you. I am taking it very, very seriously. And it is very emotional. And it's a joy, even though it's been harrowing at times, it's an absolute joy to be here.

-- Jessica Sweidan



The sun is in *very* close relationship with the earth, with every being on the surface of the earth, and with all the planets of the solar system as well. This means the sun connects us to all these things, and it connects them to us too, even if we don't know it. Once we see this connection, Knowledge can emerge about who we are, as humans living our lives in this place, that we cannot know any other way. That's what relationships *do*, is weave the connections between us from which Knowledge emerges. Our community grounds us so this can happen.

The statements made in those sentences of the previous paragraph are the pivot point on which our exploration of Indigenous community is going to turn now. I am signaling the centrality and significance of the Knowledge expressed in these statements so you don't miss that turn. Western allies have to understand community in order to be *in community* as part of IKhana Fund, as laid out in the Three Baskets of Knowledge we were given. These allies must also understand the essential connections that naturally exist between an Indigenous Land-based community and (a) the ethical system we call relationship and reciprocity, (b) the Indigenous Knowledge that emerges from the relationships of that community, and (c) the ceremonies that weave and maintain those community relationships and facilitate Knowledge emergence. These connections are essential to IKhana Fund because (the letter designations here match those above) (a) the ethical

system of relationship and reciprocity is the root and core of ontologically real sustainability, which Western culture is struggling to understand; (b) IKhana Fund, as a community, seeks to facilitate and advance Indigenous Knowledge specific to Indigenous-led environmental projects that help the Land heal its own self; and (c) any Indigenous community that carries out such deeply Land-based work absolutely *must* do that work *in* ceremony.

The set of relationships between sun, earth, and you-in-place on the earth introduces an Indigenous experience of Community to Western allies because it breaks open all the standard Western assumptions and expectations of what community means. How do I know this? When I did ceremony and asked for help about how to teach these things to Western people who have a hard time understanding Land-based community, fearing I could not do it, the Land showed me a pine tree and its shadow thrown across the ground by the sun. That Knowledge "said" to me, by metaphor and implication: *Show these people the community of sun, earth, and person-in-place. Show them the Knowledge that emerges from the inter-relationships of this community. Lay it all out within Ceremony so they experience Community for themselves.* So that's what I'm doing. Land-based Knowledge is not merely a philosophical tenet to Indigenous people, any more than sustainability is. Land-based Knowledge is a lived ethos.

So. We explored how the relationships between sun, earth, and person-in-place permit anyone to read the cardinal directions from the shadow at their own feet if they know the season and general time of day. In working through this together, we added the sun to the Western conceptual

framework of maps. Then we added time (seasonal and diurnal) to the Western conceptual framework of maps. You then added yourself to this framework, as a person who's standing in a specific place. So it might seem like we're all leveled up now, with respect to adding the natural world to the Western understanding of maps. Those of you who are allies might therefore feel like you understand the Circle now and are ready to move on to a discussion of community that's more in line with what you've been waiting for and expect. *Bring on the redwood trees and the whales, you might be thinking. Bring on the rights of rivers and red-listed species!*

So, just a minute here. Show of hands: How many of you have gone outside to see for yourself how your own shadow tells you the cardinal directions? OK, I see a few of you signaling that you did this, and that's awesome -- even if all you did was glance down while waiting at a bus stop and think to yourself, "Well, I'll be darned. It does point northwest in the morning." But I strongly suspect -- from so many years teaching in museum programs as well as at university -- that for most of you, going outside to look at your own shadow is not very high on a list of cool things to do over a nice weekend. And I'm also guessing that even if you did look at your shadow, you did so once -- not several times in a single day to see how it changed as the sun crossed the sky. I'd also be surprised (pleased as punch, but surprised) if you've already made a note to yourself to check your shadow's appearance and position again over the coming months, to see how seasonal movements of the sun's position affect the relationships we're talking about. Of course, follow-through on a plan to do something like that can be tricky too. Work and family responsibilities have a way of siphoning off the time set

aside for such things. All of which is to say that I'm pretty sure most of you hope you can learn what you need to know about an Indigenous concept of community, or at least get close enough for it to count, just by reading the words I've laid down here. Right? Don't you fall somewhere in this paragraph?

The problem is that it's the process of *application*, of using "book learning" in a real situation, that generates real understanding of new information. I mean, imagine learning to ride a horse by reading a book about horsemanship but never even touching a horse -- then putting on a pair of boots, going to a stable or ranch, saddling and bridling a horse there based on what you've read, *and then getting up on the horse's back*. If you survived that particular transition from book learning to applied experiential learning (ouch), you'd certainly learn how to ride a horse at that point. Or at least, you would *start* to -- because real learning, acquiring the understanding that's so much more than just memorizing a list of terminology and facts, is a complex process that requires active effort over a significant period of time. You have to engage in the real world with whatever you're learning about, long enough to encounter the variations and unexpected snags that always come up no matter what you're doing. Those unexpected wrinkles impact everything you thought you knew, teaching you things you didn't even know you were missing or didn't understand. And while all this was going on, you'd have to pay close enough attention to discern the patterns in those variations, and to perceive the subtle but profound things they have in common. That process of genuine learning cannot be accomplished simply by passively consuming mass media -- this document included.

Application is an absolutely essential part of the learning process for anyone trying to understand Indigenous Knowledge. But it's even more essential that those of you who happen to be Western understand that "application" here does *not* mean "doing" a sweat lodge or other Indigenous ceremony. I'm talking about applications like going outside and looking at your shadow, and perceiving that shadow within the Circle of relationships that so dynamically weave together sun, earth, and yourself in the place you live on the earth. After all, IKhana Fund is about *Indigenous Knowledge*, not any specific Indigenous *culture*. So even when we spoke of ceremony in the first chapter, we spoke of fundamental process rather than specific cultural activities. If you're an ally, simply "doing" a cultural activity doesn't advance your learning comprehension, because Indigenous Knowledge cannot emerge if you are still standing in Western culture's cognitive space.

If you think Western people who attend an Indigenous ceremony can't possibly still be standing in their own culture's cognitive space, I encourage you to remember the stories I told in *Living in Ceremony for the Land*, about the scientist who slammed the table in anger and the woman certain she was being invisibly choked during ceremony. I told those stories in that volume because this kind of problem is so darned *common*. This is specifically why Lakota scholar Vine Deloria said there's a "*requirement of personal involvement*" for allies learning Indigenous Knowledge (1999:71, his italics) -- that reading alone cannot possibly accomplish such learning. Applying knowledge by using it in the real world is simply that much more powerful, as a cognitive process, than merely reading about, or even hearing about, the same

information. But such application can't be *pro forma*. It requires real and substantive effort on the part of any ally trying to step into an Indigenous Land-based experience of reality.

In a traditional, Indigenous world you and I would be engaging in person for that very reason, not through a written document. In that situation, it would be relatively easy for me to mentor you through a shadow-exploration experience within the context of the Circle. I'd ask you questions that help you apply what you've been learning about the Circle through some actual experiences I'd make sure you'd had. This would help you start learning from the Indigenous Knowledge that emerges when a person participates in that basic web of relationships between earth, sun, and person-in-place. But the sheer numbers of Western people who want to learn pretty much anything in our heavily-populated world make this kind of individually mentored learning almost impossible.

The most common solution Western culture uses for *all* non-classroom learning, regardless of subject, is therefore media-based mass education. That's precisely the space this written text occupies. But even in a mass-media learning environment, a person's learning depends on their own active efforts to form a rich web of relationship with the Knowledge. Those efforts on *your* part, in *this* situation, can be engaged and supported by my efforts to design and guide you through a series of written learning experiences that engage the requisite cognitive processes. But I can't do this with the shadow-experience Knowledge of cardinal directions we've been working with to this point. In an un-mentored setting, it hasn't got enough cognitive depth for that. It won't work.

Happily, the same basic Knowledge written into the dynamic relationships that exist between the sun, the earth, the place you yourself stand on the earth, and the time of day and season also emerges from a different event that most people find far more engaging than their shadow. In fact, this event is so engaging that it moved our ancestors to create a variety of ancient structures we still marvel at today. I'm talking about *Solstice*.

Without the relationships between earth, sun, and person-in-place, Solstice would not exist. Furthermore, these are precisely the same relationships that permit you to read the cardinal directions from the shadow at your feet. It's essential, as we step from the shadow learning experience into one engaging Solstice, that you see the common foundation of earth, sun, person-in-place relationship these things share -- because that relational foundation is the bedrock for pretty much everything. *It is the Land itself*. And it manifests through the metaphor of the Circle.



TiKouka tree in Aotearoa. Photo courtesy of Fiona Cram.



*So, I guess for me, what's coming in my heart at the moment, is how we're engaged in that translation process. What it comes down to, sort of, for me, is that well, there are the principles I want to live by and apply to this situation -- but then here are the actual practicalities of how we would do it with IKhana. But hopefully the principles can help other agencies to develop their own guidelines. So, it's like, yes, these are the basic principles you wanna' work from. This is how we'll apply it for IKhana. If we'll let other people know what these principles are and how we got from there to the guidelines, they can develop their own guidelines that are gonna' be a bit more, I don't know the right word -- site specific or context specific, and land specific to the places where they need to be -- but still following our general principles of being accountable to the Land.
-- Shawn Wilson*



The modern concept of Solstice has been so heavily modified that contemporary culture has completely lost sight of the dynamic relationships between sun, earth, and yourself-in-place that Solstice expresses. Yet these natural relationships are the criteria by which humans in the mid-latitudes worldwide recognized Solstice for millennia. They paid attention to Solstice and built famous structures like Stonehenge because the web of these relationships forms the fabric of reality we call the Land. That's not Knowledge you can casually discard without consequence. So before we can talk about how you can apply what you learn about sun, earth, and yourself-in-place relationships from Solstice, we have to re-establish what Solstice even is.²³

To begin to see the problem we're dealing with, do an online search for the next Solstice event where you live. Yes, really. Applied learning, remember? So, for example, type "When is Summer Solstice 2025" into your browser search box, using whatever year is appropriate for when you're reading this. I'll run pour a cup of tea while you do that.

Good. OK, so now look at the list of websites you got in response, and notice that the first few have an official-looking statement of the precise date and time on which that particular solstice will happen. And I do mean "precise date and time." For instance, Summer Solstice of

2024 in western Nebraska (the one due next where I live, as I sit writing these very words) is, I am told, going to "happen" at 2:50 pm on Thursday, June 20. That makes it sound like I should step outside and bang a pot with a spoon to welcome summer to Pine Ridge that afternoon, doesn't it? But here's the thing: if that's when Solstice is, how on earth did people who didn't have clocks yet know when it was? The answer is that our ancestors didn't *need* clocks to identify Solstice because they did not define it this way. Modern people only have to use time to identify or recognize Solstice because the culture has actually lost sight of the essential natural pattern that Solstice really is. That pattern is easily visible to anyone who simply takes the time to look. But before I show it to you, we need to explore others common contemporary "definitions" of Solstice so you can see the astonishing state of the problem for yourself. That problem, to be very clear, is a *culture-wide loss of Knowledge* about the basic relationship between sun, earth, and people-in-place.

We'll start by exploring the view of Solstice that produces those highly common time-and-date definitions we just saw online. That definition expresses a view of Solstice as *a moment of maximum or minimum*. If you define something as a moment of maximum or minimum, you've got to explain what or where that maximum or minimum status thing is. According to a number of resources (see, for example, Bett 2024), the exact time of Summer Solstice you find in a statement such as the one we looked up together is determined by the date and time at which the sun reaches the maximum northward position where it *ever* stands directly overhead, straight-up. That position is a line of latitude called the Tropic of Cancer, 23.5 degrees north of the equator.²⁴ In any place north of the

Tropic of Cancer, the mid-day sun is always at least a little bit south of straight-up, even in the summer. Summer Solstice *is defined as* the precise moment when the sun reaches that Tropic of Cancer line of latitude and stands directly, vertically, over it. If you observe the moment when the sun is standing straight up over the Tropic of Cancer, you can record and publish that time as the official moment of Summer Solstice. But you can also use basic astronomical data to predict when this event will happen, and publish the same time and date ahead of time. Regardless of which way you do it, that's the time and date that's listed on these websites as the precise time Summer Solstice "officially" happens.

Now, it may seem to you like "Summer Solstice is the moment the sun is positioned directly overhead at the Tropic of Cancer" is a reasonable way to identify and define Solstice. But . . . if so, how did my Choctaw ancestors in what's now the state of Mississippi know when the sun got far enough north to stand directly over the Tropic of Cancer, *which is about 770 miles south of Mississippi?* You might remember that the timing of our Green Corn Festival, *Luak Mosholi*, has always been tied to Summer Solstice. So clearly we knew when it happened even thousands of years ago, though we were nowhere near the Tropic of Cancer where the sun supposedly defines this moment.

And no, there was *not* a complicated set of something like relay runners or smoke signals that delivered word from the Tropic of Cancer people to the Choctaw each summer. Let me nip that idea in the bud with one word: Stonehenge. Stonehenge is at a latitude of 51.2N. That's almost *2000 miles* north of the Tropic of Cancer. Are we

really to assume that people living in England thousands of years ago somehow set up that enormous stone structure so they could ritually observe the moment when the sun stood directly over a place 2000 miles (3200 km) south of them? Or that if they wanted to do this, they could? I mean, Stonehenge is on an *island*. We'd need to posit some pretty serious relay runners or smoke signals to get word to England in time for "NOW! It's Solstice right this minute, NOW!" So, no. Defining Summer Solstice as the day the sun stands directly over the Tropic of Cancer simply doesn't work. Mind you, I'm not saying the sun doesn't stand directly over that line of latitude on that date. It does. What I am saying is that *this was never how Solstice was recognized as a significant event, or how it was defined, across the span of human history.*

There are other common "definitions" of Solstice too, though. So let's look at those now.

Probably the most common definition you hear is that Summer Solstice is the longest day of the year, and Winter Solstice the shortest. Like the definition of Summer Solstice based on the sun's Tropic of Cancer position, daylength is a maximum/minimum view of the phenomenon. This definition is often coupled with statements that the sun rises earlier and/or sets later on Summer Solstice than on any other day of the year. The assumed correlation here is that the sunrise and sunset times must be far enough apart that the hours of daylight are at a maximum.

Happily for us, we can explore the validity of this definition very easily because the United States Naval Observatory lists dates and times for a number of

astronomical events, including sunrise and sunset, for places all around the world, on any date that falls between the years 1700 and 2100 (US Navy 2025b). If you use their online tool (in the reference where I just flagged it), select sunrise and sunset times as the kind of data you want to see, and plug in the place you live, you can see the times for sunrise and sunset on each day in the weeks surrounding Solstice.

Using USNO data for a very specific place, I made the table you see in "a" at the top of the next page, of sunrise and sunset times for the Royal Museums Greenwich, in England. This museum is part of the oldest standardized time body in Western culture, and its educational webpage about Summer Solstice (Royal Museums Greenwich 2025b) opens with the words, "On this day, the number of hours of daylight are at their maximum, while the number of hours of night are at their minimum." The USNO data allow us to see how this statement really plays out.

I looked at a 12-day period from June 15 through 26 of 2024. In the table I constructed, those June dates are running down the first column, on the far left side with a header column in blue. The second column lists the times for sunrise (header column in sunrise pink), and the third lists the times when the sun set on those dates (header column in sunset gold). I highlighted the two rows with figures for June 20 and 21 (in a summery pale green) because most people think of one or the other of these two dates as "being" Summer Solstice.

June Date	Sunrise Time	Sunset Time
15	4:42	21:19
16	4:42	21:19
17	4:42	21:19
18	4:42	21:20
19	4:42	21:20
20	4:42	21:20
21	4:42	21:20
22	4:43	21:21
23	4:43	21:21
24	4:43	21:21
25	4:44	21:21
26	4:44	21:21

a

June Date	Sunrise Time	Sunset Time	Daylength
15	4:42	21:19	16:37
16	4:42	21:19	16:37
17	4:42	21:19	16:37
18	4:42	21:20	16:38
19	4:42	21:20	16:38
20	4:42	21:20	16:38
21	4:42	21:20	16:38
22	4:43	21:21	16:38
23	4:43	21:21	16:38
24	4:43	21:21	16:38
25	4:44	21:21	16:37
26	4:44	21:21	16:37

b

Take a look at the times in the sunrise (pink header) and sunset (gold header) columns of the first table (a). You'll see the actual changes in timing over Solstice are very small. The sun rose at 4:42 am on the 15th and set only 2 minutes later than that on the 26th. Sunset times are only 2 minutes apart on the 15th and 26th too.

Now look at the table labeled "b." The sun set (gold header) at the very same time -- 21:20 (= 9:20 pm) -- every single one of the four days from June 18 through 21. (I colored those sunset *time* boxes with the gold sunset color to make sure you can see what I'm showing you.) So the sun sets on Summer Solstice, the 20th (the day my time-and-date solstice definition told me would "be" solstice this year), at the very same time it sets on the days surrounding Solstice. And the sun only sets *one minute* earlier or later when the time changes at all -- at 21:19

(9:19 pm) the 15th, 16th, and 17th; and at 21:21 (9:21 pm) from the 22nd through the 26th. Furthermore, the sunrise works the same way. The sun rose on Solstice at 4:42 am, which is what it did on each of the seven days from June 15th through the 21st.

What does this tell us about day length? Remember that the definition of Solstice you most often hear is that Summer Solstice is the longest day of the year, with Winter Solstice being the shortest. So let's take a look at the length of the days over this period of time. To do that, I added a fourth column to the same table we just looked at. You can see it at the top of the next page. The new column, with a heading colored in pale purple, is labeled "Daylength."

Daylength is the span of time between sunrise and sunset. All I had to do to calculate daylength was subtract sunrise time from sunset time. (Times are in minutes, not decimals. If you subtract to check my math, bear that in mind.) When you do that, it turns out that the daylength of every single day of the entire week in which Solstice happens (in pale purple) is the same -- 16 hours and 38 minutes long. The three days before then, from June 15 through 17, are literally just one minute shorter. The two days on this table after that week, June 25 and 26, are also just one minute shorter. So there are seven days tied for "longest day of the year" in June 2024: June 18, 19, 20, 21, 22, 23, and 24. Nothing much changed in daylength over this time period. And that's the point of us looking at this.

Real world data do NOT support a definition of Summer Solstice as the longest day of the year.

June Date	Sunrise Time	Sunset Time	Daylength
15	4:42	21:19	16:37
16	4:42	21:19	16:37
17	4:42	21:19	16:37
18	4:42	21:20	16:38
19	4:42	21:20	16:38
20	4:42	21:20	16:38
21	4:42	21:20	16:38
22	4:43	21:21	16:38
23	4:43	21:21	16:38
24	4:43	21:21	16:38
25	4:44	21:21	16:37
26	4:44	21:21	16:37

When you calculate daylength from the sunrise and sunset times listed for June 2024, it turns out that 7 days -- June 18 through 24 -- are all the same length, 16 hours and 38 minutes long.

When the Māori's Centre of Research Excellence got established many years ago, one of the things they were doing is giving out funds to Indigenous researchers who often couldn't get funding from other places. One of the early successes was some fellow who was doing interesting things with ocean currents no one was funding. They did fund his research and he got published in Nature. So those other funders now go, "Wow! We should have funded him!" It was like the record companies who turned down the Beatles, the people who turned down good artists or movies. -- Fiona Cram



So why does the Royal Museums Greenwich define Solstice the way it does? That's what we asked to begin with, remember? Almost everyone defines Summer Solstice as the longest day of the year of course, so you might forgive your local radio announcer for saying it. But the Royal Museums Greenwich is not only the museum associated with the world's time standard for more than a century, *it's the site of Britain's Royal Observatory* (Royal Museums Greenwich 2025a). So they certainly know the actual truth about their statement that, "On this day, the number of hours of daylight are at their maximum, while the number of hours of night are at their minimum." Yet that's exactly what they wrote on their webpage explaining Summer Solstice.

It turns out you are missing some critical information that matters so much, it almost seems unfair it's not more openly acknowledged. The people at Greenwich and a lot of other places are using *an atomic clock*.²⁵ Several atomic clocks around the world now set "official time" for everything from computer systems to high-tech laboratories. Atomic clocks mark and record time in seconds and fractions of seconds with a precision that didn't exist in timekeeping until 1967. That's when the atomic clock mechanism was set as the world's time measurement standard (NIST 2024). One of the public websites that pulls time from a standard-setting world atomic clock, is TIMEANDDATE.COM. Greenwich is a major

time standardization place, so it pulls time from an atomic clock too -- which is to say, they are using the same time values that show up at TIMEANDDATE.COM.²⁶ So let's see what they know, that you and I could not see.

June Date	Sunrise Time	Sunset Time	Daylength	Atomic Clock Daylength
15	4:42	21:19	16:37	16:36:36
16	4:42	21:19	16:37	16:37:06
17	4:42	21:19	16:37	16:37:29
18	4:42	21:20	16:38	16:37:46
19	4:42	21:20	16:38	16:37:57
20	4:42	21:20	16:38	16:38:03
21	4:42	21:20	16:38	16:38:02
22	4:43	21:21	16:38	16:37:55
23	4:43	21:21	16:38	16:37:42
24	4:43	21:21	16:38	16:37:23
25	4:44	21:21	16:37	16:36:58
26	4:44	21:21	16:37	16:36:27

Here, I've added a fifth column to my table, this time with daylength values that are *drawn directly from one of the world standard atomic clocks* (pale red column heading) via TIMEANDDATE.COM (at the page linked previously). Greenwich has access to the very same time source. And look at what happens to daylength in this new column.

Before, we *calculated* daylength by subtracting sunrise time from sunset time, and got a daylength for June 15 (top row of the table, colored now in pale yellow) that was 16 hours and 37 minutes (in the original purple daylength column). You can see that number still sitting in the top

row of our table, in the fourth column, with purple shading around the "daylength" value of 16:37. (By the way, I removed the colors from the first three header columns in this table because it was starting to look a bit garish with the new columns' color additions.)

The new *atomic clock value* for daylength on the *same* date of June 15, that I pulled from the TIMEANDDATE.COM website, is *16 hours, 36 minutes, and 36 seconds*. That figure is visible in the far right column with a heading in pale red that says "atomic clock daylength." The new value of 16:36:36 is in the top yellow row, the number shaded in pale red. According to this, and in comparison to the daylength of 16:37 in purple directly to its left, 24 seconds of June 15's daylight has simply vanished into thin air! If you go down the rest of that column of atomic clock daylength values with the red header, comparing each number to the one just left of it that I calculated, you'll see the same thing over and over. The atomic clock daylength value shows June 16 as being 6 seconds *longer* than we calculated by subtraction. The daylength of June 17th somehow grew by 29 seconds. Just scan down the list and you'll see the changes for yourself.

What the heck is going on here? Your first thought might be that somehow the sunrise and sunset times are different at the TIMEANDDATE.COM website -- that it shows the sun on June 15 rising at, say, 4:41:36 instead of 4:42. But go ahead and look at the TIMEANDDATE.COM website if you want. They list sunrise and sunset times for Greenwich in *exactly* the same format they were listed at the USNO. Sunrise time for June 15 is listed as being at 4:42 am, the same way we list it here and as we pulled it from the US Naval Observatory site.

That being the case, the daylengths I calculated -- that are still present in the fourth (purple heading) column -- are correct. Even if you re-calculate daylength values using the TIMEANDDATE.COM website's sunrise and sunset figures, they won't change -- because the times listed there for sunrise and sunset are identical to the ones listed at the US Naval Observatory. The only explanation for the different daylength times that suddenly show up, out of the blue and measured in seconds -- with three pairs of numbers, not just two (for instance, 16:38:03 for the 20th of June) -- is that those daylength values have been pulled in *directly* from one of the universal standard atomic clocks. *And look at what happens to June 20 because of this sudden flip into atomic clock time.*

June Date	Sunrise Time	Sunset Time	Daylength	Atomic Clock Daylength
15	4:42	21:19	16:37	16:36:36
16	4:42	21:19	16:37	16:37:06
17	4:42	21:19	16:37	16:37:29
18	4:42	21:20	16:38	16:37:46
19	4:42	21:20	16:38	16:37:57
20	4:42	21:20	16:38	16:38:03
21	4:42	21:20	16:38	16:38:02
22	4:43	21:21	16:38	16:37:55
23	4:43	21:21	16:38	16:37:42
24	4:43	21:21	16:38	16:37:23
25	4:44	21:21	16:37	16:36:58
26	4:44	21:21	16:37	16:36:27

June 20 -- the day officially listed as Summer Solstice in 2024 -- is now sixteen hours, thirty-eight minutes, *and three seconds* long (16:38:03; red-shaded value in the green cell for June 20). The day *before* Solstice, June 19 (pale red-shaded value in the cell directly above the one you just looked at), is now 16:37:57 long, which is 3 seconds shorter than it was in "regular" (non-atomic-clock) time. The day *after* Solstice, June 21, is 16:38:02 long (red-shaded value cell in the green cell for June 21), which is two seconds longer than it was before measurement with the atomic clock. So, thanks to the magic of the world atomic clock, June 20, 2024 is now a total of six seconds longer than the day before it (June 19), and one second longer than the day after it (June 21).²⁷ It is on this basis that June 20, 2024 is technically the longest day of the year -- by literally one second.

That's *IT*. For real. One second longer than the 21st. And six seconds longer than the 19th. Those are the differences in daylength that make Summer Solstice, in this case June 20 of 2024, "the longest day of the year." Are you going to notice that difference when you're out playing tennis or weeding tomatoes or driving home from work, even if the difference is that oh-so-staggering 6 seconds instead of the one second? Let's be honest about this: NO. You will not. "Longest" is a true *description* of the day, yes -- just barely. But as a definition, if you are trying to say this is how and why there's been such a thing as Summer Solstice observed for millennia, or that this is somehow what Solstice IS, it's utterly meaningless.

And there is *never* a Solstice when the difference between its daylength and that of the ones just before and after it is even several *minutes* longer or shorter. It's always a

difference of seconds. So what you see here is typical. You can choose other years to pull data for and see it for yourself. I mean, even June 15 is just one minute and 23 seconds shorter than the day of Summer Solstice, and that difference is not one you'd be able to feel just by personal experience either. This of course relates to that inconvenient fact we noted earlier, that if you measure daylength in hours and minutes the whole week of Summer Solstice is seven days of equal length. The very same pattern is visible in Winter Solstice.



Cree dog sled and team. Photo courtesy of Shawn Wilson.

Chapter 12

So why *does* the Royal Museums Greenwich define Solstice this way? That's what we asked to begin with and that we have to ask again, still. Why, if they were going to focus on daylength at all, didn't they write, "On this day, there are 6 *seconds* of daylight more than the day before, and 1 *second* of daylight more than the day that follows, so it's technically the longest day of the year, though not by enough for anyone to perceive the difference. Fortunately, we have had a standardized atomic clock since 1967 [we might wish they would be honest enough to say] that's precise enough to measure such tiny differences, so we are able to tell which day is the longest of the year and identify Summer Solstice."

I don't know why they don't lay out the truth of it. All I can figure is that so much basic knowledge has been lost at this point, even the astronomers have a hard time communicating with the public about what solstice really is these days. So they just do their best to come up with a statement that's at least descriptively true and hope it flies. So far it has. I'm not sure why people don't say more about the fact that the day labeled as Summer Solstice doesn't *feel* any longer than the other days around it, because I hear them mention it all the time. But I have no answers for you about how this happened or why it keeps rolling on, unquestioned.

It is extremely important to understand how much of our

heritage *as human beings* we have lost in all this. We are not just splitting hairs here. People at places like Stonehenge 4,000 years ago knew perfectly well when it was Summer Solstice. They moved multiple-ton *rocks* around to mark it, so you'd better believe they were confident in this knowledge. And they were not measuring mere seconds of a time difference to do it either. Furthermore, they were by no means the only people observing and marking Solstice -- because dynamic, moving processes that engage us in reciprocal relationships create *patterns* that are deeply important to Indigenous people and therefore get our attention. That word *pattern*, in fact, is the key to Solstice.

Tyson Yunkaporta points out that "Indigenous pattern thinking" is a crucial way we make sense of and live in good relationship with the world we're part of. In his book *Sand Talk* (Yunkaporta 2020:77), he quotes Aboriginal Elder Noel Nannup's wisdom, that to engage with and truly experience life, we must "Look beyond the things and focus on the connections between them, then look beyond the connections and see the pattern they make." Yunkaporta goes on to say that if you can perceive the patterns that exist *outside* of linear time, then perceive those same patterns moving *within* the linear time we mostly live in, you know where things are going and what will happen next -- simply because what's happening is moving through a recognizable pattern. If, because we see this pattern, we speak up about what's going to happen next when a beyond-linear-time pattern moves through linear time, people who don't understand it think we're somehow able to see the future and make a prediction (Ibid., 80). But it's not a mystical thing at all. You sometimes do this too.

For instance, when night falls, do you pace around in fear that the sun has gone and now there will be night forever? No. You know the sun always rises again, every day. When, the next day, the sun does rise, are you amazed that you somehow predicted the future? Of course not. It's just that you've seen this pattern enough, you know how it works. But that recognition of a simple pattern can start to level up into wisdom if, when you are facing a difficult time, you recognize the same basic pattern playing out right then in your life -- the pattern that manifests as alternating day and night *manifesting in* something else. When that happens, you know your bad day is not the end of the world. You know that pleasant days will cycle through your life again, and then some bad ones, then some good ones -- because *that's how this particular pattern plays out.*²⁸

We don't have to understand the source or engine that drives a given pattern or its rhythm in order to recognize it, though that's often the focus of Western culture's attention when a pattern is noticed. In the reality Indigenous peoples experience, a pattern's "drivers" or "causes" are usually beside the point. What matters is the actual pattern itself. That's because a pattern expresses *relationships*, and it is from relationships that Land-based Knowledge and values emerge.

The Circle we've explored so many times in this paper and in *Standing Our Ground for the Land* is one of the more significant and foundational patterns Indigenous people recognize as moving with great power in a number of places and processes. It exists outside of linear time, meaning it is not bound by or attached to linear time in any limiting way. But it can manifest within linear time in

an infinite variety of ways, at many different levels. Patterns of this kind are always about movement and change. They are dynamic, not static. *Solstice, as a phenomenon that Indigenous people have perceived and experienced for millennia is a pattern.*

Facts, objects, nouns, fixed times, points of maximum or minimum -- these criteria are the hallmark of Western culture's experience of reality. To see what I mean, just remember all the definitions, names, dates, and facts you had to memorize in school. As we have seen, these same criteria anchor Western definitions of Solstice too, and, more importantly, they anchor Western *understanding* of Solstice. If you are going to define Summer Solstice using these kinds of criteria, you have no choice but to opt for the "longest day of the year" definition because the others don't work. And an atomic clock is precise enough to make that definition defensible as factually true, yes -- but it matters that the difference in daylength is so miniscule you have to measure it with an atomic clock to even see it.

Indigenous people focus on dynamic processes, movements, verbs, and on *the patterns of relationship these movements weave*. So what is the pattern that is solstice? What is it the pattern of movement that Indigenous people see as Summer Solstice, that the Ancestors all over the world saw for millennia? Many news articles and websites about Solstice have a line somewhere in the text that says the word *solstice* literally means "sun standing still" and was derived by combining the Latin words *sol* for "sun" and *sistere* for "to stand still" (Dobrijevic 2025). This statement almost always appears without any explanation of why or how it applies to the maximum-minimum daylength or Tropic of Cancer types

of Solstice definitions the article goes on to talk about at that point. So I have never personally understood quite why they include that Latin word derivation information in such materials, given that it makes no sense in the context where it appears. But the derivation is spot-on, the translation is correct, and this is where our attention needs to go. *"Sun stands still" is Western culture's sole remaining thread of Knowledge about the actual pattern of sun, earth, human-in-place relationships called Solstice that humans have recognized and honored for millennia.*



Marigolds in Zambia. Courtesy of John Njovu.



It's just so extraordinary, the way that the relationship and the discussion create the story, and changes the story in a very rich way. -- Dawn

Chapter 13

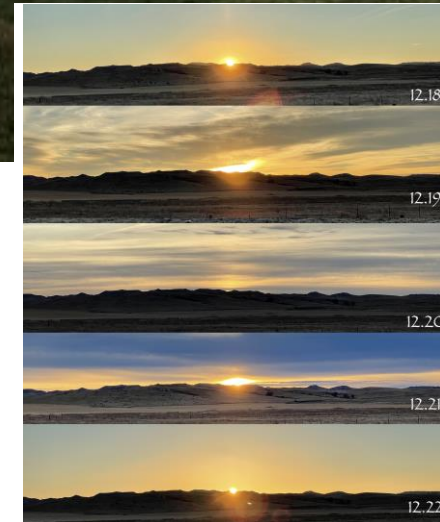
When a person looks at sunrise or sunset once a week throughout the year, and then looks at it every day of the two weeks to either side of both Winter and Summer Solstice, they start to understand important things about the relationships between sun, earth, and person-in-place that contemporary people have almost completely forgotten. But it can't happen unless you actually go outside and LOOK. And you have to do this while standing in exactly the same place every time, *because perspective is always a key factor in acquiring Land-based Knowledge*. Depending on your latitude, you'll see something like the large composite image spanning the next page.

The bigger picture there is one I photographed near the end of June 2024, right here on the prairie at the foot of Pine Ridge. The picture in the inset image taken at the same scale is one Jo Belasco took near the end of December 2023. I've put that inset photo from December inside the larger composite image from June so the features in the line of prairie hills shown in both pictures align with and match each other. That permits you to see how much the rising sun's position changes over the course of a year. It's much farther north on Summer Solstice, in June, than it is on Winter Solstice in December. (North is to our left here, as you look at the photo, because we are facing east, looking towards the



rising sun.) The place the sun pops into view above the horizon moves a little farther north or south each day, depending on what time of year it is.

By comparison, the image to your right shows what the rising sun looks like during Solstice. Jo took this series of pictures during Winter Solstice of 2023, with that same ridge of prairie hills to our east aligned in each picture (as you can see, since I lined them all up). The sun rises in the very same place for every one of the five sequential days shown (and a few more as well, that she did not photograph that year because of clouds). *This is what the "sun stands still" name "solstice" means, and this is the phenomenon its name **always** referred to.* The rising sun's position is constantly moving *between* the times of Solstice, which is why the stopping and reversing of direction that happens in late June and December is so noticeable *if you're paying attention.*



The bottom picture in the solstice series, dated 12.22, is the same picture in the inset region of the panoramic composite image. It is only during the solstice events, summer as well as winter, that the rising sun stops moving along the horizon and comes up in the same place for a number of days in a row. When it starts moving again, its direction of travel reverses.

This is how our ancestors identified and named Solstice, and this is what it actually IS. And as you can see, you don't need an atomic clock or even a wind-up pocketwatch to spot it. Solstice is an actual, real, natural phenomenon that's part of a year-long pattern of *dynamic* relationship between sun, earth, and person-in-place.

That's why the name from Latin used in English today, *solstice*, means "sun stands still." Notice, now that we're looking at this term "solstice" in a context where it can start to make sense, why there is a *verb* (sistere, to stand still) in the older, Latin definition of solstice. The big deal about Solstice is that the sun *stops moving*. That's only unusual and noteworthy because *the position of the rising and setting sun on the horizon normally moves all the rest of the year*.

Astronomers know this of course. They are people who still look at the sky. They even sometimes mention the sun's movement when they talk about Solstice. For instance, in the first 30 seconds of a videotaped interview, astronomer Neil deGrasse Tyson says (AMNH 2013), "I fear that most people don't know that the sun doesn't set in the same spot on the horizon every day." But he doesn't really go on to explain the changing pattern of sunrise and sunset. He shifts his focus to a different topic instead.

But that big pattern is what matters. So now that you've seen it in some pictures, I am going to describe the pattern as clearly as I can (asking you to remember that the north-south directions of seasonal sun travel are reversed in the southern hemisphere). *The rising sun appears at a point on the horizon that is slightly farther north every single day between late December and late June. The rising sun*

appears at a point on the horizon that is slightly farther south every single day between late June and late December. During the two periods of Solstice, over a series of days in the third weeks of both December and June, this movement of the rising sun stops. The sun rises or sets in the very same place for several days in a row during these solstice times. Then, when the sun starts moving again at the end of solstice, it reverses its direction of travel.

If you're still wondering how you, as person-in-place, are actually an active part of the sun-earth relationship you see playing out here, look again at the pictures of the sun's standing-stillness during Winter Solstice. The last picture of that Solstice sunrise sequence, which Jo took here in Nebraska over Winter Solstice 2023, is dated December 22 (12.22). Now let's say that in October of the same year, Jo had happened to be at Lake Tahoe's Emerald Bay, in California, and took a picture of the sunrise there as she stood looking east across the lake into Nevada. Her picture would look like the one you see in the top of the comparison pair you'll see on the top of the next page. A photographer named Jesse Gardner really took this picture of sunrise at that Emerald Bay location on Lake Tahoe, October 19 almost 10 years ago (Gardner 2015).

If you wanted to compare the sun's rising positions on December 22 and October 19, to see how far the sun has moved during that two month period, and you wanted to do this by comparing the photo from Lake Tahoe to the photo from Nebraska -- lining them up to see the sun's movement the way we did over the Solstice series and using the two images from December 22 and June 23 --

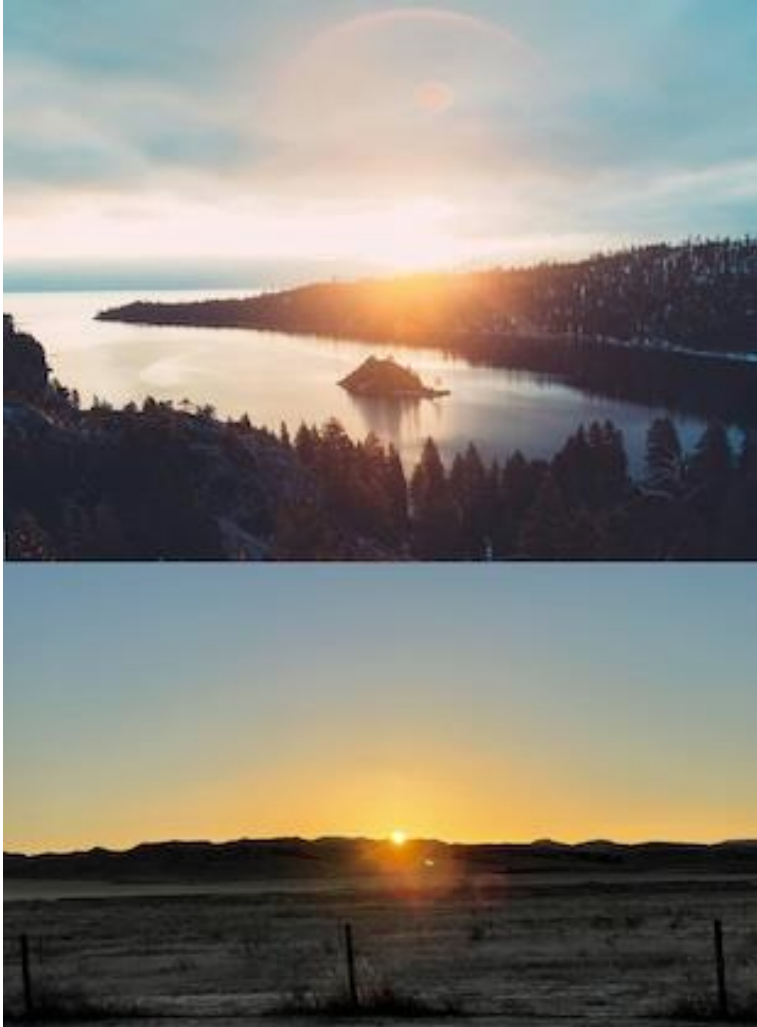


Photo comparison of sunrise at Lake Tahoe, California in October, top, and on Pine Ridge in northwestern Nebraska, bottom. See photo credits for further explanation.

how would you go about doing that? What common frame of reference could you possibly have for sunrise comparisons in these two different places? None. *There isn't one.* There is literally no way to align the hills of the Nebraska prairie with the mountains around Lake Tahoe because they simply *are not the same place*. The rising sun is in the center of each image, but that's just how the photographer took the picture. It does not tell us anything about where, along the eastern horizon, that rising sun really *was* in either October or December. And yes, you could resolve this problem with a compass. But that tool would get in the way of restoring the relationship you've lost here, that we're trying to restore.

Though the rising sun is in both images, these pictures can't tell us about the *relationship between sun and Place*. Place is a specific spot on the earth, and we're looking at pictures taken in two different Places. The hills here in Nebraska and the mountains at Lake Tahoe do not match or line up because they're different locations with different features. And Pine Ridge and Emerald Bay are even at different latitudes, which substantially changes a person's perspective of the rising sun there -- what someone will see, when, and where. So even though there was a person taking the picture you see, they are not the same "person-in-place" because the Places are not the same. Person plus place, together, which we've been calling person-in-place, creates what Western people sometimes call "frame of reference." Without that common frame of reference, you can't discern the pattern in what you see. This is why *you have to observe the sunrise from the very same place every time* in order to see the pattern of relationship between sun, earth, and person-in-place that is Solstice. If you move around and see sunrise from a different place

every day, you can't discern how the sunrise position is moving. It is *you-in-place* that provides the common frame of reference from which you can tell whether the sun has moved north, south, or not at all during the sunrise events you observe. It is you-in-place that allows you to *see* the pattern that really exists.

What about Equinox? How does that work? You can find a specific time and date for Equinox online, too, just like you can for Solstice. In 2024, the springtime event is said to have happened in Nebraska on March 19 at 9:06 pm local time. But I hope now you realize that a time/date definition like this is a modern fabrication. An equally common and seemingly more meaningful definition of Equinox is as "the day when day length and night length are exactly equal," which of course parallels that "longest day of the year" definition for Summer Solstice. You have the USNO database website now, so you can go pull the sunrise and sunset data for the week of Equinox yourself, for the place you live, do the subtraction, and check that daylength-to-nightlength definition.

In the place I live, the sunrise and sunset data show the daylengths for 18, 19, and 20 March of 2024 (the 19th being the "official" listed day of Equinox) are all 2 minutes shorter than the nightlengths for those days. On both March 17 and 21, the day was just 1 minute shorter than the night, which is actually closer to "equal" in length. I didn't pull data for days earlier or later than these, but I can definitely say that March 19, 2024 was *not* a day, and certainly not "the one day," that night and day were equal length. Day-night lengths were actually a little closer to equal on the 17th and 21st. This accords with the US Naval Observatory's observation (US Navy 2025a) that, "Day

and night are not exactly of equal length at the time of the March and September equinoxes. The dates on which day and night are each 12 hours occur a few days before and after the equinoxes. The specific dates of this occurrence are different for different latitudes."

So then, how do you identify Equinox? It's certainly possible to simply count the days between the two solstice events and divide it by two to find an equinox *date* between them, though you have to average across the span of days that the sun stands still in one place on the horizon during the entire *sequence of days that is actually Solstice*. But the fact is that a mid-point in *time*, a *date*, is not the most important thing about Equinox. Honest, it's not. What counts about Equinox is the position on the horizon where the sun rises that day. Yes, we are still talking about a *pattern* here.

On the next page, you'll see that composite picture I posted earlier, showing an image from sunrise at the Summer Solstice position with an inset showing the location of the Winter Solstice sunrise position. Look at the horizon itself here, that the two solstice sun positions *mark*. What you are seeing is a farthest-north position of sunrise on the horizon, and a farthest-south position of sunrise on the horizon, for a whole year. At the *northern* end, the sun is in Summer Solstice position. At the *southern* end, the sun is in Winter Solstice position.

Now -- *Think about the Circle*. Look at the physical horizon in the photo in that context, as the Circle, as "the rim of the bowl" Coronado described, that surrounds you as you stand in the center of the Circle to look at this vista (through my and Jo's eyes via the photos we took). The



extreme north and south ends of the sun's travel are symmetrical. That is, the sun goes the same distance northward towards the position of Summer Solstice as it goes southward towards the position of Winter Solstice. So think: *If the north and south solstice positions are symmetrical around a mid-point, where is the direction due East going to be?* If you know the sun travels the same distance north as it does south (which it does), the direction East is going to be exactly in the middle between those two end points.

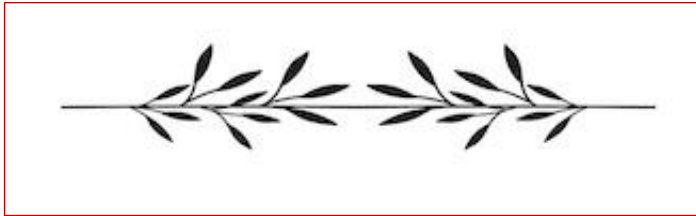
You can actually figure out where that place is, here, by looking at the composite picture I've shared and eyeballing it. Just find the place that is halfway between the Summer and Winter Solstice sunrise positions. Put your finger on it, in the picture. That's due East at this location. If you stand in your special observing spot each

morning and watch for the sun to rise at that midpoint on the horizon, the day it does so is the day of Equinox, whether spring or autumn.

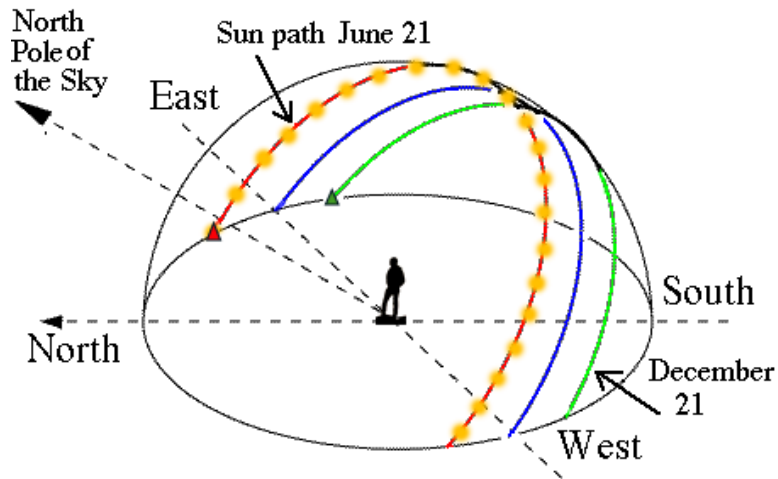
That's how Equinox was originally defined. And that's actually what it IS.

Chapter 14

Here is that same composite photo I just shared, showing sunrise at the two Solstice locations *and at Equinox* on the prairie where I live. I put a little green triangle on the place at the horizon where the sun rises on Winter Solstice, a little red triangle at the place where the sun rises on Summer Solstice, and added in a blue triangle to mark the place in between where the sun rises on both Spring and Autumn Equinox. You'll notice that I also added lines to roughly indicate the angle of the path on which the sun actually rises into the sky each day. My lines are just close approximations, but if you do a web search for "multiple exposure rising sun" you can see



actual images of the sun's angled slide southward as it rises into the sky each day. Looking at those slanting paths, you might wonder where the sun goes at it approaches the noon position, and where it winds up at sunset.

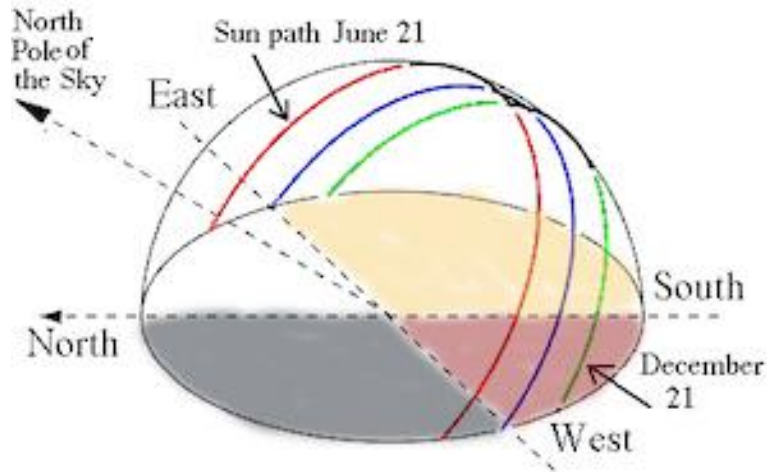


Here's an old NASA diagram (above, from the public domain) that I've modified to show you the rest of the story about where the sun goes after it rises. I colored the lines of the sun's path to match the composite diagram you just saw of sunrise here on the prairie. So the sun's path across the sky on Summer Solstice is red on my composite diagram and also on this modified NASA diagram. Its path on Winter Solstice is green in both places, and its Equinox path is blue. If you look closely at this modified NASA diagram, you'll see I've added little red and green triangles on the side labeled "East" to show the places the sun rises on Summer and Winter Solstice. I put them there so you can match those places to the ones on the horizon in my composite photo of real sunrises (on

the previous page), where little triangles in the same colors mark sunrise locations on Summer and Winter Equinox. That helps you match up and really see the slanting path on which the sun rises into the sky.

Now notice that I added a string of little yellow suns to the red Summer Solstice path in the old NASA diagram, just to make sure you realize *all three* of the sun path lines shown here are actual lines on which you'd see the sun move across the sky if you were that little person I've added to the diagram, the one standing in the Center. The "floor" the little person is standing on is the actual ground surface. The circle around the perimeter of that ground area is the horizon the person sees around them. That's the same horizon Coronado wrote his king about his men seeing as a bowl on the *Llano Estacado*. You may remember that I told you he was seeing the Circle then, but didn't realize it. To show you what I mean, I've colored in the directional quadrants on the ground in the diagram image on the next page. *What you are seeing here is that the Circle is the Land.*

This diagram shows you that you can, in fact, use the Equinox sunrise location to identify the cardinal direction East (or West if you work with the setting sun instead). If you look carefully, you'll see that the blue Equinox path of the sun intersects the horizon at the line that marks the East-West axis. That's simply how the relationship between sun, earth, and person-in-place plays out, for reasons having to do with the tilt of the earth's axis. And this place of due East, where the sun rises on Equinox, *is*, as you can see, exactly halfway between the sunrise positions of Winter and Summer Solstice. So if you know your solstice sunrise positions, you know where East is.



That is a very big deal because it allows you to pinpoint the first of the cardinal directions in the Place you live. And once you do that, you can find all the other cardinal directions. West is opposite East, *on a line going through you at the Center*. The north-south axis is a line perpendicular to the east-west axis you've just defined, and *that axis also runs through the Center where you're standing*. Of course, once you identify that north-south axis, you know where the directions due North and South are as well. *Perceiving the cardinal directions this way, knowing where they are and perceiving their directional axes that cross at the Place you're standing, brings the Circle into being in the Place where you live.*

Now let's go back to looking at the path the sun takes across the sky *after* it rises. That path is shown in the little NASA diagram, and you also see it in the slanting lines on my composite photo on the first page of this chapter. But you can see the sun moving across the sky on its daily path

for yourself. Just go outside every few hours on a fairly clear day and look up. Yes, I am really saying you should do this. *Land-based Knowledge is learned from the Land*. This book can only tell you "about" it, not give you the necessary direct experience. But of course, do not stare directly at the sun when you do this. I presume you know that would very seriously harm your eyes. So behave wisely. And yes, you can indeed see where the sun is without looking directly at it.

Now let's consider what you'll see if you check out the sun's journey across the sky throughout one day this summer. The sun will rise on the far northern end of its horizon journey (hemispheric caveat), then climb into the sky above you *on a slanting course* that takes it southward as it climbs upward. So at noon, no matter how far north the sun was when it rose, it won't be straight up over your head. You can see what I'm talking about by looking at the red Summer Solstice sunpath line in the first modified NASA diagram I showed you. That's the one I put little yellow suns all along. You'll see, there, why I say that at noon the sun is always south of straight up (if you're north of the Tropic of Cancer latitude, as is the case in this diagram). Then, if you look at the western side of the diagram, you'll see that as the sun comes down the western side of the sky in the afternoon, its path will begin to slant back towards the north again.

The name for the sun's path across our sky is "the ecliptic." It's called that because a solar eclipse always happens on that path-line, when the moon (which is much closer to us than the sun is) gets between us and the sun. Because, as it happens, our moon and all the planets travel that same path across our sky (Levine 2024). They

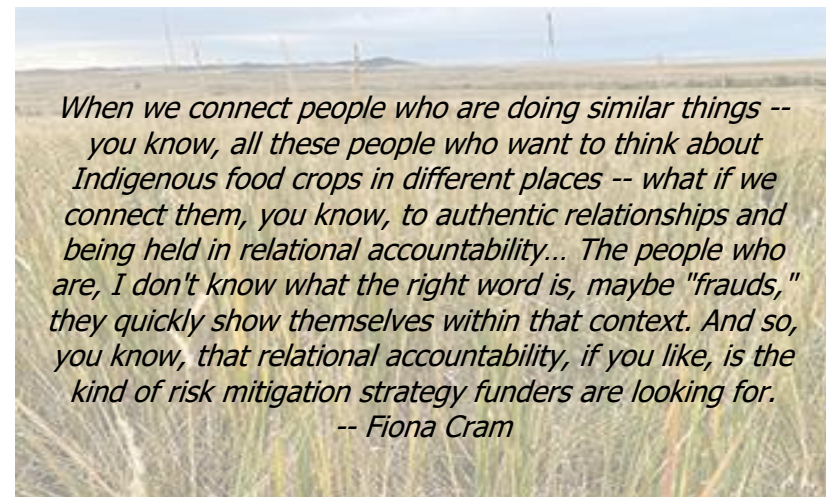
just do it at different times and at different speeds that are out of synch with the sun's cyclic rhythm. Plus the planets are only visible at night, which can also make it hard for us to notice they're traveling the same path as the sun. But it's because the moon travels the same path across our sky as the sun does, that it can occasionally get between us and the sun to eclipse it. The various planets periodically "eclipse" the face of the sun too. But they're so much smaller, being farther away, that the planet is just a tiny dot against the sun when that happens.

This system is so consistent that, once you are grounded in the Circle where you live, you can always tell what time it is -- both season and time of day. Because the rising or setting sun of Solstice tells us, so indelibly and for about a week, what time of year it is, important ceremonies are often timed close to or during Solstice. So Solstice and Equinox originally defined the calendar. It was never the other way around. Likewise, clocks did not define how the sun moves across the sky. The sun's movement set up how clocks work. The hands of analog clocks move sunwise (now called "clockwise") for that reason. Remember that the first clocks were sundials that used shadows to tell time.

Through Solstice and Equinox, the sun and earth and you-in-place, together, pinpoint the direction East, then the East-West axis, and then the North-South axis, and so establish the cardinal directions. If you participate in this by looking mindfully, in Ceremony, it brings the Circle into your perceptive awareness, and into your life, as it exists in the Place where you live.

What we have just done together is the most basic part of

what the Ancestors were doing when they constructed places like Stonehenge. They were accessing Indigenous Knowledge that's written right across the sky, every single day and night. The Living Knowledge of the Land is available to everyone this way. But you have to go outside and look. And you have to pay attention when you look, to receive it.





Growing traditional Māori plants.
Photo courtesy Fiona Cram.

Chapter 15

Some time ago, a woman from the dominant culture whose job was to arrange meetings between Indigenous people and certain Western professionals asked me if I could help her better understand Indigenous Knowledge. At that time, Winter Solstice was approaching in the place where this woman lived. So -- for reasons you are starting to understand now -- I suggested she go out at 3 times a week for the two weeks that remained before Solstice and then for two more weeks after it, and pay close attention to the sun's position at the horizon during both sunrise *and* sunset each day. She was quite happy with this idea, and because she lived in a good-sized city she chose to make her observations in a nearby local park that would be a safe location during times of twilight.

The woman found a place in the park where the surrounding buildings between her and the horizon were not overly tall,²⁹ and she figured out a way to gently mark the place she would stand every day to watch the sun rise and then, later, set. And then she seemed to make these observations quite devotedly. At the end of her experience, she sent me a lovely little map she had drawn to show how the rising sun moved along the horizon before and then after Solstice. She remarked, with astonishment, on how far south it rose at that time of year, saying she had never realized this. But then it was my turn to be astonished, for she finished by telling me, "And of course the sun set, every day, 180° from the place it rose. So I didn't bother to

draw it in." I asked her if she had actually seen this and she was evasive but managed to imply that she had.

This actually put me in a bit of a quandary, because what she had said is simply not true. So I knew she had never made any sunset observations at all.³¹ Even one would have disabused her of a thing she clearly thought she simply knew and so hadn't even bothered to look at. At the time she told me this, she was leaving the next day to go on travel for several weeks. So I wasn't sure when or if I'd say anything to her about it. I mean, if someone asks a person to teach them, and that person agrees to give their time and energy to help them learn, what's the point of deciding you already know whatever it is, not bothering to do the thing they asked you to do, that you've agreed to do, and then not being honest about it? It makes no sense. In fact, it's really very disrespectful of the learning process. And of course, without that part of the learning experience, I could not do any of the follow-up I had planned to do with her, that would have helped her connect this experience to the Circle and then start to level up to the larger body of Knowledge for which the Circle is metaphor. I wound up deciding it made no difference what I said, because she'd botched the whole experience so badly that there was no way to continue anyway.

But as it happened, several months later this same woman emailed me about something else, and she again said she wanted to learn from me. It gave me a chance to point out, gently but firmly, that I knew she had not really watched where the sun set the last time I had worked with her, because it does not do at all what she told me she had seen it do, and that this was a problem. She responded that it was true she had not watched the sunsets, and said she

found being caught out in the deception of having suggested she did "more than a little embarrassing." In written text communication, I could not tell if she was expressing genuine remorse or just brushing off what had happened. But sometimes embarrassment can open the door to a moment of authentic learning. So I took the high road. I told her that if she wanted to think about redoing the exercise, I was willing to work with her so she could still learn. She said she might, but then I didn't hear from her again for months. When she wrote again after *that*, she sent me three very long letters, back to back, full of new questions about things *she* thought she ought to learn from me. Solstice was not on that list at all. I really hadn't even had the time to mentor her through a sunrise-sunset pattern learning exercise before this, though I had been generous enough to offer it months before in case there was a path there for her to redeem her opportunity to learn. But I certainly wasn't going to dance for her pleasure now, at *her* convenience, to music *she* chose. So that was the end of it.

But it's always baffling to me when someone asks to learn and then assumes they know enough to dictate their own curriculum. I certainly never went to my calculus professor and said, "I didn't do the homework due today because it's all on derivative functions and they're boring. I want a three-hour private appointment with you to get answers to all my questions about chaos theory instead." So why do people do things like this woman did? It's remarkably common. In her case, I had initially wondered if the woman had simply felt she was too busy to carry out the solstice work but had feigned enthusiasm instead of telling me. One thing I did think I'd seen was that she'd seemed disappointed in the outcome of the half of the

Solstice exercise she'd actually done. But when she'd indicated she felt it was only a mildly interesting experience that hadn't really changed anything, and I pointed out the most obviously glaring reason for this, her response made it clear she didn't understand how something she saw as so trivial could make much of a difference in outcome.

The woman also never seemed to realize how being untruthful, then not facing and learning from a situation that was now freighted with far more than merely what she knew or didn't know about the relationships between sun, earth, and herself-in-Place, had closed a door between us that had to be open for a learning experience to even exist. It left me wondering if she'd somehow expected an accelerated curriculum and simply gotten bored with something she no longer had the patience to experience. Or perhaps she'd thought there was going to be a superhero moment when she got a cape or a feathered headdress or something, and she was disappointed by the commonplace nature of a real experience. People today have funny ideas about learning and Indigenous Knowledge, both.

The part of this experience that mattered the most as I reflected on it later, though, was what came out of a conversation about it I had with my Cree colleague Shawn Wilson (one of the IKhana Fund co-leaders) at the time all this happened. His initial response was disappointment that the woman -- who he knew worked with Indigenous people and had seemed a promising ally -- had shown no awareness of having violated the reciprocal relationship she should have honored with me. He told me how often Western people write him long and detailed questions,

asking him to help them understand Indigenous research and teaching methods, or even asking him to advise them on their own research or teaching practices as Western scholars working in the field of Indigenous Studies -- without having first formed relationship with him, without ever having asked him if they might learn from him and then letting him create an opportunity for them to learn what *he* can see they *need* to know, without giving him a gift to honor the time they are asking for and the knowledge he carries that makes it worth asking him to give them his time to begin with. "I think it is not just the natural world that Western people don't know how to form good relationship with," Shawn said. "I think they don't even know how to relate with Knowledge itself, or with the Indigenous people who they think 'have' such Knowledge as if it's a possession. They think Knowledge is a commodity they can somehow just consume, and that we are nothing more than a specialty market where they can pop in, buy Indigenous Knowledge like a loaf of artisanal bread, and then walk out. They have no idea how to behave properly to form relationship -- not with us, and certainly not with Knowledge or the Land. So they can't learn, but they don't understand why."

It's meaningful to point out here that the *conquistadores* saw Indigenous *material* resources the same way that this woman, and so many people in Western culture today, see Indigenous *Knowledge* resources. The *conquistadores* saw everything Indigenous people had, from tobacco to gold, as commodities they wanted and believed they had the right to walk in, take, and consume as they pleased -- with no thought at all about the destruction they left behind by doing this. And it all started with a request from the newly-arrived Spaniards -- new people showing up in

a long-established world, not "civilized" people somehow "discovering" a "new and savage" world -- to learn more about the local people and form relationship with them. In response, the local Indigenous people invited the Spaniards into their homes. And then the Spanish *conquistadores* revealed the *real* reasons they'd come -- that it had never been about relationship but had always been about them getting and taking whatever they wanted. That's exactly what that woman I'm telling you about did. And that's how the people Shawn described treated him too. The parallels between the attitudes and behaviors in all three groups of people is not merely a superficial similarity of appearance that was created by different underlying causes. These patterns look alike because they are manifestations of one, single pattern -- *colonialism*. This is what real colonialism looks like in the world of the 21st century that so many Western people say is now somehow "post-colonial." The irony in this is that both the woman I'm telling you about, and the people Shawn described, work in jobs where they supposedly facilitate and empower Indigenous Knowledge. So the people doing these colonialist things are the very same ones who claim they're creating a post-colonial world! They actually think they are our allies.

That's not the most dangerous part of this problem though. I can and do simply withdraw from relationship with a person who doesn't even understand what relationship is. I don't have to endlessly tolerate the abuse of a person demanding I make *their* wants *my* priority, even though they know and have acknowledged the greater load of responsibilities to the Land I carry. The much bigger issue visible here is that *the Land has been subjected to the very same abusive relationship for*

millennia now. "I want this thing, I want it right now, and you have to give it to me no matter what other responsibilities you carry" is the root of every environmental "problem" we're dealing with. The earth does not have environmental problems. The earth has human behavioral problems. And these human behavioral problems can only be resolved when people of contemporary Western culture re-ground themselves within the ontologically real experience of Community that is *Land*-based.

But every time a person walks away from the Land and from Land-based Knowledge, the Community that the Circle weaves in Ceremony falls apart a little bit more. The woman in this story never got to join in the Dance Circle the sun and the earth mark out in the Place she lives, that the seasons whirl around in. That's the dance you saw happening in the opening words of *Living in Ceremony for the Land*. It's happening right here and now, in all the words you are reading. *The seasons dance Ceremony, circling and mirroring one another, weaving this particular Story of Indigenous Knowledge with stately steps and the rhythmic swing of shawls.*

If the sun and the earth and the seasons ever stopped dancing this Ceremony together, that the woman thought was too boring to bother with and for which she had no respect, there would be no more people and very few other species alive on this planet. But the seasons don't dance in the place a human tells them to. And they don't dance *when* or *how* a human tells them to either. Summer doesn't sit out to the side until some official meteorologist looks at their atomic-stopwatch and says, "OK, that six seconds clears you as longest. Summer can start dancing

now. Go ahead." No. This Dance has been going on without any human thinking they had to take charge of it and "define" it for more than 4 thousand million years. So summer knows its own identity perfectly well, thank you, and it knows how and when to Dance. The seasons dance right into Ceremony with the Drum, every day, and they are drumming reality right up out of the earth at this very moment with the beat of their footfalls -- because these "*actions* themselves are part of that which is sacred" (Bigler 2018: 53, italics Bigler's).

You have to be patient, observing and laying down, in Ceremony, the circle that is the *Circle*, that is then this particular *Dance Circle*. And you have to learn to listen, to hear the rhythm of the Drum that counts. The Drum the seasons dance to is the cadence of a living heartbeat that's not human. It never was human. It never will be.



Chapter 16

There are a number of places, the world over, in which Indigenous people recorded the sun's annual journey back and forth across the horizon, laying out some variant form of the Circle as they did so. Quite often they stood in one place night after night, not just sunrise after sunrise and sunset after sunset, and they did this *specifically* so they could participate -- as a person in a specific place on the earth -- in the centered Circle of relationships between earth and the sun, moon, planets, and stars. We cannot touch those things, but they are nevertheless our relations. With us, they are part of the larger community we call the Land. Stonehenge is just one of the Circles the ancestors made that manifests the larger Circle of the woven relationships spun in intricate multi-dimensional webs between all the things that are the Land.

You might think it is not possible to be in relationship with something that lives far away from you. But you do it the same way you form all kinds of relationships. When you go to a new workplace or school, you form relationships with co-workers or fellow students by starting to pay attention to who spends time with who, where they go when, how they travel around, what they do during the days and during the weeks. You start to notice, *This guy goes to football practice every autumn afternoon. Or Aha, that civil engineer takes her morning coffee to the lab to visit with the techs every day year-round.* Probably the very first day there, you notice that at

the time of day when you're hungry for lunch, everyone heads in a certain direction together and goes into a place that sells food. Then you find out where you can get lunch as well. As you keep going there each day, you start to notice who eats with who, and what kinds of lunches certain groups seem to prefer. By paying attention to these things, you begin to understand the people who are parts of this community. You begin to understand who you might form close relationships with, who you'll probably just nod to in the hallways, and who you need to keep a respectfully alert eye on.

You do the same things to forge relationships with the plants and animals where you live -- the grasses and deer and meadowlarks and cottonwood trees and grasshoppers and wild verbena and bullsnakes. You go outside and look at them when they're around, right? You pay attention to their movements, notice where they go at different times of the day and the year, who they come close to and when, what times they go off alone for a while, who they go hang around with after that, what they eat and when and where. This is how you learn who *those* beings are, how they live and what they need to live well. And yes, plants *do* move. Think of pollen, seeds, burrs, and runners. Don't go separating out some of our relatives from the rest as "lesser" just because they do have leaves or don't have eyeballs. If you don't form relationships with your animal and plant relations, you cannot know when to gather different edible things or things you can weave or make a home out of. And if you don't know those relations, you can't do appropriate ceremony for them that nourishes and cares for their people the way their people nourish and care for you. These are the things that keep everyone in healthy reciprocal relationships.

People do the same kinds of things to form good relationships with the sun and moon, the stars and planets, the galaxies and all the other things that don't sit right here on the ground with us but are nevertheless our relations. You go out and look to see where they are. You notice their movements, paying attention to where they go at different times of the day or night, and of the year. You learn which ones come close together sometimes, and where that happens. You see what times they go off alone for a while and who they hang around with after that. But you can't reference what's going on with the planets or stars by saying, "He's at the football field with other players and the coaches in the afternoons," or "They flock together in this river valley to fly southward before winter arrives every year." You have to have frames of reference that are around you on the Circle in which you stand.

Natural frames of reference, such as hilltops or ridges as markers against which you can record the movements of sun, moon, planets, stars, and galaxies, have to be suitable for use in the complex ways required for people trying to see and understand these relatives' dynamic relationships to earth and to one another. But it's not always easy to find a place that simply has enough natural features in exactly the right places to help us do that. So our Indigenous ancestors built a *physical* Circle around themselves in a particularly good place they could stand to watch the sky, where they could see well in every direction. This created a close-to-hand physical structure on which, and with which, they could put down markers for special points of reference. Today, some of the larger structures they left behind attract a great deal of attention, primarily from people who have very little understanding anymore of what they really are. Most of the structures

that remain to us today are made entirely of stone, perhaps because stones last whereas similar structures made of wood rotted long ago.³⁰

Circles like Stonehenge are laid out *as* circles for a reason you are now starting to understand. Our Indigenous Ancestors -- and I am talking here about your ancestors as well as mine, no matter who you are -- laid out these special circles as metaphor of the bigger Circle that is the existing pattern of the Land. Big stones or piles of smaller stones were used to mark out the places in which important relationships with things that are not on the earth nevertheless manifest within the Circle -- the Circle that's on the ground, being marked out, as well as the one that's all around us as the real four-dimensional natural world (three dimensions plus time). It's extremely important to remember that the Circle marked out on the ground *manifests* this larger and more universal one *because* the Circle that Indigenous people bring into being in Ceremony this way is powerful metaphor of the Land itself, a form of living Indigenous Knowledge.

The picture you see here (above, right) is of a place called the Medicine Wheel. It's in North America, in the state of Wyoming. This particular photo (Wikipedia 2025b) was taken some years ago, before the site had been altered by modifications that federal caretakers hope can protect a place under increasing pressure from visitors. This image is at least fairly close to what the place looked like for thousands of years. The more recent color photo on the next page (Wikipedia 2025c) shows the walkways and protective fencing that have been put in place now, to protect the site from visitors. Even though this location is at an elevation of almost 10,000 feet (3000 meters), so

many people come here now that more recent photos show objects draped and hung all over the fences by the growing hordes of tourists.



The Circle of the Medicine Wheel, by which I mean that outermost rim of stones, is about 80 feet (~24.5 m) across. There's a central hub of stones, which you can see in both of the images, and 28 lines ("spokes") radiate outward from this inner hub to the rim of the Circle. Many of the stones in these radius lines are carefully positioned to align with specific sky relatives. Piles or cairns of stones in several different places -- again, you can see these in both photos -- align with a number of more significant relations. Two of the cairns align with the rising and setting sun positions at Summer Solstice (2018). Other cairn pairs align with the "annual dawn risings of certain stars in the summer. The 'dawn rising' of a star is the day a star can first be seen just before dawn, after being behind the sun for a whole season. Its appearance pinpoints a certain day on the calendar" (Charleston

2018:12). There are a number of other Wheels elsewhere in this region, and one scientist reports (Merriot 2014) that some of these Circles "are capable of tracking several different cosmic cycles, including the precession of the equinoxes, the Moon's phases, lunar and solar eclipse cycles, and planets' orbital cycles. These astronomical wheels mirror the north ecliptic polar region of the sky and are useful as celestial grids to track changes over millennial time periods."



Let me pause just a moment here, and point out to you that while this information is fascinating, we have -- as is so common in these situations -- just been drawn by all that beautiful detail into seeing the Wheel as essentially an observatory, and one that focused on making the same kinds of observations and predications of things "far away in the sky" that modern astronomers make in their observatories today. So now that you appreciate the Wyoming Medicine Wheel and its kindred from a razzle-

dazzle Western perspective, let me pull you back onto the actual *Indigenous* sacred ground of this Wheel through the words of Steven Charleston, the Choctaw author of a book called *The Medicine Wheel*.

"Like all cultures around the world," Charleston writes, "Native American civilization engaged the basic spiritual elements of time and space as the cornerstones of understanding for sacred reality." Please note that he is talking about the Circle or Wheel metaphor of Land. That is what the phrase "time and space as the cornerstone of understanding for sacred reality" *means*. Space is that Circle or Wheel, the horizons of earth and even sky along which our relatives move. Time is all the dynamic processes of movement and change we've been talking about. Because of *our engagement with* these basic spiritual elements of the Medicine Wheel, Charleston writes (2018:11), ". . . we began to understand that our spiritual geography was both physical and temporal. In fact, the two realities seemed connected, moving like partners in a cosmic dance."

That term *spiritual geography* is one that many Indigenous people use to make it very clear that we do not see the spiritual and material realms as *separate*, but as one integrated whole thing *that is Land-based*. In *Standing Our Ground for the Land*, we touched on this idea as it was expressed by Indigenous scholar Vanessa Watts, Mohawk and Anishinaabe Bear Clan, Six Nations of the Grand River. She writes about a concept she calls Indigenous Place-Thought, that weaves together the spiritual geography that *is* the Circle, the human who is standing in the Center of that Circle, and the Knowledge that emerges from the web of relationships between all

these things. She describes Indigenous Place-Thought (Davis and Todd 2017: 769) as

. . . the non-distinctive space where place and thought were never separated because they never could or can be separated. Place-Thought is based upon the premise that land is alive and thinking, and that humans and non-humans derive agency through the extensions of these thoughts . . . [This] necessarily disrupts a concept of knowledge separate from the geosphere and biosphere, and posits instead that land and thought are integral to one another. Biota, geology and thinking are one and the same.

The sun, moon, planets, stars, and galaxies . . . the stones of a Circle such as the Medicine Wheel, and the soils, waters, and winds that are a part of those stones *and* the place those stones are from *and* all the times and lives through which these stones have lived *and* the place the Wheel exists . . . and the plants, animals, fungi, lichens, protozoans, insects, and humans who live in and share all those Places . . . are all relatives. All are in reciprocal relationship with one another. *It is within these relationships, and from these relationships, that Land-based Knowledge and values emerge.*



Indigenous peoples are still around in quite a few places. When Western people in these places come along and begin to turn our Circles into purely physical observatories, separating the sacred spiritual geography into two separate parts, one physical-astronomical and the other solely spiritual -- then toss away one part or the other -- we can speak up. We can pull that Circle and the talk about it back onto the ground of *sacred geography* where it always was and always should be.

But similar sites in much of Europe or the British Isles don't have anyone left to speak up for them this way. There is no through-line Indigenous community left in England, for instance, whose people still carry forward those old Land-based values and ways of knowing. Yes, there are people now who are working to recover or reclaim some of these things. But it's not an easy thing to do. Contemporary people of the dominant culture have a very hard time understanding, much less *being*, Land-based in the way the people who built places like Stonehenge were. As we seek to understand these ancestral sites of contemporary Europe in a way that permits the sites themselves to speak their metaphors of relationship to us today, we therefore have fairly little information to rely on. The most reliable information about these places generally comes from the work of archaeoastronomers and ethnoastronomers, and of course those scholars focus on the astronomical-observatory

nature of the site. Yes, those elements certainly exist. And yes, they're important. But . . .

The problem you are starting to see is that Western culture has already lost far too much essential Knowledge about the *patterns* of relationship in phenomena such as Solstice to perceive them in the Circle sites that manifest these patterns of relationship. Those losses make it very hard for Western scholars to interpret a site like Stonehenge. If only Western knowledge is available, and if the *pattern knowledge* that was a vital part of the natural world in which the ancestors still lived then is not available to those interpreting the site now, any understanding of an ancient Circle like Stonehenge is flat and 2-dimensional. It loses its depth. The crucial roles of **pattern processes in the natural world** and of **pattern thinking in human beings and all our relations** wind up being left behind and lost forever as human understanding of the site narrows into contemporary Western channels of thought in which, for example, Summer Solstice is defined as the longest day of the year.

Patterns formed by processes in the natural world include things like the Circle as it manifests in the water cycle and Carbon cycle (Adams et al. 2022: 17), as it manifests in Stonehenge or the Medicine Wheel, as it manifested in the ocean currents 60 million years ago, and as it will manifest in the winds and weather our great-great-great-grandchildren to come will experience. *Pattern thinking* is an Indigenous epistemic process of recognizing important patterns no matter what particular aspect of space and/or time they play out in. The focus of pattern thinking is *movement* rather than stasis, *relationships* between things rather than isolated and

independent things, *verb-language* rather than noun-language.

All these statements are, however, merely a rudimentary introduction to things that are far too rich and complex to express here. The ideas my words depict here are necessarily painted with broad strokes of watercolor wash on a very wet canvas. In this way, my words are pattern thought in action, describing pattern processes in the natural world around us and also within our own minds. It is important to bear the watercolor pattern-focus of this paragraph in mind, though, and not think it is a blueprint drafted to scale. A blueprint drafted to scale would be a picture that rigidly manifests an underlying pattern of *Western* epistemic process.

You will see a photograph, on the next page, of one of those European and British Isles sites of spiritual geography in which the ancestors of the Land in those places engaged with their sky relatives. These are the Calanais or Calanish standing stones on the Island of Lewis in Scotland (Phillips 2023). The educational text on the website for this place (Calanais 2025) explains that the stones "allowed the builders of Calanais to mark special times – from the shortest day of the year at winter solstice to the setting full moon's movement during its major standstill every 18.6 years." (Yes, they said "shortest day" on their website and you know now that wasn't what these people were thinking about or seeing.) But what *matters* here, to pay attention to, is that the people living in this place marked that solstice time with the stones of a Circle -- just as people did at the Medicine Wheel so far away in space from the Isle of Lewis.



Please also notice that, just as was the case for the Medicine Wheel, the seasonal pattern of movement in the rising and setting sun was part of the same Circle that marked relationships with other non-earth bodies. This particular Circle included the moon's patterns of relationship with earth. And of course the ever-changing moon is in relationship with the living things on the earth too. Other stone Circles in Great Britain connect, like the Medicine Wheel in Wyoming, to stars and planets as well as to the sun's patterns of movement that stopped and then reversed at Winter and Summer Solstice. People of today tend to separate out the sun and moon as "different from" the stars they know are so much farther away. But relationship is relationship. To Indigenous people, then as well as now, the stars are not "far away" but simply different in the same way people differ from one another. The stars are exactly where they should be -- in relationship with us and us with them, we in the place that is *our* home and them in the place that is *their* home.

Steven Charleston's words in *The Medicine Wheel* are just as applicable to Calanais and the people of whom it was a part, as they were to the Medicine Wheel in Wyoming. Please permit me to slightly modify his earlier quote so you can see what I mean. I'll put my words in italics so it's clear what I've modified (Charleston 2018, Ch. 1).

"Indigenous peoples around the world engaged the basic spiritual elements of time and space as the cornerstones of understanding for sacred reality. . . we began to understand that our spiritual geography was both physical and temporal. In fact, the two realities seemed connected, moving like partners in a cosmic dance."

The thing about piling stones into cairns or standing them up tall in a circle is that, if you are an Indigenous person doing such a thing, you know perfectly well that those stones are alive. You are in relationship with them, just as you are with the sun and the stars. So you don't simply go and "take" the stones. You do ceremony, and you ask the stones if they're willing to come and do this thing. And then you listen to, *and heed*, their response. When you do this, those stones that choose to participate are vibrant and participating *contributors* to the Knowledge that emerges from such a site.

So in a Circle site like the one at Calanais, you still have -- all together in one place -- the living ground that the site is on, the stones that agreed to come and join in Ceremony there, the people who spun the Circle into being through the stones in a timeless space that is outside of time, and all the relations in the sky there -- sun and moon, planets and stars, galaxies and glowing nebulas. All these participants are in relationship with the animals and plants and waters and winds of that Place where the Circle stands, over the long span of years it has been and will be standing there. The web of relationships even exists in the process of the stones deciding, with the people, which specific individual stones chose to be positioned in what place, with respect to the sky, the earth, nearby bodies of water or mountains, and one another. All these things, together, are what permitted the web of relationships there to be as it should be. And despite the accumulating disruptions and disturbances of modern times, many of these things are still there. So a great deal of the Land-based Indigenous Knowledge these ancient Circles carried still exists.

The problem is that very few of the great-grand-descendants of the Ancestors who built those "Old World" Circles remember how to read the Knowledge those Circles carry. They have forgotten the importance of patterns and relationships, forgotten Solstice, forgotten even to look at the sky. They have, in fact, almost completely forgotten that the Land-based Indigenous Knowledge of their own Ancestors ever even existed.



Māori community gathering in a Place with interwoven relationships. Photo courtesy Fiona Cram.

I am doing a piece of work with our museum at the moment. They've established a fabric centre where they are going to invite Māori weavers in to access the things that they curate. And a big thing the museum wants to achieve is building a good and sustainable relationship. So, we get back to what you said, Shawn, about relational accountability. They want to be in relationship with one another and for that relationship space to possibly be a dialogue space about knowledge, because the museum will know so much about what it holds. Community people will be able to add other stuff. And the example is that when the museum started engaging with Pacific people, it had this piece of weaving that the museum had classified as a lampshade. And the people from that Pacific Island group came in and went, "Please, can you not tell it's a hat? And look at the pattern. It was probably woven by this particular person." And they handed over all this other knowledge. And so that knowledge exchange builds the museum, the museum's capacity to care for the precious items that it holds, and for the community to help curate those items. And so, it's at a level that's breaking down, in really simple and straightforward ways, the mythology that people have of what a museum is for and what a museum is like. And I think that's what we're trying to achieve here between potential grantees and their community, the Ikhana Fund; and then the Ikhana Fund, and where the funders come from, you know, to that fund. And I think that those areas of negotiation are really interesting. But I think at some point we need to pull down and apply our First Principles to every kind of set of that relationship, where those relationships engage.

-- Fiona Cram



The time has come when we must widen our perspective, the way you zoom out on your phone's camera to increase the field of view. We do that whenever we need to see the larger context of something we're looking at close-up, so we can better understand the thing we've been seeing. A black bear standing in a grassy area surrounded by rocky crags, after all, isn't the same as one surrounded by zoo fences. And neither of these is the same as a black bear you suddenly realize is surrounded by the scattered remains of your picnic lunch. Knowledge emerges from relationships, and *context* is the web of relationships in which any given thing exists. We're going to zoom out so we can perceive the larger context in which the sun, earth, person-in-place relationships -- those things we've been looking at -- exist.

Over the last 60 years or so, modern astronomers have begun to realize that humans and our home planet are deeply connected, in an ancestral-relational way, with every other body in our solar system. Our solar system is shaped like a flat frisbee, with planets orbiting the central star that is our sun, because all these bodies formed from a single "spinning, flattened, proto-planetary disk" that coalesced around a proto-sun (NASA 2008). That proto-planetary disk is, truly and actually, the *common ancestor* of everything in our solar system, including earth. It means our solar system is a real family, its members'

physical characteristics and orbital motions defined by shared ancestral heritage.

The proto-planetary disk of material from which the sun and all the planets coalesced is the common material from which all these bodies formed. It is the source of the material for the sun, every single planet, all the meteors and asteroids, and everything of and on earth -- including your own body. So we -- *you* -- are *directly* related, by shared common ancestry, to the sun and all the planets. We know this, quite simply, based on many different kinds of material analyses.

The commonalities go farther than you might think, too. Some of the key organic compounds needed for life on earth are present in meteorites that may have seeded Earth with the organic molecules necessary to make the proteins in our bodies (Steigerwald 2020). Rocky asteroids as large as small moons don't impact the earth as frequently as meteor(ite)s do, but one as large as a small building blew apart over Siberia about a hundred years ago (Talbert 2021), so we know impacts sometimes happen. And asteroids have been found to contain carbon compounds too (Donaldson 2023). A recent sample of the asteroid Bennu revealed its rocky surface contains 14 of the 20 amino acids necessary for living things on earth (Ravisetti 2025). That's a pretty big deal. Amino acids are the organic molecules of which all your body's tissues and enzymes, and those of every other living thing on this planet, are composed. The entire purpose of the DNA in our genes is to direct the sequence of which amino acids go where when it's time for you to make new skin cells or lactase. Those amino acids in Bennu didn't travel from earth to an asteroid in orbit around the sun. Instead, their

presence tells us the chemical building blocks of life on earth are characteristic of at least parts of our solar system, not unique to our planet. One of the lead scientists doing asteroid analysis research says information of this type draws us "closer to unraveling the mysteries of our cosmic heritage" (Dajose 2023). Please notice that phrase: *our cosmic heritage*.

The family relationships evident in our solar system's shape and spinning orbital movements are present in larger structures such as galaxies as well, though these structures are many thousands of times larger than a solar system. You can see the same *pattern of common relationship* in the shape and movement of the spiral Milky Way galaxy of which our own solar system is a very tiny part. Just like our solar system, a spiral galaxy is a flattened disc that rotates slowly around a central point. Because of gravity and other physical laws, a flattened, spinning "frisbee-like" disc is one of the more common structures in the universe, a pattern that manifests at many different levels, from galaxies to solar systems to the rings of Saturn.

The common heritage we share with our sky relatives has played out over an enormously long period of time. The material in our solar system's ancestral proto-planetary disk, and even in the much larger Milky Way galaxy of which our solar system is a part, came from somewhere else. All the matter that makes up everything in the whole universe -- including our solar system and the galaxy it's in -- was originally part of an enormous ancestral ball of matter that blew apart in an explosive event astronomers call the Big Bang. Like a single milkweed pod exploding to hurl seeds of new life in every direction, the Big Bang sent

pieces of an ancient ancestral proto-universe out across space and time. Those pieces spread, formed eddies, and coalesced into stars, and into galaxies like our own, in roughly the same kind of process that later formed our solar system. But it took a while. First the initial generations of star systems formed, lived out their lifespans, then slowly died in smaller "big bang" types of supernova explosions that created new clouds of proto-stars. Then these clouds of material began to contract and spin under the influence of gravity, and the process started all over again. It was in one of those later "second or third generation" iterations of the cycle that our own galaxy formed, and at some point, our solar system within it. So everything in the cosmos is deeply connected by the immense cycles of stellar birth, death, and rebirth that continue to this day (Ridgeway 2024).

It's been fifty years since astronomer Carl Sagan first clearly conveyed, to the general public, what all this means (Sagan 1973: 189-190):

Our Sun is a second- or third-generation star. All of the rocky and metallic material we stand on, the iron in our blood, the calcium in our teeth, the carbon in our genes were produced billions of years ago in the interior of a red giant star. We are made of star-stuff."

In 2017, contemporary astronomers affirmed that new evidence continues to confirm "a clear human connection to the skies" (Atkinson 2017). And since then, as you know, the scientific evidence of our *universal* connections continue to accrue. Remember that only recently, 14 of the 20 amino acids were found in a sample of rock material taken from an asteroid.

The pattern of birth, death, decay, and rebirth that weaves relational connections between every part of the universe is not unique, though. And it's not merely theoretical. The same *pattern* is present in the cycling of carbon, oxygen, nitrogen, hydrogen, and other elemental atoms through our own planet's air, waters, rocks, soils, and living organisms. And it's present in clearly observable and measurable ways that are well-documented. So we are talking about more than just relationship here. We're talking about a fundamental and particularly vital *pattern*. That pattern is of *reciprocity*, a specific type that is visibly and clearly *circular* (Ahenakew 2019:30).

Circular reciprocity involves a form of gift giving that does not expect anything in return as the idea is for the gift to be passed forward. This form of radical sharing is the basis of community well-being (Kuokkanen, 2007) and encourages people 'to act responsibly to other forms of life' (Kuokkanen, 2007, p. 31).

Circular reciprocity is clearly visible throughout the entire cosmos, in the stories that stars, galaxies, nebulas, planets, and asteroids are telling astronomers. Astronomers receive those stories -- about who these stars and other entities are, what they are made of, how they live, and what their family history is, who their relatives are -- through observations and measurements of temperature and distance, chemical composition, and many other characteristics. When I read astronomers' reports of what they learn from the stars, and the stories about stars' lives they discern from this, I am always reminded of human oral histories. Someone in an oral history tells who they are, where they live, who their family is, where they grew up, what they remember, and

what kinds of adventures and relationships have shaped their life. Many of these human stories have a lot in common with the stories stars tell. Stars live out, and tell the stories of, birth (Lea 2024) and death (Mohon 2024), for instance, just like people do.

These days, some of the human stories short enough for us to easily remember and share with others are sung to music. The stories of circular reciprocity that the stars tell remind me of a Country song from when I was a young woman, that Dolly Parton wrote and sang about her childhood. Released in 1971, "[Coat of Many Colors](#)" (Parton 2014) tells the true story of growing up poor enough that, as a little girl, she had no coat to wear on the walk to and from school one winter. But then someone gave her family a box of rags. Sang Parton, telling her story:

*There were rags of many colors,
every piece was small.
And I didn't have a coat,
and it was way down in the fall.
Mama sewed the rags together,
sewing every piece with love.
She made my coat of many colors
that I was so proud of.*

I see the same circular reciprocity here that's visible in the cosmos and in earth's ecosystems. You might feel more cynical than I do about it, and argue that whoever gave the box of rags to Parton's family was stingy rather than generous. But I would point out that you don't know what was available to people in that time and place. Someone, somewhere, *thought* to keep all those pieces of cloth, then

to pass them to someone who might need them to create something new. I think that counts. And I think the beautiful act of re-creation is part of what makes it count the way it did. The two acts, *together*, are the process. A loving mother put all those pieces together to make something new. It is the same process, producing the *pattern*, that we're part of. The bits hurled into space from an exploding star after a supernova event are rags too, after all -- scraps and pieces of something else. That's what was in the cloud of material that is now our solar system, the earth, *us*. That's what we are made of, in a beautiful act of re-creation and rebirth.

But if you're really resistant to the idea that circular reciprocity is present here, you might argue that Dolly Parton didn't really pass along what she was given then, that she's not *manifesting* circular reciprocity because she only wrote that song to make money. But I'd argue that Parton wrote that song, which she frequently says is her favorite of all the many songs she's written, *specifically* to pass along and also *manifest* "a form of gift giving that not does expect anything in return as the idea is for the gift to be passed forward. This form of radical sharing is the basis of community well-being . . . and encourages people 'to act responsibly to other forms of life'," as Kuokkanen and Ahenakew so perfectly explained it. The money transaction in the process happens because the world is simply too big now to share a story in the town square. If you listen to the whole song for yourself, then look up what Parton says about why it's her favorite, I think you'll have to concede that the presence of the music industry is irrelevant to it. The story Parton sings is not only *about* circular reciprocity, it's a *manifestation* of this fundamental law of the cosmos.



Chapter 19

If circular reciprocity is so fundamental that it shows up in stars and nebulas and supernovas, in our soils and our waters and our winds, in a child's life in the hills of Tennessee and in a song she sings about it, but we seldom pay attention to it or talk about it or let it influence our behaviors . . . then we as a modern group of living beings are ignoring bedrock information that's universal. And if information is *universal* that means it's *essential*.

Stop and think about that for just a moment. Contemplate what it would mean if people everywhere simply ignored the fact that, everywhere you look, all around the world, things fall to the ground if they are not somehow supported. You don't even have to have the word "gravity" to see the pattern. But imagine that reality is as it is, that gravity exists as it does, and that people constantly build bridges without supports under the span, houses with overhanging rooms suspended mid-air, skyscrapers with artistic leanings and loops but no supports for those -- all because somehow gravity is not perceived or is being ignored as if it isn't there. There would be consequences in a world like that. When you ignore a natural law of the universe, there are natural, non-punitive, facts-of-life consequences. That's just how it is.

Astronomers *don't perceive* the circular reciprocity that's so clearly visible in the stories the stars and galaxies tell them. Or if they do, they sure aren't talking about it in

print. Ecologists, geologists, and geographers *don't perceive* the circular reciprocity that's just as clearly visible in the stories the atmosphere, seas, rocks, soils, and living things of the Earth tell them, even though they see the nutrient, rock, and water cycles that tell the story. Some people *don't perceive* the circular reciprocity in the story Dolly Parton sings them. And I'm sure, as you put some thought into it now, you're remembering some story or event that moved you that you see now expressed circular reciprocity that *you* didn't see then.

Do you know where I *do* see circular reciprocity lived out from time to time in modern culture? It shows up in a "pay it forward" behavior that occasionally starts at a coffee shop, restaurant, or drive-through fast food place, in which a person discovers that the *previous* customer paid for their order. So, with real delight (that they share with family, co-workers, and on social media), *they* pay for the order of *the person behind them*, even if it's a family buying dinner and they were just one person who ordered a coffee. Then that person behind them has the same experience and passes it along to the person behind *them*.

I've heard these strings sometimes go on for hours, stopping only when the meal rush ends or the place closes. But seldom does the chain end because someone balks at paying forward more than they received. They tend to happily inform the cashier, instead, that this works out great because last time they were the ones with a large order that was covered by someone who only got a coffee. And people are always absolutely *delighted* when they're suddenly enveloped by this little type of circular reciprocity experience. I think maybe that delight is the

felt and re-experienced memory, deep inside people, of a happier and healthier world we somehow left behind -- one in which people *remembered, recognized, and lived* circular reciprocity all the time. In more ways than one, that's quite literally *living in harmony* with the universe.

Circular reciprocity, like sustainability and the other natural laws of the Land, isn't just a story you *tell*. People living in harmony with the Land *live out* any Story the Land tells, that is so natural and powerful it simply unspools itself through reality. The stars don't "talk about" what this or that star did. They tell their stories by *living them out* right in front of astronomers' eyes. That is how the astronomers are witnessing circular reciprocity. And I am telling you that circular reciprocity is so fundamental to the universe, so basic, that we humans experience it too. It even feels Right and Good to us in a coffee shop's cashier line or a song about a child's special coat.

I want to pause a moment, though, because I keep using phrases like "natural law" and "values" and "story" without clearly explaining precisely what I mean and how the words I'm using relate to one another. But I'm pausing so I can tell you I'm not going to explain them more clearly. This is another one of those times when I find myself having to talk about things that are far too rich and complex for me to know how to express them properly in words. The things we're exploring are hard to conceptualize. So they fall to the page in words that are, as I've said once before, like the broad strokes of a watercolor wash on a very wet canvas. As I told you then, such words are *pattern thought in action*, describing pattern processes in the natural world around us and also within (in this case) my own mind.

What's important now, as it was the first time I pointed this out, is that you bear in *your* mind the watercolor pattern-focus of this chapter, and not think it is a blueprint drafted to scale. A blueprint drafted to scale would be a picture that rigidly manifests an underlying pattern of *Western* epistemic process. And that's what I've learned people of the dominant culture always want from me. They want me to be concise, to define, to delineate. But some of the most important things that exist are too big and too breath-takingly Other for us to easily understand. So they're impossible to shape into words that "concisely" define them.

What I want to do, instead of pinning things down more firmly, is to quietly point out that traditional Indigenous people *have never forgotten* the existence, or the cosmic importance, of the circular reciprocity so clearly transmitted in the Stories that stars, asteroids, meteors, planets, nebulas, and galaxies sing to Western astronomers. Indigenous people knew what circular reciprocity was before it ever showed up in astronomical data. We did not have to invent telescopes or send out probes to asteroids to learn it. I mean, it's nice to have those beautiful images and to know that asteroids tumbling in orbit around our sun carry at least 2/3 of our own amino acids tucked among their stones.

But Indigenous people didn't have to carry out any of those studies in order to learn that everything is connected with and related to everything else in the cosmos. It's what "All My Relations" *means*. And it's what it has meant for centuries. The scientist analyzing asteroids to get "closer to unraveling the mysteries of our cosmic heritage" is learning things we have been teaching

our children for centuries. And these fundamental, essential laws of the universe, like relationship and reciprocity, are things *all* our Ancestors knew -- yours, as well as ours, no matter who you are. Indigenous people have been continuously living by these values and laws, consciously, all this time. We understand they are a pattern the whole earth and every part of the universe lives by and lives out.

Right now, I suspect at least a few of you have a sort of loose-dog thought chasing around the outside of your awareness about all this. And it's barking at you that when we said "All My Relations" two or three hundred or a thousand years ago, we didn't know what it would really turn out to *mean*. You're thinking we just got lucky. But tell that dog to sit, please. And consider the fact that circular reciprocity is written into Dolly Parton's childhood and the song she wrote to tell that story. Circular reciprocity is visibly present right here on earth. We Indigenous people knew it was present in the larger cosmic universe *because* we can perceive it right here, on earth. We always could. It's absolutely everywhere you look, including all those circles and cycles we talked about in *Standing Our Ground for the Land*.

That's why I didn't bother to write "scientists believe that" over and over, as I shared their stories about stellar and planetary evolution and development with you. What they've learned comes as no surprise to us. *Of course* we're all related and connected. *Of course* things fall into pieces that wind up forming new entities, that fall apart in turn and become yet another generation of entities. It makes perfect sense. So the big question is not, "How did Indigenous people know this?"

The big question is, *How did Western culture not know it?* Really. This is worth thinking about. How did Western culture lose the Knowledge of relationship and reciprocity, somewhere along the way, that is written into the foundations of earth, life, and the entire cosmos? Why has it had to start all over again, learning this, having to build fancy scientific equipment and space probes to look for it? And when it finds that information it's searching for, in the cycling of matter through the earth's ecosystems and in the cycling of matter through the stars and nebulas of space, *why does it not recognize this universal pattern of relationship and reciprocity for what it is?*

I don't know the answers to those questions, any more than I know how Western culture somehow lost the Knowledge and even *awareness* of Solstice.

Science is just now beginning to understand that the Cosmos -- all that great body of everything that is -- is one, connected, inter-related *Community*. Of course we can talk about smaller communities in more immediate proximity if we want to think about a specific place or a local group of people. But the universe itself is showing us that we literally can not do is draw a line and say, as people did in my talks, "That thing, there, is *outside Community*."

Because there is no "outside" of the greater Community.

Earlier I pointed out that *community is the complex and dynamic web of relationships between all the things that exist*. And I said this means we are talking about, and recognizing, the deep kinship of all the things through which the Land *manifests*. That's why relationship and

circular reciprocity infuse Community so deeply. It's why a box of rags or the detritus of an exploded star are not endings, but beginnings -- the seeds of a vibrantly powerful process of new life. These processes of Community -- Community as a *function* -- are, together, the rootstock from which *sustainability* emerges.



Maybe that second stage is that those who have built this trusted circle -- about how a philanthropic exchange would happen -- really challenge the premises of grant making, or stage two, or the rules, or the compliance, and say, "Actually, what we think is that this grant should look a different way" -- and can go back to the grantor and make that recommendation about moving forward. So that makes the funding almost have a life in and of itself that is determined by the people who are in the process of both giving and receiving. So it can be dynamic and nimble and change depending on which -- they're not die-hards -- but which groups the money passes through. And it doesn't have to look any one way. The people who are giving, the people who are receiving, are negotiating what that looks like. I think that this has the potential to remove some of the transactional nature of giving and receiving funds, and builds the relational nature of being forced to confront the conditions under which funds are given and received, changing the grant system -- Jess Venable



Inside/outside.
Photo courtesy John
Njovu.

Chapter 20

Much of the information we've used to explore Community is based on simple observation and analysis of the material natural world -- for instance, the times and locations of sunrise and sunset at different seasons of the year, in a given place. People in the Western scientific community tend to see this process as a sort of "primitive" version of the practice that has since evolved or developed into the Western science that is, to their eyes, a higher form of knowledge. It's certainly true that people in both Indigenous culture and Western science learn a great deal by observing and analyzing the natural world. We have that base method in common. The thing we disagree about is the reasons *why* we differ outside of that common ground.

Western culture sees itself as having *progressed past* our shared common method of observation and basic analysis. Many modern people feel that advances in learning, thinking, and inventing that developed in their halls of scholarship and industry allowed Western culture to go much farther in acquiring knowledge than Indigenous peoples could ever go with "primitive" methods such as simply going outside to look at the sky and paying close attention to what's there. People of the dominant culture frequently express the thought that this is why they're able to build and send probes to asteroids and invent desktop publishing systems like the one I'm using here. But I think you've probably realized by this point that many

Indigenous people see the situation a little differently. Some of us feel it might be more important, if a choice of time and resource investment must be made, to remember, recognize, and understand circular reciprocity and relationship. Then this knowledge could be used to develop cultural practices of sustainable living that ensure long-term stability and vibrant, healthy life for the world's many populations.

Since I happen to be using a desktop publishing system to communicate the information you just read, you could potentially see my last few sentences as ironic, thoughtless, or even ungrateful. So I think I should point out that (a) if Western culture paid as much attention to Land-based learning as Indigenous people do, you wouldn't need me or anyone else to tell you these things. So the book wouldn't need to exist. And (b) if Western culture paid as much attention to Land-based learning as Indigenous people do, the environmental crises that have brought you here to read this book, and that brought me here to write it, would not exist. We would not even need IKhana Fund, because the environment would not need to heal. The earth's ecosystems would be living in natural, healthy balance -- as would all of us.

That's not to say we have the option, at this moment in time, of somehow simply switching over to an Indigenous way of living that would instantly heal the world. Ecologically, we're in a pretty deep hole right now. It's going to take a lot of time and effort to get out of it and back onto safe, sustainable ground. So I'm not proposing a "solution" here.

Instead, I raised the issue of our different cultural knowledge systems because I'm trying to point out that the kinds of knowledge people prioritize as important are the kinds of knowledge they *value*. And when we value something, it's very hard not to see it as ontologically "best" -- able to generate outcomes that don't just *seem* better, but really *are* better. The catch to this is that the way you evaluate the "betterness" of alternative outcomes is, itself, part of your value system. If you think good knowledge delivers faster microchips, you'll measure microchip speed to evaluate how well your knowledge system works. If you think good knowledge delivers classrooms with higher standardized test scores, you'll use standardized test scores to evaluate your knowledge system. This is why "assessable outcomes" are such a notoriously double-edged sword.

So now let's look, again, at the fact that Western culture *values*, as specifically *more advanced*, the kinds of knowledge that produce laptop computers and space probes. Indigenous knowledge systems are seen, in that context, as primitive "early stage" processes of observation and analysis. The lower value of this Indigenous knowledge system is evident to Western eyes in the absence of, say, a Choctaw tribal space agency to design, develop, and implement planetary probes and landers. And because Western culture's knowledge system values knowledge that's "advanced" in these kinds of ways, it *devalues* the knowledge acquired by simply going outside to look at the sky and pay attention to what's there. That's seen as "primitive" knowledge that doesn't have good or important outcomes. And *this, right here, is why modern people don't have any idea what Solstice is*. The cultural de-valuing of that knowledge made them *lose* it.

And yes, I mean that. And I will repeat it for the sake of clarity: The fact that Western culture *values* its "advanced knowledge system" as "best" is *responsible for its cultural loss of the Land-based Knowledge it so desperately needs now*. The loss and total ignorance of Solstice is just the tip of a very grim iceberg.

Lakota scholar Vine Deloria points out that Indigenous people learn things from the Land, using our broader epistemic system, that Western people no longer even see. As a result, we are "keenly aware of rhythms and activities that scientific people cannot begin to fathom" (1999: 64). You've been catching glimpses of this, I think, here and there in this volume and in *Standing Our Ground for the Land*. He explained the idea more thoroughly later in that book, *Spirit and Reason*, in a way that I think has bearing on our discussion here. He begins by addressing the way Western culture has limited their, and (through education) our, access to information, then reveals the fallacy in perceiving Indigenous ways of knowing as "primitive" pre- or quasi-science (1999:225-226).

We have reduced our knowledge of the world and the possibility of understanding and relating environment to a wholly mechanical process. We have become dependent, ultimately, on this one quarter of human experience, which is to reduce all human experience to a cause-and-effect situation. As Indians look out at the environment and as Indians experience a living universe, *relationships* become the dominating theme of life and the dominating motif for whatever technological or quasi-scientific approach Indian people have to the land. Indians do not simply learn survival skills or different ways to shape human

utensils out of other natural things. In shaping those things, people have the responsibility to help complete their life cycles as part of the universe in the same way they are helping people. Human beings are not above nature or above the rest of the world. Every species needs to give to every other species in order to make up a universe.

When Deloria says the mechanical processes from which Western culture learns about the world make up just "one quarter of human experience" and generate a knowledge system that reduces "all human experience to a cause-and-effect situation," he's describing the linear epistemic system we addressed in *Standing Our Ground for the Land*. I won't repeat all that here because this work is quite long enough as it is. But I will ask you to remember what you learned there, including the kinds of knowledge we learned from stars and the Milky Way when they appeared in a Vision with the tracks of buffalo. Do you remember that? It's up to you to keep forming connections with and between the things you learn, weaving it with the threads of all the Knowledge that continues to emerge, and weaving all of that into your own life and the other things you know as you do so.

The ancestors of Western people were Indigenous. They experienced and understood the world as the Indigenous people they were then. But at some point, people in Western culture shifted from a Land-based reality to a human-based one. This shift moved them out of the natural world and into their own heads. And they took off on that trajectory in a way that has taken them farther and farther from the wisdom that is their birthright. As a result, they lost touch with and literally *forgot* Solstice.

Worse, as part of that same process, they lost the entire palette of Indigenous Knowledge that emerges from the Land and is expressed in the natural patterns of relationship that weave Community. And because Land-based *values* emerge from Land-based Knowledge, when you lose the Knowledge you lose awareness of the values as well. Then you can't live by those values -- which means you start violating natural laws you don't even remember exist. You cannot violate natural laws such as relationship and reciprocity without cataclysmic consequence, because these are the laws by which the natural world *operates*. If they are broken, the system ultimately collapses. The safeguards built in to protect the system from collapse generate "the consequences" of breaking those laws. And there is no higher court to which people can turn when those consequences ensue.

What this means is that Western culture is hurtling into a future it knows is increasingly unstable, without even the most basic knowledge that could save it. Because that Knowledge *starts* with a fundamental comprehension of what *Community* really *is*. The information that teaches this is freely available to people of contemporary culture, in multiple places. But that information is ignored, seen as unimportant. So *the Knowledge cannot emerge*.

Do you remember the story about the people who gathered for a nature walk to see owls? I told you this is the kind of experience allies so often ask Indigenous people to take them on, in one way or another. I'd like to ask you, right now, to think about those people who gathered at the trailhead to visit the owls. Remember the way they were talking loudly, their children running and jumping about, playing their flashlights on the trees while

they waited? The people were doing these things to have fun, to have a good and memorable time with their families. They saw the owls as part of the fun they wanted to have. I am sure they hoped their children would have a good and memorable experience of seeing an owl up-close.

But none of these people thought, even for a moment, about what the owls would want or need. The ranger certainly didn't tell them things about this they might not have known, to help them. But they surely knew, at some level, that owls' eyes and ears are adapted to the dark and silence of night. But they didn't consider this while in the woods. They did not think about the fact, as they walked through the place the owls lived, that these animals must hunt for the *only* food they will ever get to eat that day, and they must do this *in the dark*. There is no fast food restaurant owls can go to after a nature walk tour upends life in their neighborhood. So it matters very much if loud voices and even louder flashlights cripple owls' special eyes and ears adapted for hunting in the dark. If owls stayed in the woods for the people on that owl walk to see them, they'd have gone hungry that night. So the people gave the owls a choice, whether they knew it or not. And the owls chose the only healthy option they had: leaving that place for the evening, and not being in relationship with the people who had come there specifically hoping to see and be in relationship with owls.

Is it possible to say that the people on that nature walk were living out a "responsibility to help [owls] complete their life cycles as part of the universe in the same way they are helping people?" A "yes" answer to this would be a tough sell. And I think it would be even a tougher sell to

argue that those people acted as if they thought "Human beings are not above nature or above the rest of the world."

I don't believe, having been there, that these people had any idea they engaged in behaviors that drove owls away from those woods or made it impossible to see an owl then. And I think if anyone had told them their behaviors manifested cultural values that are harming natural environments and threatening the survival of all living things, including humans, they would have been shocked and even offended. Like I said, they thought they were just having fun. No one had ever taught them anything different.

But you know now. *Community embodies* circular reciprocity. That's why an understanding of Community is the rootstock of sustainability. Relationship and reciprocity is written everywhere life manifests. But it doesn't matter that it's there, or even that you become aware of it, if you don't let it manifest in and through you. *You have to live it out.*

The problem, if you do that, if you let the real natural world -- the Indigenous world -- start to manifest within you, is that you will find yourself sometimes standing in a place where things start to feel a bit odd. And the more colonization you've experienced, the stranger those moments might feel. You're starting to take the final steps from a human-based system to a Land-based system in just one little area of Knowledge about sun, earth, you-in-place relationship. If you're successful, you'll be stepping clear of mainstream culture right in that one spot. Yet . . . you'll still be engaged with mainstream culture because it's so ubiquitous. There's no way *not* to be.

So you're going to hear someone on the news announcing, "It'll be Summer Solstice today at exactly 3:22 pm" -- and whereas you hardly even noticed something like that before, now you might feel a small sense of dislocation, like there's an inexplicable wrongness tugging on the fabric of reality in a way that makes no sense. And the more people around you who make "longest day of the year" or "most hours in the day" comments, the stranger it will seem that so many people can be completely oblivious to something you're more and more aware of now, because you're simply looking at the sky.

When this happens, it will help you keep your balance to remember how much you, yourself, had to learn to get back to a real perception of the natural world, in just this one little area of Land-based Knowledge. And yet, the rising and setting sun was right there, every day, for you to have seen all along. You just never looked, because you were taught that kind of knowledge doesn't matter.

There's really quite a lot to think about here, and to learn. Luckily, you have all the rest of your life to do it.

Turn off your flashlight. Shut down your cell phone. Let the trees surrounding you merge with the darkening shadows. Pay no mind to the small rustlings you hear as silence seeps in on the currents of night. Step off the boardwalk onto the earth, onto the soft drifts of papery fallen leaves among the gnarled tree roots. Sit down. Now lie back and rest your head upon the cool ground. Feel the massive miles of solid rock rising beneath your back. The sun is still warm beyond the horizon where it set not long ago. The full moon rising, counterweight, is pale yet luminous.

Look upward through the depths of gathering night into the translucent sky over you. Wait. Be patient. Be patient still more.

Let the stars find you.



Nights in the forested valleys and prairie draws of Pine Ridge start to get cold in mid-October. That particular October, more than 15 years ago now, I had dreamed of snow two nights before, during the early hours of the same day the moving van and its crew were to arrive. So when the semi pulled through the ranch gate, I warned the men about the snow my dream had said was coming. The dirt roads between us and the nearest paved two-lane were graded through prairie clay that changed to a thick muck slippery as ice the moment it got wet. And an October snow would be wet. I told the men the moving van could wind up stranded or stuck if they didn't load things quickly and get the heck out of Dodge.

The movers were kind men but from a city a hundred miles away. They didn't understand Pine Ridge. They didn't understand dream knowledge either. So all morning they stuck to their usual timetable. When it started to snow heavily enough that they finally believed what I had told them, they barely had time to get the half-loaded van out to the highway before the mucky road got too slick for them to make it. They came back with a much smaller truck the next day, to finish the job. They had no sooner left than the young hauler transporting our horses came and picked them up.

So by dark, the ranch was as empty as an abandoned corral with its gate banging loose in a slow wind. Some

time after 10:00 that night, I found myself walking on heavy feet through the ranch yard towards the autumn remnants of my mound garden for a last time. The night was clear and dark, the snow having blown out that morning and silently melted away. The air was still and utterly silent but for an occasional breath of wind stirring the pines. Tomorrow morning we would leave. *And this time*, I thought to myself, *I have to say good-bye forever.*

My heart lurched with grief and I stopped where I stood in the ranch yard, unable to face saying good-bye to the garden. No more July sunlight gleaming off bright corn tassels. No more September winds rattling squash leaves big as dinner plates. No more frog songs tumbling like balls through the cool May evenings. For a long moment, it was unbearable. So I just stood there, gazing north towards the distant Black Hills I knew were out there on the dark horizon, remembering the first time I had come to this place. I was only 22 years old then, and my people are not from this Land. But Pine Ridge and the low, rolling prairie north of it had leapt up beneath me, alive and lithe as a mountain lion, the moment I set foot there. That Place began to send me dreams at once, engaged with me several times over the years, and then to my immense surprise wound up calling me there to live so I could do Ceremony the Land of that Place needed to have done for it.

So often these days, that lack of ceremony is a serious problem. Sometimes there is no one near there anymore, who can care for a Place the way it's got to happen. But more commonly, the people are still around who can do such a thing for the Land, but there are other people owning it now who won't let them. I've driven past some

important old sacred sites and seen the ranchers' signs myself: *No Indians! Keep out! There's nothing here for you!* But of course, the ceremony's not for the Indians doing it. It's for that *Place*. The ranchers hanging up those signs are in a bad mood to begin with because the grass on their range isn't as good as it used to be, the springs are drying up, and their cattle are getting scrawny and falling sick. Yet it somehow never once occurs to them that their problems might stem from the fact that nobody's doing the ceremonies the Land there needs in reciprocity. The only thing that's happening is that it's getting used and used and used, with no giving back. No one's doing anything meaningful to restore and then maintain the Land's health.

But we did Ceremony of that type, in this place on Pine Ridge. It's specifically what we'd been asked to go there to do. I hadn't wanted to at first and I have to be honest and admit that. I'd even resisted visiting that Place over the years since I'd first met it, simply because it was so painful to leave it each time. Land sometimes engages with an Indigenous person in a way that's impossible to describe to allies. It must be experienced to be understood. But I can tell you it's not at all about the place "having a scenic vista."

Well so. I had moved in and lived with this Place on Pine Ridge for several years because it had called out to me, saying it needed my help. And my life had been so richly blessed during that time, I couldn't regret it even though the things the Land had needed done weren't even a little bit easy. Some of them were so hard I wasn't sure they could be done at all. But we'd managed it somehow, and

set right the things that needed righting . . . and then, all of a sudden, here it was -- time to go.

A friend had found a place for us to rent about 800 miles south. We'd be there in a few days, and the horses would join us right after that. But we'd never see the bluffs and foothill prairies of Pine Ridge again. An upwelling of bitterness I hadn't expected rose into my throat as I thought about the property owner we'd trusted to keep the long-term lease we'd both agreed to and he'd been so eager to sign. I was glad to have helped this Place. I could never regret that. But the man who had broken the relationship between us should never have owned this Place to begin with. No human should. Land has agency and autonomy. You shouldn't own it any more than you'd own another human being.

"*I'll never come back here.*" The thought was just suddenly there, dark and heavy with grief. I was standing in the yard near the old well pump, looking north, feeling the pain of a loss I hadn't even been able to face until that moment. "I can't bear to come back here to visit again after all this. It will hurt too much to know I have to leave again. I love you forever, with all my heart." I was speaking words out loud now to the Land. "But I have to go, and I'm never coming back." My heart was standing so wide open the wind could have gone right through me without so much as slowing down. Ursa Major, Big Bear, the Big Dipper, hung fairly low in the northern sky, its stars sharply bright above the black silhouettes of the massive old cottonwoods along the creek down beyond the garden. The air was still and crisp, and my gaze followed the lines of the Big Dipper stars across to the Little Dipper, Little Bear, then to the North Star at the tip of its

tail. I knew I'd be able to see these same stars tomorrow night, and the night after, and the night after that. The Place would be different and my heart would be grieving. But the North Star and the Bears would be there as always. I tipped my head back and fixed my eyes on the North Star, fastening my heart to the only thing I could see that I could hang on to in all this time of terrible change and loss.

And the North Star was suddenly as bright as the light on a coal train coming across the prairie at night. *I must be looking at a plane somehow*, I thought. I've seen a plane's landing lights come on that way in a city where I used to live, almost like a huge flashlight. But at the same time, I was wondering *how* . . . because there are no airports around that particular place, nowhere for a plane to land. Then, at that moment, it was suddenly the normal North Star again. The bright light had not turned away or gone anywhere. It had simply stopped being so extraordinarily bright. It was as if someone had turned a switch from "regular" to "superbright" and then back to "regular" again.

I stood there looking at the North Star, my heart and mind open, not taking my eyes off it for even an instant. And a moment later, it brightened again. As before, the gleam was like a plane's landing light. I was breathing very softly now, standing as still as possible, watching with great care. The light dimmed back to "regular" a second time. Then, over a period of just a few more moments, the pattern of regular to extra bright and back to regular happened twice more, so that the North Star gleamed out brightly and then resumed its previous appearance a total of four separate times. After that, the pattern ceased.

I stood in the yard near the gate to my mound garden for a very long time, in that place south of the gnarled grandmother cottonwoods along the creek I would never lay eyes on again. I was looking at the North Star all that time. I was tracing and retracing the lines of the Dipper/Bear constellations that locate it, making certain I knew for sure what I was looking at, making sure there wasn't something else going on that would reveal itself if I was just patient.

But even as I stood there, being certain but still being patient, I knew.

There are moments when the wind shifts. You step outside and you suddenly realize it's happened. There's a smell of rain on that wind, or frost, or smoke, and there's something to this that makes you pause. You lift your face into the wind and close your eyes to feel what's there. Tasks and responsibilities are lined up in front of you like always, one after another, waiting, the clock ticking even as you stand there. Rain happens all the time, and winter storms, and wildfire. There's been a lot of rain lately and the river's a little high, you think to yourself, but it's always been fine. Or you think about the wildfire in the hills twenty miles away, but then tell yourself the crews are on it like usual. That's just how it is sometimes. You keep going about your business and it's no big deal. Everyone does it. So you turn to leave and a gust of wind stings your eyes. The scent it carries bears, again, information you don't want to know. You don't understand it. You certainly can't explain it to anyone else.

I went back into the empty ranch house that night. I lay down on the sleeping bag there and went to sleep without saying anything to anyone. The next day, I drove away without looking back. The curvature of the earth slowly rolled down behind me as I traveled mile after mile, and I felt that powerful Place slip silently below its rim like the setting sun at the end of an age. But I did not forget the way the wind had shifted. And I did not forget what I'd seen.



Aurora borealis on Pine Ridge, 2024.



Chapter 22

If you face the North Star, you are facing due North. That's because the North Star's position in the universe happens to align closely with the axis of our planet's rotation. Of course, the North Star only aligns with this axis if you're standing in the northern hemisphere when you look up at the sky. This is what that one arrow was about, that was pointing upward and away from the center on the old NASA educational diagram showing the paths of sun movement we used earlier. If you look back, you'll see that arrow I'm talking about, labeled "North Pole of the Sky." Well, it's the North Star that arrow is pointing to. Of course, our ancestors didn't identify this star as "the one that's aligned with our planet's axis of rotation." What people always saw, that made the North Star so handy for direction-finding when they were traveling at night, is that *the North Star doesn't move*. It's the *only* star in the sky over the northern hemisphere for which this is true.

Because the earth rotates around its axis at night as well as during the day, the field of stars we can see in the sky spins around us during each night. Of course, all the stars but our sun are outside our solar system, so they don't move across our sky individually the way our sun and the planets do. They're too far away. The star closest to our solar system, Alpha Centauri, is nearly 4.5 light years away (Sessions and Gonzaga 2023). That's about 27 trillion miles (27,000,000,000,000), or about 43.5 trillion km. Folks, that is the closest other star to our sun

and our solar system. Every other star in our galaxy, and all the stars in galaxies beyond our own Milky Way, are even farther from the place you stand to look at the night sky. So we see them moving across as a single collective field of stars.

As a result, when the earth spins around its rotational axis at night under the star field, the stars seem to be the ones moving instead of us. They draw a big circle in the sky over our heads. If you imagine yourself as a figure-skater spinning on one toe beneath a ceiling hung with lights, you can picture the way those lights would seem to spin around and around over you if you looked up at them while you were spinning on the tip of one skate toe. That's what's going on. Since we can't feel our own movement on the spinning earth, it looks to us like the lights above us are moving. The North Star, though, does not spin around the sky. It remains still because it's very close to the center of the axis of earth's rotation. If you go outside and look up at the stars several different times over a given night, you can actually see the stars move like a great wheel around the sky. The hub at the center of that movement is the North Star.

Any moving body that's producing light creates streaks or trails in a long-exposure photograph. You've probably seen this in pictures of the light trails drawn by car headlights and taillights moving on a highway. A photograph of the light trails traced around our night sky by moving stars can be made the very same way. That's what you see in the time-lapse photograph (Dyches 2021) to the right, made over a relatively short time during a

single night. It shows you the "trails" of motion made by the moving stars. That single tiny star in the center of the field is the North Star. It doesn't move. That's how our ancestors spotted it. And of course, they knew which direction was North in the place they lived, so the directional connection was easy to make.

The North Star is by no means the brightest star in the sky. It's simply the one that stays put. But of course, you can only see it staying put if you stand outside with the stars for a very long time. Generally, you want to locate the North Star more quickly and easily than that. The way to do this is to start by looking for the Big Dipper -- Big Bear or Ursa Major. Then run an imaginary line through



the two stars at the "bucket" end of the Big Dipper and extend the line towards the Little Dipper. That line goes directly to the North Star, which happens to be in the very end of the Little Bear's tail (which is the Little Dipper's handle).



If you don't know how to find the Big Dipper (Ursa Major) to get started, you can use a star chart or star map of the type I mentioned in Endnote 16. You can "dial one up" online at this (specific!) page on the website of the nonprofit organization IN-THE-SKY.ORG (Ford 2025). The default map there shows the sky in the organization's home territory, the state of Washington. You'll see a sentence in the upper left field above the map that says: "The wheel below shows the entire sky that is visible from Washington," and it has a tiny wrench icon at the end of the sentence. Click that wrench icon and a box will open that allows you to type in YOUR location. Be sure to do that.

On the chart you'll see then, North is at the *bottom* of the chart. You can see the directions marked around the rim of the circle, with the N at the bottom center because a star chart is made to be read while you are holding it up over your head, image-side down so you see it if you look up at the chart and the sky beyond it.

BELOW the chart, in the right-most of four gray search boxes, you will see a "search for object" field. Type in **Polaris** and hit return. (Yes, on the chart we'll use the North Star to find the Big Dipper, not the other way around.) A spinning green circle will appear ON your chart, showing you where the North Star is, in your sky. You can zoom in on it a bit if you wish. You should be able to see Ursa Minor there, the Little Dipper, because it's marked and labeled. Ursa Major is right next to it. You might even be able to see the "bucket" of the Big Dipper part of Ursa Major that matches the image in the smaller picture I showed you (on the left side of this page, here), though it will probably be oriented differently. That area all around the North Star is the field of stars I saw hanging in the sky above the cottonwoods north of my garden that night.

If at all possible, once you've done all this, print the chart and take it outside, face north, and hold the chart over your head with that N aligned with the direction north. (Use your phone's compass to align yourself if you don't know where north is.) If the sky is dark enough that you can see stars at all, I think you owe it to yourself to see the *actual* North Star, not just a picture of it. And if you look for and find the Big and Little Dippers and see how they relate to the North Star, you'll always be able to find the North Star from now on.

I'm telling you all this because knowing which star you're looking at matters. Land-Based Indigenous Knowledge transmitted as metaphor is not a symbol, a sign, or an "omen." *Knowledge emerges from relationships*, which is to say that natural metaphor exists within a larger context that gives it the meaning it has. So it matters that it was this specific star, the North Star, that did what it did in the story I shared. Had it been another star, the context and therefore the meaning would have been different. In addition, it mattered that it was me on the receiving end. The context of my own life was also part of the meaning.

While I've never had anyone from the dominant culture ask me about a star relative that's engaged with them, they've certainly asked me about animal relatives such as hawks. And the same contextual information applies to engaging with animals as with stars. Unfortunately, a lot of people seem to think "meaning" can be ascribed to animals as if they are literally nothing more than the words of a coded language, a single universal symbol that means one thing no matter what. So it's not uncommon for a potential ally to send me an email asking, "What does a hawk mean?" or "What does it mean if I saw a lot of hawks the last few days?" And the first thing I ask them is what kind of hawk it was.

You know their answer, right? It's "I don't know." So I ask what the hawk was doing. Usually their response is, "Sitting on something, I don't remember what." If I press them to describe the hawk's appearance in detail, they say "I think it was kind of dark." It never seems like the person even really *looked* at the hawk. And of course, that's a basic problem we've been noticing a little too frequently in the relationship between people of Western

culture and the natural world. I'm sorry to say this, but a lot of people just don't seem to be paying attention. And this apparent sleepwalking state is even scarier than that, because when I ask these folks what they were doing at the time, what they had been thinking about then -- which is *the context of their own life* within which this potential information exists -- the answer is once again, "I don't know," usually followed by, "Nothing I guess." Boy, that word "nothing" is really appropriate here.

Just to clarify why this type of information matters . . . Some hawks migrate at certain times of year. So seeing a lot of them might simply be local air traffic that day. Hawks of certain species might be mating then, which will impact behavior and flight patterns. A hawk might be hunting, or being chased by angry sparrows, or doing any number of things for reasons that may or may not have anything to do with you. So "I saw a hawk" tells neither of us anything worthwhile. To understand natural metaphor, you have to stand there and watch. You have to pay enough attention to see what's really going on. There's a story being told, and *you're not the one writing it*. So you can't just superimpose your own meaning over it. You have to look with your heart and mind wide-open and see what's really there -- including the fact that it might be all about the hawk, not you.

But all of it starts with knowing what kind of hawk you see. That means you have to learn to identify hawks if you're going to ask "what does a hawk mean." That's where the Knowledge *starts*. So I tell people everything I've told you here. And they tell me they don't know how to identify hawks. So I write them a long email with instructions on the most important parts of a hawk you

can use to quickly identify which type it is, guidelines on selecting binoculars and a reliable bird identification book or software, and tips on where to find maps that show things like migration patterns and the places different types of hawks live at different times of the year. It usually takes me an hour or two to pull all this together. And you know how these people respond? They don't email me back. Then, almost like clockwork, about six months later they email me again. And it's to ask, "So what's a dragonfly mean?"



Chapter 23

Our Indigenous ancestors may not have known every last scientific fact modern astronomers know about our solar system, galaxy, and universe. *But all our Ancestors and all our people, now and forever, had and have Stories and Songs and Ceremony that came to us through our relationships with all the star relatives who are so clearly visible in the sky.* Many of those star relatives transmitted the very same information to us, long ago, that science now believes it has learned for the first time. The name we use for that information is Star Knowledge, and each nation of Indigenous people has its own.

One of the things happening at those enormous Circles our ancestors built thousands of years ago, all over the world, is that those people were engaging with and receiving Star Knowledge in a variety of ways. These places were not just observatories, and they were also not just places of spiritual learning. As Choctaw Elder Stephen Charleston wrote (in this slightly modified passage, the italics here being my intrusion; 2018), when "*Indigenous peoples around the world* engaged the basic spiritual elements of time and space as the cornerstones of understanding for sacred reality. . . we began to understand that our spiritual geography was both physical and temporal. In fact, the two realities seemed connected, moving like partners in a cosmic dance." This learning continues today. It has never ceased.

You might wonder why, that being the case, I did not share Indigenous Star Knowledge with you, to teach you about Community. I did not do this because such Star Knowledge does not belong to me, nor does it belong to you. *Indigenous Knowledge always belongs to the people to whom it was given.* I could share only one small piece of such knowledge and the way it was transmitted -- the one piece I was given, that was mine to share. That's the story about the North Star. I shared it with you, in part, so you could see for yourself what it looks like *to learn from a star relation directly.* That's how it happens with Indigenous people now, and also how it happened when the Ancestors were given Star Knowledge. The North Star, like all our other Relations, is part of a vast living river of Ancestral Knowledge.

It really is not surprising, is it, that the North Star that so often guides us would share Knowledge with me in a moment when I felt the anguish of being physically displaced, of losing my home, and being lost? And yes, I realize you want to know what that Knowledge was, that it shared with me. But it can't come to you just yet, and that's not up to me to decide. For even though I said that Knowledge belongs to the people to whom it was given, part of the Knowledge they're given is how, when, and with whom (or even if at all) that Knowledge wishes to be shared. *Knowledge itself has the primary agency here.* And in this case, the Knowledge from that star chooses to share itself with you in our volume about Story.

These living rivers of Ancestral Knowledge braid and weave together our own memories and experiences with those of all the Ancestors who walk before and after us in the nonlinear reality of time. Indigenous people still live

within, walk within, and perceive many of the patterns our Ancestors taught us -- because they are still with us, our Ancestors, the human and also the non-human. Their memories emerge, in Ceremony, to enfold us in the weave of living Knowledge. Moving with appropriate intention and preparation into Ceremony, and inviting our Ancestors and Relatives into that space with us, can therefore weave a fabric from which Knowledge will emerge. This provides us with practical knowledge that applies to real-life situations -- including the one we are engaged in right now, you and me and us. We are, after all, exploring Community this way for a *reason.*

The Land envisions IKhana Fund as a Community that moves together, through Ceremony, to live out a new Story that's important to the ways we provide philanthropic support to Indigenous-led environmental projects. You might remember that the Land's Vision came in response to our planning team gathering in community in 2023 to ask, "How can we develop Indigenous-based grant protocols?" The response we got was not at all the answer we expected, so at some point we have to solve the mystery of what question it was the Land answered, that we didn't know enough to ask. But first we have to address the practical matter of the answer we were given. And part of that is figuring out how at least some of our allies can become fully functional members of our Community that's moving together through Ceremony.

This section of material has focused on the Community part of that problem. How, we asked ourselves, do Western people think about Community? What are the potential problem areas there? How can we help our allies begin to perceive and then at least start to understand

what Indigenous Community really is? How can we help them use that understanding to step into and become part of a Community that's a great deal bigger, richer, and more dynamically complex than they probably realize? We were hoping that addressing those questions would give at least some of our allies enough of a boost to take a first real step into Indigenous Community with us, and help other allies take the same step with other Indigenous communities. Once they could do that, we figured time and experience might potentially get them the rest of the way. Then at least that one part of the Land's Vision could start to manifest.

But this is the first time the people in our group have ever been tasked with forming a Community of this type, that can function the ways this one is supposed to function. So we feel a pretty strong need for more Knowledge about how to proceed. And, as I told you a paragraph ago, inviting our Ancestors and Relatives into a space of Ceremony with us can weave a fabric from which Knowledge emerges. We needed Knowledge about what could help actualize the Land's Vision of Community. So we felt we not only needed Ceremony, we needed to invite *the Lands, Relatives, and Ancestors of our allies* to participate in it with us.

When Shawn Wilson had to travel to London on business, and realized he'd be able to visit our Western ally and friend Jessica Sweidan, who's on the IKhana Fund planning team and lives in London, he saw an opportunity to do this. He began to plan how to approach the Land and Ancestors there in Ceremony, with her, to ask for Knowledge that might help us actualize the Vision we still found pretty daunting.

Shawn chose a place to do Ceremony where members of the Rabbit Nation could be invited to participate. At that particular moment in time, I had finished writing the Ceremony section of this book. Rabbits had danced stories there that caused our team members to think very deeply about the timeless and transcendent role of our Ancestors and Relatives in holding essential Knowledge we've forgotten, then returning it to us in Ceremony. We know our allies have forgotten a great deal of their own ancestral Indigenous Knowledge, so what the Rabbits had taught us seemed to suggest an important way that our allies' Ancestors -- rabbit as well as human -- might help them recover some of *their* lost Knowledge.

So Shawn prepared to ask the Ancestors and Relations that live in the Land of England if they were willing to help reweave a little of the Knowledge that people who live in, or are ancestrally from, England have lost and even forgotten. It seemed Right to respectfully ask the Rabbits who live in the homeLand of those Ancestors if they'd dance Ceremony with us to help this happen. We thought they might want to, because of the way they had participated before. But more than anything, we hoped to learn what the Land there had to say about how to help Western allies join us in Community.





For me, this has brought to mind how, actually, how we do things, in general. In that, you know, first we start from that place of respect. And we all talked about that. And then from that place of respect, we build respectful connections. First we respect, then we connect. And through making those connections, we come to a deeper understanding. So you respect, and then you connect, and then you understand. And then finally you get to the place where we can do some directing and sort of guide where we want to go. So respect, then connect, then you understand, and then you start to make directions or guidelines or whatever it is. And that's completely the opposite of how Western systems are running. I mean, they tell you what to do, and then that doesn't work at all so it's "we have to figure out why this isn't working," so then they finally make connections to figure it out. And then, after they make connections for a long time, then they start to respect. But we start from the other end and sort of work through this process, that I see so far, that we're doing. Which is really cool. So we're practicing what we preach. And we're getting to that space now where we can set some directions. -- Shawn Wilson



Chapter 24

The place Shawn and Jessica went to do Ceremony in London was a beautiful garden with lush grass and very large old trees, the landscape punctuated here and there with bushes and vibrant patches of flowers. It was a good place for rabbits to be, and we expected that a number of them must live there. But the Ceremony was done and no rabbits came. Not one. What showed up, instead, in the grass very near the place Shawn had stood to do Ceremony, were some small bones. The bones became apparent right after the Ceremony closed. That is to say, the bones were a response to the Ceremony. They carried Knowledge. The Land where the Ceremony was done, which included both London and also the larger island that is England, had a strong voice in this response because that's the Land that was engaged in the Ceremony. That was the whole point of having done it there to begin with.

One set of bones consisted of parts of the two toes (the "cloven" hoof) of a little hoofed mammal, likely a small-sized breed of sheep or goat. In the picture at the top of the next page, you can see that set of bones (on the left). The tip-end toe bones and their hoof coverings are missing. Some of the white connective tissues that once attached these bones to other bones are clearly visible, though torn. Those connective tissues show us the animal has not been a long time dead. The bones are still partially or completely connected to one another in a way that lasts



only a little while after the flesh has been picked off.

The other bone, lying nearby (on the right), was the end of the cannon bone that formed the lower leg of that same little sheep or goat. The shapes on the end you see as you look at it in this photograph (across the bottom of the bone as it's oriented here) are the surfaces that fit against the joint at the top end of the two toes in the previous picture. This would be the part of the lower leg directly above the animal's foot or hoof. What's most distinctive about this bone is the *other* end of it, though. Across the top, as you view it in this photograph, you see a very straight surface. That straight surface is not natural. The lower leg has been cut through with a bone saw there.

When you put all the information in these bones together, what we have is the remnant presence of an individual animal from a small sheep or goat that was butchered somewhere else, not in this park. As part of the normal

butchering process, the animal's hooves were cut off just above the fetlock. One of those feet and its attached bit of lower leg wound up in this park, where the flesh decayed and the bones began to separate from one another. You might think a dog or fox carried it into the park and dropped it there, but the bones don't seem to have been visibly chewed or gnawed. It's far more likely that a carrion-eating bird -- in London I would guess a crow or raven -- picked up the freshly cut foot somewhere and carried it into the park, pulled the flesh off to eat it, and left the bones in the grass. In terms of the "newspaper story" version of what happened -- who, where, how, why, and when -- that's about as far as we can go. But that's not at all where the larger Story ends.

The bones in the park tell a Story that came to us in Ceremony. So we must receive the Knowledge that emerges from the relationships present here. These relationships include the Ceremony within which everything happened, and everything that participated in and was woven together by that Ceremony. That includes Shawn and the things he was asking about, and the concerns and thoughts about the IKhانا Fund community he brought into the Ceremony. It includes Jessica and all the other allies who may be part of this new community, whose seeds she is helping to plant, and all the thoughts and concerns about this she brought into the Ceremony. It includes IKhانا Fund, itself, as an entity that emerges from our Community acting in Ceremony in relationship with the Land. It includes the Land of the park itself, and of London, of England, of Europe -- and all the colonization that has been part of these places in so many ways for so many years at places all over the world. And it also includes me, who knew what was happening

that day and was sitting in support with and for that Ceremony during the time it was done, because I am the one given the task of weaving the words that are to somehow make it possible for some of us to come together *in Community*.

The photographs of the bones Shawn and Jessica and Shawn's wife found in the grass near the place of Ceremony landed in my inbox immediately after the ceremony's completion. The moment I saw those pictures, my heart sank. In the context of the relationships from which Knowledge emerges, and the work of building new Community with at least some allies from the dominant culture -- a culture that has lost so much understanding of Community -- those bones were a terrible thing to see. So I wrote to Shawn at once and asked him if there was any information he had that I did not have, that might help me understand the Knowledge they brought us. I was at that time writing this chapter on Community. I did not want to believe I had understood the bones' Knowledge properly. I hoped Shawn had information that would show me I had been mistaken. For if we were being shown how things truly stand -- a terribly meaningful phrase when one is seeing evidence of an animal whose feet were literally cut off -- how could we ever bring the Land's vision of this new and challenging community into existence?

Shawn told me that he and his wife had gone back to the garden later, for he had also felt troubled by the information the bones had brought. He found and spoke with one of the gardeners in the park, asking her very specifically about rabbits there. Like me, he was troubled that the rabbits had not responded to his invitation to be in Ceremony. He wondered, as I did, if they had for some

reason said no. That would be important to understand. But it turned out the rabbits had never had a chance to decide one way or the other. The gardener told Shawn they "never get rabbits there." She said "a small one came in about 10 years ago," and they called someone to "get it removed" because, she said, rabbits destroy the grass. So it turned out we'd invited the rabbits to a place from which they'd been actively barred.

Shawn went on to tell me more about the place itself then. It is a small neighborhood park, fenced in all around. Only residents of the houses on that block have a key to the fence gate and can get into the park. We talked after this for a while, he and I, about the grief of such a thing -- a Place that is literally fenced off and gated, with living beings *removed* because they "destroy the grass" that apparently has no higher purpose than to be quite literally a pretty carpet for human beings. I said the Knowledge emerging from all this was almost unbearably sad. Shawn pointed out that it's more than sad. It's grim.

Indeed it is. Locked fences and prison walls are identical structures. The meaningful difference between them is what's locked out or locked in, and why. People who lock the life of community out, because they feel the normal processes of life are destructive to the tidy and perfect environment they want, are left with only death. When you dismember your community, thinking to protect yourself by setting yourself apart, the one you dismember is *yourself*.

What do you do then? Once you have dismembered your own self, how is it possible to restore wholeness? Will the latest inspirational book on self-healing or spiritual

actualization restore wholeness and vitality?

No. It can't.

Because *what has been dismembered is your connections with the entire cosmic Community that is the Land.*





Chapter 25

When my Choctaw ancestors were forced to walk the long and desperate walk on which so many died, that has since come to be called the Trail of Tears and Death, we had to leave behind the Land of which we were a part, that was a part of us. We had to say good-bye forever to the mounds we had hoed up in our gardens of corn, beans, and squash over many generations. We had to say good-bye forever to the much larger mounds we had built in our towns -- good-bye forever to the mounds where we'd held Ceremonies such as *Luak Mosholi* for thousands of years, good-bye forever to the mounds in which our Ancestors and grandparents were buried, good-bye forever to the place of our peoples' birth that is the Mother Mound, Nanih Waiyah. And all along that bleak trail, we had to say good-bye to our children and grandparents, mothers and fathers, aunts and uncles and cousins and siblings who died of illness, of exposure, of starvation, and of hearts shattered by an unnaturally brutal winter we could have never imagined.

But the thing we did not leave behind and say good-bye to on that trail of death was our descendants. The young ones and the yet unborn for all generations to come were carried, with each unwilling step we were forced to take, into a world we still could not imagine but knew would continue to dismember us in the same way we could see that it dismembered its own people. We did not want to take further steps into this world, but the generations to

come that we carried within us were too precious to surrender to death. So before our grandmothers and grandfathers left our homeLand, they sewed the seeds of our plant relations into the hems of their clothing. That was the only way such a thing could be carried on the trail without confiscation by the soldiers "escorting" us. The seeds of the squash and beans and peas we had grown for generations, but especially the precious seeds of our many corn varieties . . . these were sewn with care into the hems of peoples' dresses and coats. Then they were dragged through the snowy slush and the waded streams on weary legs for hundreds of miles. They were frozen to exhausted bodies by the icy mud at the margins of the meager smoking campfires at night. The young women forced into the brush of those night camps by the soldiers "escorting" us along that bitter trail lost much, but they held onto those seeds. They knew the future people depended upon them.

Both seeds and people have to be carefully planted and cultivated, in Ceremony, for future generations to exist. We are, together, one community. I think, sometimes, of the grandmothers who died in the bleak landscape of that terrible winter, and I imagine one of them plucking at the hem of her long skirt with trembling fingers, carefully showing her daughter where the seeds were that must be protected when she could no longer carry them on. For it was always the women among us who farmed and raised the corn given us by *Ohoyo Osh Chishbah*. These are the seeds that reached the Nations at the end of that hard journey, and were planted there in the desolate spring of heartbreak and loss that followed. At first they did not produce enough to be eaten, without endangering the futures of the seeds themselves. So the grain was

protected even as the people struggled to find food for the kettle. But slowly, over time, tended with ceremony and in deep love by a person here and a person there, the seeds of our dearest plant relatives came back.

Indigenous people of Turtle Island commonly speak of the people who are our descendants as "the seven generations." Like the Ancestors, the seven generations to come are not about exclusive lineage, not about "this is me and mine" or "this is my genealogy," but about *community*. It is essential that the generations continue so the community does. In the time that is outside of linear time, these precious people already exist. As we know the presence of our Ancestors, so we also know the presence of our Descendants. We stand within a great chain of family and community that runs forward and backward of us in time, transcending time, defying mere genealogies. Counting it out, I am, in actual fact, the seventh generation in my family since the Trail of Tears time and the direct ancestor I know for certain died on that journey. And now some of the precious seeds our ancestors brought with them, carefully cultivated and preserved by our people since those times, have come to my hands, given to me by my own tribe. These seeds are our inheritance, a gift from the Ancestors to all of us.

In the reality in which all of this happens, *of course* I wanted to plant corn instead, when my mother gave me five zinnia seeds to plant in her flower garden the spring I was in the first grade. *Of course* I dreamed once of our great ceremonial mounds without ever having seen them, large and flat-topped as a modern aircraft carrier. *Of course* I recognized the dancing of rabbits in the summer grass and the winter moonlight, and stepped out to dance

with them. *All* the Ancestors are my ancestors. And I am Ancestor to all the Seven Generations to come. We are one thing, interwoven, inclusive rather than exclusive, a community responsible to the whole larger community of which we are a reciprocal part, not individuals who privilege only the self.

The Indigenous people reading these words understand me. You too have lived through the Apocalypse brought upon the world by colonization. You have lived the story I share. You know you are part of the community of which I speak. All Our Relations, those who do not read because they have no need of the written word, also understand these things. We are all of us struggling to survive the dismemberment of the Land inflicted and re-inflicted upon it by colonization. When we refuse to be colonized, what we refuse is the act of being enclosed within *or* excluded outside an extension of the locked fence around that garden in London. We stand our ground for the Land because we will not be part of any further dismemberment of the Land, of the beautiful, complex, timeless, limitless community the dominant culture does not even perceive any more.

So then, what of you who are allies, who are of the dominant culture? You remember Solstice somewhere deep in your own bones. The standing stones aligned with the cosmos have been sleeping, dormant, deep within you for a very long time. You know this is true. You are part of the larger relationships of the cosmic Community whether you consciously remember it or not. The question is what you will do with that Knowledge once you begin to remember it, once you start to remember who you really are. But real remembering is not merely a mental activity.

Re-membering is the antidote for dis-membering only when the people involved reach out to actively reweave those connections they so long ago severed. It is all, at every level, about Community.

What sacred seeds for the future are you sewing into the hem of your garments, to protect them on the long and arduous journey of the dark trail of tears that lies ahead of you now, too? What precious essentials that nourish and sustain life in the entire community will you bequeath to the coming seven generations, that will sustain *all* your Descendants long enough to survive and eventually flourish in a life no one can imagine or foresee? What are you doing as a responsible Ancestor who happens to still be living in the stream of linear time and can physically sew **the seeds of a re-membered future** into your hem?

Chief Justice Gregory Bigler, Muscogee-Creek, points out that, in Indigenous worldview, "*actions* themselves are part of that which is sacred" (2018:53, italics are Bigler's). Actions that manifest the sacred comprise Ceremony. In carrying out sacred actions, we live out a Story being told by the Land. But this can only happen if we align ourselves with the Story and, through the Story, with the Land itself. But to do this, we must finally understand the one thing that wasn't clear to us even we first received the Three Baskets of Knowledge.

What is that Story?



CLOSING CEREMONY

Fichik Chito, Morning Star, is a gleaming crystal in the pale, prescient light of a winter dawn that hasn't yet arrived. The clear ink-wash sky begins to glow pale peach against the long black silhouette of low prairie hills at the eastern horizon. To the west around the rim of encircling land, the light shades to pink and then to gray-lavender. Night rises slowly from the dark rolling hills there, pale wisps of light drifting upward from the shadowed hollows like streamers of mist from the surface of a warm pond in morning air sharp with frost. In four days it will be Winter Solstice. . .



Breathe this new dawn
Assist it as it opens its mouth
To breathe.

from "Prepare"
Joy Harjo. *Poet Warrior: A Memoir*. 2022.
W.W. Norton & Co.

This is where it begins, the things we must speak of now.

Makhulla.



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Tapestry co-President Jo Belasco, a partner in this work for more than 25 years, was once again the lodge-pole without whom this publication would have collapsed. This time she even dashed in with technical expertise on three separate occasions to save the day when a layout with so many photographs taxed my digital skills to the point that I somehow kept crashing the file. It's probably not fair that 1% of her time wearing a Tech Hat steals all the limelight here, but without that 1%, there would be no publication this time. What she did reminds me that when

small acts manifest critically important knowledge, their consequences can be far bigger than we imagine.

Jessica Sweidan, who joined us for her second year as a participant-observer, continues to learn the byways of Indigenous relating and thinking. In the process, she helps us better understand a Western perspective and how we might communicate more clearly with our allies. Karen Inwood served as an external Western reader and provided very helpful insight on the draft at several stages.

And even though they are credited on the images page, I want to specially thank all those who permitted us to use their original photographs to this publication: Jo Belasco, Fiona Cram, John Njovu, Jessica Sweidan, and Shawn Wilson. I am also grateful to the Choctaw Nation Public Relations office for providing some of the photographs used here.

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Finally, I wish to express my very deepest gratitude to the Land of Pine Ridge and the prairies at its feet in northwestern Nebraska. To the Land . . . the sun, the moon, the stars, the winds, the waters, the soils and stones, and all who are part of it, visible and not visible: *Yakoke*. Without you, we would not be. Without you, this would not be.



1. When I mentioned settlers moving into places on the Great Plains "so recently emptied of inhabitants by conquest, warfare, famine, and disease," you might have recognized the Four Horsemen of the Apocalypse. Not for nothing do so many Indigenous people say we've already been through the Apocalypse and can tell Western people all about what it's like on the other side. See, for example, Choctaw Elder and retired Episcopal Bishop Steven Charleston's 2023 book, *We Survived the End of the World: Lessons from Native America on Apocalypse and Hope* (Broadleaf Books: 2023).
2. My example exhibits a northern hemisphere bias because it actually happened in the northern hemisphere. In the southern hemisphere, the same system exists and it works the same way, but the sun tracks east to west across the *northern* half of the sky, rather than the southern half. Within a certain distance of the Equator, the sun tracks so close to straight overhead that shadows point essentially due east or due west. The higher the latitude, in both northern and southern hemispheres, the lower the sun's angle in the sky and the farther it is from ever being straight overhead. Things get interesting north of the Arctic Circle, though the sun still moves along a course that's south of straight up. After all, if you go far enough north, almost *everything* is south of you. The same extremity exists south of the Antarctic Circle, and for the same reason, but with the north-south directions flipped.

Remember that Indigenous Knowledge is always local and contextual rather than universal. This is one example of why that's so.

3. The *Llano Estacado* has been short-grass prairie, rather than tall-grass prairie, for at least the last 8,000 years. So the grass itself being too tall for them to see their shadows wasn't a problem for the *conquistadores*. See Eileen Johnson. 2007. Grassland ecosystems of the Llano Estacado. USDA Forest Service RMRS-P-47: 11-23, pg. 21. https://www.fs.usda.gov/rm/pubs/rmrs_p047/rmrs_p047_011_023.pdf

4. Sometimes Indigenous people use a linguistic short-cut to relate these kinds of events to one another -- events like the one in which I learned from seeing a tree and its shadow. When we do, we might say something like "the Land showed me" or "the Land told me". What I am describing here is the kind of thing we are actually talking about when we say something like that. Often Knowledge transmission is made via natural metaphor that's more complex than the one I've shared in this example, but it's still a natural phenomenon. Unfortunately, some Western people who hear our shorthand language assume it's literal and that Indigenous Knowledge is communicated via supernatural voice or gesture. It is not.

5. Anything even relatively near the earth casts a shadow on its surface. Clouds cast shadows you've surely seen. Cloud shadows can orient us with Knowledge of the cardinal directions if we are observant enough to see which cloud is casting which shadow. The moon even casts its shadow on the earth during a solar eclipse. When we are suddenly plunged into darkness during an eclipse,

it's because the moon's shadow has fallen across the place where we're standing.

6. The specific Circle image used in this book happens to be one we use in Tapestry to teach people about Indigenous ways of knowing and learning. You can read basic information about how Tapestry uses this particular Circle on our website: <https://tapestryinstitute.org/the-circle>. You can learn more about what each quadrant represents, as we used it in our work, and what each color means, by clicking on the pages for each of the directions: [East](#), [South](#), [West](#), [North](#), and [Center](#).

7. If you think that space flight would create an obvious exception to Indigenous worldview because an astronaut's feet are not on the ground, you're mistaken. Successfully orbiting the earth in a spacecraft, or traveling to the moon or a planet, require speed and trajectory calculations that specifically relate the astronaut's position to the positions of Earth, other planetary bodies, and the sun. It's the same situation. "The Land" is *everything*, including other planets, and us, because we all exist in relationship with one another as part of the same dynamic system.

8. If you wonder how the *conquistadores* could have used shadows as a compass, since (as you can see) in the northern hemisphere a shadow points northeast in the afternoon, rather than true east, you need to remember that the sun doesn't set at true west either. Its setting point migrates back and forth across the western horizon with the season, from more north-west to more south-west. Men who knew enough to use the sun's setting point to find their direction could have used this natural compass to do the same thing. The shadows give a person

an indication of direction with the same accuracy as that of the setting sun.

9. Ecosystem and economics share the root "eco", from the Greek word *oikos* (pronounced "eekos"), meaning an active household where a family or family-like social group lives. Economics looks at the flow and management of a human group's material and energy resources, and ecology looks at the flow and management of a *non*-human group's material and energy resources. Economics and ecology therefore share philosophies and premises, and are frequently assumed to express a common value system in which competitive advantage is the mathematical consequence of finite material and energy flow through natural systems (even when that competitive advantage is actually the long-term result of cooperative or altruistic behaviors).

10. If you are protesting that "all alone" in space means "the only life" there . . . well yeah. I know that's what this statement really means. And I just have to repeat *my* statement that this is a relationship issue, not a definition issue, and that it goes straight to the heart of the essential difference between Western and Indigenous perceptions of community -- which is the point of this whole chapter. So if this is something you really do want to learn about, but this bit of it is giving you some indigestion right now, keep on reading and see if a more Indigenous perception will manifest if you're patient.

11. A basic introduction to the 11-year solar cycles can be found at <https://scijinks.gov/solar-cycle>. A review of the cycle's potential impact on climate is visible at

<https://science.nasa.gov/earth/climate-change/what-is-the-suns-role-in-climate-change/>

12. The role of non-cyclic changes in the sun's radiant energy on weather and/or climate is disputed, but there are explanations of it here

<https://www.science.org/content/article/did-quiet-sun-cause-little-ice-age-after-all>

and here <https://www.livescience.com/14453-sunspots-solar-dimming-ice-age.html> .

13. People often incorrectly use the word *dynamic* to mean "powerful," presumably because the word "dynamo" refers to a machine such as a turbine that produces electrical power when currents of wind or water push on and move its blades. But it's because the machine and the currents are *moving* that the word *dynamo* is used. Dynamite has that same root word because it makes things like mountainsides move.

14. North is to your right when you face west. North is to your left when you face east, behind you when you face south. North is directly in front of you when you face north. And no, we don't need to quibble here about due north vs magnetic north or the way the magnetic poles have presently gone for a stroll (see

<https://earthsky.org/earth/magnetic-north-rapid-drift-blobs-flux/> or

<https://www.ncei.noaa.gov/products/wandering-geomagnetic-poles>).

In the Land's reality, east and west describe the relationship between sun and earth and are set by sunrise and sunset. North and south are at 90° to that east-west axis.

15. Spanish *conquistadore* behavior throughout the Western Hemisphere was brutally violent, extreme by any measure. The series of Papal Encyclicals called the Doctrine of Discovery, which established the supposedly sovereign rights of the Catholic Church over all land occupied by non-Christians everywhere in the world, was used to justify Spain's brutal colonization practices at every level. You can start to learn more about this doctrine and the way it is *still* applied in legal circles today -- as recently as in a 2005 U.S. Supreme Court ruling, for instance -- in Steven T. Newcomb's seminal publication *Pagans in the Promised Land: Decoding the Doctrine of Christian Discovery* (Fulcrum Publishing, Golden, CO: 2008). Newcomb is Shawnee/Lenape. For additional insight into the sheer breadth of cultural destruction the Spaniards carried out, you might start by exploring basic information about the intentional burning of the Mayan libraries. A good introduction to this topic is <https://mexicounexplained.com/great-maya-book-burning/> . Another introduction may be found at https://www.newworldencyclopedia.org/entry/Maya_codices. It's essential to realize that although the more egregious actions of colonizing Spaniards are typically laid at the feet of specific individual priests or military leaders, the processes were actually set in motion at First Contact. Christopher Columbus made four voyages to the "New World," not just one, and kidnapped a number of the local Indigenous people on his very first trip. On his second voyage he brought with him -- and viciously used -- the trained war dogs that Spaniards later used across the Americas to terrorize people by, for instance, literally tearing to shreds the local guides who'd volunteered to show *conquistadores* how to get somewhere. He also established Spanish-owned lands in the new territory on

his second visit, setting up processes whereby the Spanish colonists staffed their estates with slaves taken from the local Indigenous population. These enslaved people were routinely, casually, and frequently tortured and killed. During this time of destruction and suffering caused by colonization, European diseases from the Spaniards ravaged and decimated the local Indigenous populations. Things finally got so bad that Columbus himself tried to intervene in an attempt to make the colonization process less brutal, and was arrested and sent back to Spain for trial as a result. The point is that the practices Columbus established in the "New World" colonies before 1500 set the tone for Spanish atrocities in North, South, and Central America that lasted, in some areas, for literally centuries. For more information, see this summary of Columbus's four trips and the associated list of references: https://www.worldhistory.org/Christopher_Columbus/

16. Star charts of contemporary Western culture map the positions of stars in the sky, factoring geographic location and time into these displays. If you happen to be one of the people who already uses a star chart, congratulations! You've got a leg up on understanding the Circle. But if you're one of the majority who aren't familiar with star charts, you might appreciate the beautiful little introduction to them at <https://skyandtelescope.org/observing/interactive-sky-chart/>

17. Some GIS (Geographic Information System) maps show a region's plant or animal distributions, subsurface water, soil type, or other aspects of the Land that most people think of as geographic or ecological characteristics. GIS map layers are selected and superimposed for

analytical purposes though, not generally to ground the user in place, space, and relationship. But someone who approached a GIS resource with the intention of getting more grounded in place could certainly use it to help them do that. A good introduction to GIS maps and their uses is at <https://www.esri.com/en-us/what-is-gis/overview>.

18. A geologic map shows geologic time in millions of years to those who understand how to read this information. Such a map can ground an educated user in place, so people who use these maps may have an easier time understanding the Circle. A nifty intro to geologic maps is at [https://geo.libretexts.org/Bookshelves/Geology/GEOS%3A A A Physical Geology Lab Manual for California Community Colleges \(Branciforte and Haddad\)/16%3A Geological Maps and Cross-sections/16.01%3A Front Matter](https://geo.libretexts.org/Bookshelves/Geology/GEOS%3A%20A%20Physical%20Geology%20Lab%20Manual%20for%20California%20Community%20Colleges%20(Branciforte%20and%20Haddad)/16%3A%20Geological%20Maps%20and%20Cross-sections/16.01%3A%20Front%20Matter) . Some GIS maps (see Endnote 17) also include time, showing changes in things such as land use over seasons and/or decades. But the timescale for GIS and geologic maps are exponentially different.

19. When I asked an academic audience if humans were part of a natural ecosystem's community, I could always spot the resilience ecologists by their big "yes" response. Seeing humans as integral parts of ecological systems is a core tenet of the resilience ecology research agenda. The resilience ecology journal *Ecology & Society* is at <https://ecologyandsociety.org> .

20. The EPA does monitor environmental factors that may impact human health, such as the presence of toxins in river water. But the meaning and consequences of such

data are usually analyzed by people trained in the fields of medicine, public health, and sociology rather than ecology. Ecology field research generally observes and analyzes relationships between non-human organisms and their natural environments. Ecology research that includes humans as part of the studied ecosystem is usually in the specific discipline of resilience ecology.

21. For endocrine system connections to moon and sun, see <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7322537/> For the profound impact of earth's moon on our seasonal stability, see <https://www.astronomy.com/science/why-earth-has-seasons-and-why-theyre-wildly-different-on-other-world> .

22. Even if you live in Australia, where introduced rabbits are so destructive, rabbits are and always were part of the *larger, whole* community of which we are all a part. The problem with rabbits in Australia is that everything has its own Place and humans violated this by moving rabbits into Australia. Destructive relationships therefore developed. But even in a human family, Place matters. Putting an active woodshop in the kitchen where food is stored and prepared would lead to serious problems, from indigestion to a fire that could burn the house down. Yet the destructive relationships that develop when Place boundaries are violated do not erase the fact that those relationships do exist. Community is not a value-based definition that confers merit upon, or the advisability of close relationship with, those deemed to be part of one's community. What you are seeing here is that Place is a very important part of Community *relationships*.

23. In equatorial latitudes, the relationships between sun, earth, and person-in-place play out in patterns called, colloquially, "zero shadow days." These days and the periods of time they demarcate have cultural significance among the Indigenous peoples of those places. In some parts of India, for instance, they may be called Uttarayan and Dakshinayan. In lands that span the Tropics, these relational periods are connected to solstice. In arctic latitudes, of course, the sun either never rises or never sets for a time around the solstices. The relationships between people, earth, and sun *depend upon* which Place people are. If you live in an equatorial or arctic region, I apologize for the focus here on solstice, which is what I experience where I live. But I hope you can still participate and learn by applying the processes outlined to your own situation. See these links for additional information about seasonal sun-related equatorial events: <https://newsd.in/zero-shadow-day-2019-date-time-know-why-you-cannot-see-your-shadow/> ; or <https://www.hindustantimes.com/lifestyle/festivals/uttarayan-and-dakshinayan-2024-dates-all-you-want-to-know-101704872622954.html>; or <https://astron-soc.in/outreach/activities/zero-shadow-day/> ; or <https://www.hindu-blog.com/2008/07/dakshinayana-or-pitrayana-karka.html> ; or https://en.wikipedia.org/wiki/Lahaina_Noon .

24. The definition of Summer Solstice based on the sun standing over the Tropic of Cancer applies to *the northern hemisphere* only. In the southern hemisphere, the crucial line of latitude is the Tropic of Capricorn. But if I keep repeating this hemispheric caveat, the text gets so heavily peppered with End Notes it starts to look like it has chickenpox. That has the benefit of showing you how big

the northern bias really is, but it makes for a tough read. So I am not going to repeat the caveat each time. But I *do* expect you northern hemisphere folks to keep the southern hemisphere's lands and peoples in mind as you read this. The big difference in terms of solstice is that there happens to be a lot of populated land mass north of the Tropic of Cancer in the northern hemisphere, but the larger populated land mass areas of the southern hemisphere tend to lie between the Equator and the Tropic of Capricorn. (Look at a map and you'll see.) So, *proportionately* more of the world's population who experience solstice live in the northern hemisphere, not the global south. The relationships between sun, earth, and person-in-place are different in the equatorial zones between the Tropics of Cancer and Capricorn, depending on location and local geography, as I briefly mentioned in End Note 23. You can get some *very* basic introductory information about those relationships in equatorial regions here --

<https://www.worldatlas.com/articles/how-long-is-a-day-at-the-equator.html> and here -- <https://www.worldatlas.com/articles/do-places-near-the-equator-have-seasons.html> .

25. It's worth taking a moment to scroll down and read the paragraph on atomic clock history here, if for no other reason than to learn *more* about the fact that "The current definition of a second is the time that lapses in the course of 9,192,631,770 radiation cycles created by a transition between the levels of cesium 133 atoms."

<https://www.worldatlas.com/articles/where-is-the-world-s-most-accurate-clock.html>

26. These data were retrieved from <https://www.timeanddate.com/sun/uk/greenwich-city> on August 1, 2024. You will see this website uses a 12-hour time format rather than a 24-hour format. That means 4:20 in the afternoon is listed as 04:20, not 16:20. But the times they list for sunrise and sunset are otherwise identical to those on the US Naval Observatory site.

27. If you go to the TIMEANDDATE.COM website for Greenwich and pull figures for the *changes* in daylength, you'll discover that someone slipped in yet additional values that were not shared with us. So Solstice day is listed as being only 5 seconds longer than the 19th and less than 1 second shorter than the 21st. This clearly happened because they are rounding off figures with fraction-of-a-second precision they didn't show us even in the daylength column -- which is really *really* not fair. But it doesn't make any difference. You will *not* be able to feel the difference in daylength, regardless of how many hundredths or thousandths of a second they use to measure that difference.

28. There are times when a pattern begins to move its manifestation to a new level, to play out through a different story now, or through a story that's taken on new levels of significance. That level of discussion is beyond us here, but I provide this End Note about it as the response to the few of you who may be asking, "But what if the bad day is that I found out my friend died? They're really gone." The *pattern* is not gone, though. It has shifted in some way. A lot of learning about how to get through life is learning how to discern patterns even when they've shifted. This helps a person keep their balance in challenging situations.

29. The sun can rise behind buildings that make good markers, the same way it rises behind hills that are markers. You can engage with the sun in a city too, not just in the country.

30. The remains of the "oldest known observatory" near Goseck, Germany are said to have been from a structure built of wood about 7,000 years ago. Most of what remains of the wooden walls is the patterns these walls left in the soil. The greatest destructive element that's obliterated similar sites throughout the world is not the rotting of wood, but agricultural plowing and building construction that removes and hauls away or covers over the ground surface that retained the traces of past structures in the soil. To learn a little more about the Goseck site, see

<https://www.scientificamerican.com/article/circles-for-space/>.

To learn a little more about what happens to ancient sites that contemporary people don't consider important, see <https://www.minnesotahistory.net/wptest/?p=4010> and <https://www.crt.state.la.us/Assets/OCD/archaeology/disc-overarchaeology/virtual-books/PDFs/PLL.pdf> .

31. If you wonder why the woman's assumption about sunset always being 180 degrees opposite sunrise was wrong, you've just run head-first into the fact that you can't learn everything in one place, at one time, in a single bite. A teaching on that information is not in this volume for the simple reason that explaining it in writing is insanely difficult compared to having the requisite experience (which I also cannot easily describe). Plus, we

have a different agenda here. This is not a book about how the sun moves. But our agenda *does* include you realizing how important it is to pay attention to the world outside the buildings and vehicles you spend your life in. If you keep paying attention to the natural world *outside*, and really make note of the patterns you see, you'll begin to understand things like this for yourself. The knowledge is right there, where the earth meets the sky.



Adams, Dawn Hill. 2018. “An experience-based perspective on the relationship between indigenous and Western epistemic systems in research.” *Evaluation Matters—He Take Tō Te Aromatawai*, 4. <https://doi.org/10.18296/em.0028>.

Adams, Dawn Hill. 2016. “Complexity Inside and Out: Brains and Ecosystems.” In *Mitigating Natural Hazards: An Indigenous View*. Tapestry Institute Occasional Papers. <https://tapestryinstitute.org/publications/occasional-papers/mitigating-natural-hazards-vol-5-no-1-aug-2021/complexity-inside-and-out/>.

Adams, Dawn Hill. 2016. “In Service to the Land: Indigenous Research Methods in the Natural Sciences.” Tapestry Institute Occasional Papers. <https://tapestryinstitute.org/publications/occasional-papers/in-service-to-the-landindigenous-research-methods-in-the-natural-sciences-vol-2-no-1b-october-2016/>.

Adams, Dawn Hill, Shawn Wilson, Fiona Cram, et al. 2022. *Standing Our Ground for the Land: An Indigenous Philanthropy*. Tapestry Institute. <https://tapestryinstitute.org/standing-our-ground-for-the-land/>.

Ahenakew, Cash. 2019. *Towards Scarring Our Collective Soul Wound*. Musagetes Foundation.
<https://musagetes.ca/document/towards-scarring/>.

Almaráz, Jr., Félix D. 1992. "An uninviting wilderness: the plains of West Texas, 1534-1821." *Great Plains Quarterly*, 12(3): 169-180. <http://www.jstor.org/stable/23531562>
[1992:173](http://www.jstor.org/stable/23531562).

(AMNH) American Museum of Natural History. 2013. "Neil deGrasse Tyson on Manhattenge." Posted July 10, 2013. YouTube, 3:49.
<https://youtu.be/iafXoawnxS8?si=9Rxjp7hO3xzdBCM0>.

Andreatta, Gabriele, and Kristin Tessmar-Raible. 2020. "The Still Dark Side of the Moon: Molecular Mechanisms of Lunar-Controlled Rhythms and Clocks." *Journal of Molecular Biology*, 432 (12): 3525–3546.
<https://doi.org/10.1016/j.jmb.2020.03.009>.

Atkinson, Nancy. 2017. "Confirmed: We Really are 'Star Stuff.'" *Universe Today*. January 11.
<https://www.universetoday.com/132791/confirmed-really-star-stuff/>.

Beckett, Jesse. 2021. "The Importance of Army 'Camp Followers' Before Modern Day Military Logistics." *War History Online*, December 7.
<https://www.warhistoryonline.com/history/followers.html>.

Bett, Darren. 2024. "Summer solstice: All you need to know." *BBC*. June 19.
<https://www.bbc.com/weather/articles/cojj4pdopg50>.

Bigler, Gregory H. 2018: "Traditional Jurisprudence and Protection of Our Society: A Jurisgenerative Tail." *American Indian Law Review* 43, no. 1: 1–74.
<https://www.jstor.org/stable/26632873>.

Calanais. n.d. "Calanais in Context." Accessed February 2, 2025. <https://calanais.org/learn/#history>.

Charleston, Steven. 2018. *The Medicine Wheel*. Red Moon Publications. Kindle.

Constellation Guide. 2022. "The Southern Cross." August 2. <https://www.constellation-guide.com/the-southern-cross/>.

Dajose, Lori. 2023. "Asteroid Samples Reveal Origins of Organic Molecules in the Early Solar System." *CalTech*. December 22.
<https://www.caltech.edu/about/news/asteroid-samples-reveal-origins-of-organic-molecules-in-the-early-solar-system>.

Davis, Heather, and Zoe Todd. 2017. "On the Importance of a Date, Or, Decolonizing the Anthropocene". *ACME: An International Journal for Critical Geographies* 16 (4):761-80. <https://doi.org/10.14288/acme.v16i4.1539>.

Deloria Jr., Vine. 1999. *Spirit and Reason*. Fulcrum Publishing.

Dobrijevic, Daisy. 2025. "The summer solstice: What is it and when does it occur?" *Space.com*. January 6.
<https://www.space.com/summer-solstice-when-what>.

Donaldson, Abbey A. 2023. "NASA's Bennu Asteroid Sample Contains Carbon, Water." *National Aeronautics and Space Administration*. October 11. <https://www.nasa.gov/news-release/nasas-bennu-asteroid-sample-contains-carbon-water>.

Donoghue, David. 1952 (updated 1994). "Coronado Expedition" in the *Handbook of Texas*. Texas State Historical Association. <https://www.tshaonline.org/handbook/entries/coronado-expedition>.

Dyches, Preston. 2021. "What is the North Star and How Do You Find It?" *National Aeronautics and Space Administration*. July 28. <https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/>.

Ford, Dominic. 2025. "The In-The-Sky.org Star Wheel." *In-The-Sky.org*. Last updated January 31. <https://in-the-sky.org/skymap2.php>.

Gardner, Jesse. 2015. *Tundra mountain and body of water*. Photograph. Unsplash. October 19. <https://unsplash.com/photos/tundra-mountain-and-body-of-water-9DHyVy-G1rM>.

Lea, Robert. 2024. "Hubble Telescope witnesses a new star being born in a stunning cosmic light show (image)." *Space.com*. March 16. <https://www.space.com/hubble-telescope-new-star-fs-tau-b>.

Levine, Scott. 2024. "The ecliptic is the sun's path in our sky." *EarthSky*. June 13. <https://earthsky.org/astronomy-essentials/definition-ecliptic-what-is-the-ecliptic/>.

Li, Gongjie. 2024 "Why Earth has seasons and why they're wildly different on other worlds." *Astronomy*. January 15. <https://www.astronomy.com/science/why-earth-has-seasons-and-why-theyre-wildly-different-on-other-world>.

Merriam-Webster. n.d. "Community." Dictionary. Accessed February 1, 2025. <https://www.merriam-webster.com/dictionary/community>.

Merriot, Ivy T. Fisher-Herriges. 2014. "Exploratory Research on the Big Horn Medicine Wheel Acting as an Indigenous Place-Based Pedagogical Instrument for Learning Sky-Earth Relationships, Skywatching Fundamentals, and Celestial Mechanics." PhD diss., Montana State University - Bozeman, College of Letters & Science. <https://scholarworks.montana.edu/items/7a9af7c6-5cf5-4d73-bdd4-e0e3f614bf2d>.

Mohon, Lee. 2024. "Black Hole Destroys Star, Goes After Another, NASA Missions Find." *National Aeronautics and Space Administration*. October 9. <https://www.nasa.gov/image-article/black-hole-destroys-star-goes-after-another-nasa-missions-find/>.

(NASA 2025) National Aeronautics and Space Administration. n.d. “Looking at Earth: From 100 miles to 100 million miles.” Jet Propulsion Laboratory. Accessed February 1, 2025. <https://explorer1.jpl.nasa.gov/galleries/earth-from-space/#gallery-10>. This photograph is the one taken by the last Apollo lunar mission astronauts in 1972.

(NASA 2024) National Aeronautics and Space Administration. 2024. “Total Solar Eclipse Darkens North America.” Earth Observatory. April 8. <https://earthobservatory.nasa.gov/images/152663/total-solar-eclipse-darkens-north-america>.

(NASA 2014) National Aeronautics and Space Administration. 2014. “(2) The Path of the Sun, the Ecliptic.” Earth Observatory. March 28. <https://earthobservatory.nasa.gov/images/152663/total-solar-eclipse-darkens-north-america>.

(NASA 2008) National Aeronautics and Space Administration. 2008. “What Is the Plane of the Ecliptic?” March 23. <https://www.nasa.gov/image-article/plane-of-ecliptic/>.

(NIST) National Institute of Standards and Technology. 2024. “Timekeeping and clocks FAQs.” Time and Frequency Division. Updated October 11. <https://www.nist.gov/pml/time-and-frequency-division/timekeeping-and-clocks-faqs>.

(NPS) National Park Service. n.d. “The Coronado Expedition, 1540-1542. Accessed February 1, 2025. <https://www.nps.gov/coro/learn/historyculture/images/CORO-Entrada-Map-ss-web.png>.

Online Etymology Library. n.d. “Polaris (n.)” Accessed February 1, 2025a. <https://www.etymonline.com/word/Polaris>.

Online Etymology Library. n.d. “relate (v.)” Accessed February 1, 2025b. <https://www.etymonline.com/word/relate>.

Online Etymology Library. n.d. “relationship (n.)” Accessed February 1, 2025c. <https://www.etymonline.com/word/relationship>.

Parton, Dolly. 2014. “Coat of Many Colors.” Posted November 18, 2014. YouTube, 3:03. (Record produced by Bob Ferguson, RCA.) <https://www.youtube.com/watch?v=SyPoSy9KFfo>

Phillips, Ed. 2023. *A Group of Stonehenge Standing in a Grassy Field*. Photograph. Unsplash. April 10. <https://unsplash.com/photos/a-group-of-stonehenge-standing-in-a-grassy-field-G77VqdfHoh8>.

Ravisetti, Monisha. 2025. “NASA finds key molecules for life in OSIRIS-REx asteroid samples. Here's what that means.” *Space.com*. January 29. <https://www.space.com/the-universe/asteroids/nasa-finds-key-molecules-for-life-in-osiris-rex-asteroid-samples-heres-what-that-means>.

Récits, Des. 2016. *Photo of mountain with trees during night*. Photograph. Unsplash. December 22. . <https://unsplash.com/photos/photo-of-mountain-with-trees-during-night-2O18Tz8QidM>.

Ridgeway, Beth. 2024. "NASA, Global Astronomers Await Rare Nova Explosion." *National Aeronautics and Space Administration*. June 6. <https://www.nasa.gov/centers-and-facilities/marshall/nasa-global-astronomers-await-rare-nova-explosion/>.

Royal Museums Greenwich. n.d. "Royal Observatory." Accessed February 1, 2025a. <https://www.rmg.co.uk/royal-observatory>.

Royal Museums Greenwich. n.d. "When is the summer solstice?" Accessed February 1, 2025b. <https://www.rmg.co.uk/stories/topics/summer-solstice>.

Sagan, Carl. 1973. *The Cosmic Connection: An Extraterrestrial Perspective*. Garden City. Anchor Press/Doubleday. <https://quoteinvestigator.com/2013/06/22/starstuff/#f+6670+1+1>.

Sanders, Robert. 2022. "Earth-sun distance dramatically alters seasons in equatorial Pacific in a 22,000-year cycle." *UC Berkeley News*, November 9. <https://news.berkeley.edu/2022/11/09/earth-sun-distance-dramatically-alters-seasons-in-equatorial-pacific-in-a-22000-year-cycle/>.

Sessions, Larry and Shireen Gonzaga. 2023. "Alpha Centauri, the star system closest to our sun." *EarthSky*. April 16. <https://earthsky.org/brightest-stars/alpha-centauri-is-the-nearest-bright-star/>.

Steigerwald, William. 2020. "Key Building Block for Organic Molecules Discovered in Meteorites." *National Aeronautics and Space Administration*. December 18.

<https://www.nasa.gov/solar-system/key-building-block-for-organic-molecules-discovered-in-meteorites/>.

Talbert, Tricia. 2021. "When Was the Last Time an Asteroid Hit Earth? We Asked a NASA Scientist: Episode 13." *National Aeronautics and Space Administration*. December 13. <https://www.nasa.gov/solar-system/when-was-the-last-time-an-asteroid-hit-earth-we-asked-a-nasa-scientist-episode-13/>.

Tapestry Institute. 2020. "Mitákuye Oyás'ïŋ." Posted on June 12. <https://tapestryinstitute.org/mitakuye-oyasin/>.

(TSHA) Texas State Historical Association. n.d. "In a letter to the King of Spain, Coronado is first to describe Llano Estacado" in the *Handbook of Texas*. Accessed February 1, 2025. <https://www.tshaonline.org/texas-day-by-day/entry/113>.

Tyson, Peter. 2022. "What Is the Ecliptic?" *Sky&Telescope*. July 28. <https://skyandtelescope.org/astronomy-resources/what-is-the-ecliptic/>.

United States Navy. n.d. "Length of Day and Night at the Equinoxes." Astronomical Applications Department. Accessed February 2, 2025a. <https://aa.usno.navy.mil/faq/equinoxes>.

United States Navy. n.d. "Table of Sunrise/Sunset, Moonrise/Moonset, or Twilight Times for an Entire Year." Astronomical Applications Department. Accessed February 1, 2025b. https://aa.usno.navy.mil/data/RS_OneYear.

Wagoner, David. 1999. *Traveling Light: Collected and New Poems*. University of Illinois Press. Retrieved and quoted from <https://onbeing.org/poetry/lost/> on August 6, 2024

Wikipedia. n.d. "The Blue Marble." Accessed February 1, 2025d. https://en.wikipedia.org/wiki/The_Blue_Marble.

Wikipedia. n.d. "Medicine Wheel/Medicine Mountain National Historic Landmark." Accessed February 2, 2025a. https://en.wikipedia.org/wiki/Medicine_Wheel/Medicine_Mountain_National_Historic_Landmark

Wikipedia. n.d. "Medicine Wheel/Medicine Mountain National Historic Landmark." Accessed February 2, 2025b. https://en.wikipedia.org/wiki/Medicine_Wheel/Medicine_Mountain_National_Historic_Landmark#/media/File:Bighorn_medicine_wheel.jpg.

Wikipedia. n.d. "Medicine Wheel/Medicine Mountain National Historic Landmark." Accessed February 2, 2025c. https://en.wikipedia.org/wiki/Medicine_Wheel/Medicine_Mountain_National_Historic_Landmark#/media/File:MedicineWheel.jpg.

Yunkaporta, Tyson. 2020. *Sand Talk: How Indigenous Thinking Can Save the World*. Harper Collins.



To our knowledge, no special filters or software were used on these photographic images, except cropping and resizing to fit available space. Some composite images were assembled for comparison purposes, including a special one that can be seen on page 102. Details for each appear in the listings below. No AI was involved in producing any of the photographic images or drawings used here, including those purchased from Adobe Stock before the release of AI. All the photographs, *exclusive* of those credited to Public Domain sources (as indicated in the credits), are copyrighted 2025, as part of this publication, by Tapestry Institute. All rights reserved. For Shawn Wilson, Fiona Cram, and John Njovu, these are one-time rights only that in no way limit them but are meant to help protect their work as it appears in this volume. No part of this book or any of its photographs may be used or reproduced in any manner without written permission from the authors, the specific photographer, and Tapestry Institute. Copies of photos from the Public Domain and from Unsplash may be downloaded from the original sites listed in the credits.

COVER - Stone circle site in Norway. Shawn Wilson. Used with permission.

p. 1. FRONTSPICE for the Title Page. A Māori person on the beach. Fiona Cram. Used with permission.

p. 4. Site-ation. Jo Belasco. Used with permission.

p. 5. Introduction collage. Top right: Māori young people on beach. Fiona Cram. Used with permission. Middle: Mustang and Quarter Horses on Pine Ridge. Jo Belasco. Used with permission. Lower left: Traditional Choctaw dancers. Choctaw Nation. Used with Permission.

p. 6. Traditional Choctaw stickball players. Choctaw Nation. Used with Permission.

p. 7. Choctaw river cane Basket at foot of cottonwood tree. Jo Belasco. Used with Permission.

p. 11. The Milky Way seen over the mountains of Le Dévoluy, France. Des Récits. Retrieved from Unsplash <https://unsplash.com/photos/photo-of-mountain-with-trees-during-night-2O18Tz8QidM> . Available for use in this publication, per the Unsplash site license.

COMMENT: I chose this image specifically because it was not taken with such a long time-lapse that changed the appearance of the Milky Way. Many images found today if you do a search show things you cannot see with your eyes. The Milky Way here is an almost vertical pale band of light running just left of center. We see the Milky Way edge-on because our solar system is embedded within one of its arms. The stars to right and left of that pale band of light are outside our own galaxy in more distant reaches of space. If you are able to get away from city lights on a night without a full moon, you should be able to see our galaxy this way.

p. 10. Great horned owl photographed in Colorado. Jo Belasco. Used with permission.

p. 10. The stone background for this and all other Chapter headings. Adobe Stock. (Lettering added using Photoshop.)

p. 13. Artistic mountainscape. Adobe Stock.

p. 14. Line drawings of three prairie grasses in seed. Adobe Stock.

p. 15. The *Llano Estacado* of west Texas. John E. Stout. Complete citation information: Photo taken on September 23, 2014 in a pasture at the Bridwell Ranch in Crosby County, Texas, by John E. Stout of the USDA-ARS of Lubbock, Texas, for the publication "Photos of the Llano Estacado" (which has many more photos of this geographic area; see <https://www.ars.usda.gov/plains-area/lubbock-tx/cropping-systems-research-laboratory/wind-erosion-and-water-conservation-research/docs/llano/>) Photo credit is USDA-Agricultural Research Service. Public Domain.

p. 17. Wind Cave prairie and buffalo herd in the southern Black Hills, South Dakota. Jo Belasco. Used with Permission.

p. 18. Ponderosa pine tree and its shadow on Pine Ridge. Jo Belasco. Used with permission.

p. 19. Shadows of Tapestry staff on Pine Ridge, at the same time the previous photograph was taken. Jo Belasco. Used with permission.

p. 21. Drawing of woodpecker feather. Adobe Stock.

p. 22. Circle images. Dawn Adams. Produced with Photoshop software.

p. 23. Horizontal line drawing of plant leaves. Adobe Stock.

p. 24. "Blue Marble" photo of the earth. Apollo 17 astronauts Eugene Cernan, Ronald Evans, and Harrison Schmitt. Photograph taken 1972. Image shows Africa and the south polar ice cap. NASA public domain.
<https://explorer1.jpl.nasa.gov/galleries/earth-from-space/#gallery-10>

p. 25. Solar eclipse seen from space. NASA Earth Observatory image by Michala Garrison and Wanmei Liang, using data from DSCOVR EPIC and VIIRS data from NASA EOSDIS LANCE, GIBS/Worldview, and the Joint Polar Satellite System (JPSS).
<https://earthobservatory.nasa.gov/images/152663/total-solar-eclipse-darkens-north-america>

p. 25. Shadow photograph of humans. See above (p. 19).

p. 28. Tree with blazing sun and dark landscape. John Njovu. Photo taken in Zambia. Used with permission.

p. 31. Thunderhead over Pine Ridge. Jo Belasco. Used with permission.

p. 34. Dog on the prairie with low-angle sun and shadows. Jo Belasco. Used with permission.

p. 38. Horizontal line drawing of plant leaves. Adobe Stock.

p. 41. TiKouka tree with other plants, in Aotearoa. Fiona Cram. Used with permission.

p. 42. Jackrabbit eating herbaceous leaves. Jo Belasco. Used with permission.

pp. 45-48. Tables of sunrise and sunset data. Dawn Adams. Prepared using standard Microsoft and Adobe software.

p. 49. Swampy Cree with their sled dogs and sled in traditional homeLand territory that has since been flooded by a reservoir dam. Margaret Wilson. Used with permission.

p. 51. Cropped close-up view of cassava, thorny trees, and marigolds in Zambia. John Njovu. Used with permission.

p. 52. Sunrise. Dawn Adams. Used with permission.

p. 53. Composite photos of sunrise and sunset. Dawn Adams and Jo Belasco. Used with permission. Composite compiled using Photoshop.

p. 53. Comparison sequence of sunrise positions for December 18 to 22, 2023. Jo Belasco. Used with permission. Images cropped and aligned in Photoshop for comparison view.

p. 55. Comparison composite view of sunrise at Lake Tahoe, California and on Pine Ridge in Nebraska. Lake Tahoe image information: *Tundra mountain and body of water*. Jesse Gardner. (October 19) 2015. Retrieved from Unsplash at <https://unsplash.com/photos/tundra-mountain-and-body-of-water-9DHyVy-G1rM>. Used under

standard Unsplash site license. Nebraska image information: Sunrise on December 22, 2023. Jo Belasco. Used with permission. The lower portion of Gardner's photo of Lake Tahoe was cropped for easier comparison of the two images.

pp. 57-58. Composite photos of sunrise and sunset. Dawn Adams and Jo Belasco. Used with permission. Composite compiled using Photoshop. Lines and small objects added with Photoshop.

pp. 59 - 60. Diagram of the sun's path across the sky. NASA. Retrieved from webpage "The Path of the Sun, the Ecliptic" at <https://pwg.gsfc.nasa.gov/stargaze/Secliptc.htm>. Site last updated 2014 and is present "for archival purposes only." Public domain. Drawing was modified with the addition of colors and symbols, in Photoshop.

p. 61. Prairie image in field behind quote. Jo Belasco. Used with permission.

p. 62. Māori young people planting traditional crops. Fiona Cram. Used with permission.

p. 66. Dog in the shadow from low storm clouds on the prairie. Jo Belasco. Used with permission.

p. 68. Black and white photo of Medicine Wheel, Wyoming. National Park Service. Public Domain. Original description page records the photo was taken in 2004 and uploaded to Wikipedia in 2009. Retrieved from https://en.wikipedia.org/wiki/Medicine_Wheel/Medicine_Mountain_National_Historic_Landmark.

p. 69. Color photo of Medicine Wheel, Wyoming, showing added barriers and walkways. U. S. Forest Service. In the Public domain. Uploaded 2008. Retrieved from <https://commons.wikimedia.org/wiki/File:MedicineWheel.jpg>

p. 70. Enigmatic melon and its vine in Aotearoa. Fiona Cram. Used with permission.

p. 72. Calanais Stones on the Isle of Lewis. Ed Phillips. Unsplash. Used under Unsplash site license. Retrieved <https://unsplash.com/photos/a-group-of-stonehenge-standing-in-a-grassy-field-G77VqdfHoh8>

p. 73. Māori community gathering in a traditional Place of interwoven relationships. Fiona Cram. Used with permission. Structures of this type are always aligned with the Land in multiple ways.

p. 74. Deer hoofprint in wet, gravelly ground. Jo Belasco. Used with permission.

p. 82. Local structure in the Tiopa Village area. Lower left: Outside of the structure showing its conical roof. Upper right: The roofbeams and thatch coverings as seen from the inside. John Njovu. Used with permission.

p. 87. Nebula. Credit: ESO/INAF-VST/OmegaCAM. Acknowledgement: OmegaCen/Astro-WISE/Kapteyn Institute. In the Public domain. Retrieved from [https://commons.wikimedia.org/wiki/File:VST_image_of_the_spectacular_star-forming_region_Messier_17_\(Omega_Nebula\).jpg](https://commons.wikimedia.org/wiki/File:VST_image_of_the_spectacular_star-forming_region_Messier_17_(Omega_Nebula).jpg) Additional information from the source site: "The first released VST image shows the spectacular star-forming

region Messier 17, also known as the Omega Nebula or the Swan Nebula, as it has never been seen before. This vast region of gas, dust and hot young stars lies in the heart of the Milky Way in the constellation of Sagittarius (The Archer). The VST field of view is so large that the entire nebula, including its fainter outer parts, is captured -- and retains its superb sharpness across the entire image. The data were processed using the Astro-WISE software system developed by E.A. Valentin and collaborators at Groningen and elsewhere."

p. 90. Aurora borealis over Pine Ridge. Jo Belasco. Used with permission.

p. 91. Young Māori near the beach. Fiona Cram. Used with permission.

p. 92. Time-lapse image of the stars circling Polaris, the North Star. Preston Dyches. In the public domain as part of a NASA educational webpage about the North Star. See reference for Dyches 2021. Retrieved from <https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/>.

p. 93. Diagram of using Ursa Major and Minor to locate the North Star. In the public domain as part of a NASA educational webpage about the North Star. See reference for Dyches 2021. Retrieved from <https://science.nasa.gov/solar-system/skywatching/what-is-the-north-star-and-how-do-you-find-it/>.

p. 95. Hawk in western Nebraska. Jo Belasco. Used with permission. To identify this hawk and find out what kind

it is, see Cornell's "All About Birds" introduction to hawk identification here <https://www.allaboutbirds.org/news/search/?q=hawks>. There's enough information in the photo and its Nebraska location for you to find it. The Audubon Society can help you choose binoculars if you'd like to learn to see more when a hawk goes by. To learn more, see <https://www.audubon.org/gear/binocular-guide>.

p. 98. Man on stone. Shawn Wilson. Used with permission.

p. 98. Woodpecker feather line drawing. Adobe Stock.

p. 99. Dark sunrise telling the story of approaching storms. Jo Belasco. Used with permission.

p. 100. Bones from the London park where Ceremony was done. Shawn Wilson. Used with permission.

p. 102. Deer between fence lines in a heavy winter frost. Jo Belasco. Used with permission.

p. 103. Artistic photo collage constructed of two original photos, one of moonlit storm clouds and the other of Mustangs in a heavy snow. Both were taken by Jo Belasco and used with permission. The two photos were (with Jo's permission) combined, the boundary between them gently feathered to softness, by Dawn Adams, using Adobe Photoshop software. No other modification was done, and no AI was used in this work. Also, no Mustangs suffered in the production of this image. Mustangs often prefer to be outdoors, regardless of weather conditions. In addition, the conditions were not as dire as the added clouds suggest they were.

p. 106. The road home to Opaskwayak Cree territory.
Shawn Wilson. Used with permission.

p. 107. Pre-sunrise sky with Venus (the morning star)
visible just above the horizon, winter 2023. Jo Belasco.
Used with permission.

p. 117. Cactus community, artwork. Adobe Stock.

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