Coming Home to North America

Script for "CLIMATE" Character

by Connie Barlow

revised March 2004

www.thegreatstory.org

NOTE: This pdf contains the scripts of 7 parts, to be distributed to 7 characters. Use this in conjunction with the narrator script at http://www.thegreatstory.org/NA-8council-narrate.pdf

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CLIMATE (70 million years ago). Ahhhhh, it is warm. There is no glacial ice anywhere in the world. There are crocodiles in what is now Alaska, and even in Greenland there is forest — deciduous forest. For this is a GREENHOUSE world. What Big and Ferocious creatures are alive to experience this greenhouse world?

CLIMATE (65 million years ago). *[Read with passion the first sentence as you rise from your seat, continue to read and make gestures, as you come into the continent.]*

Yikes! With the ground pulverized by the meteor, and charred into ash by firestorms, an enormous amount of debris has been tossed into the sky. To make matters worse, the meteor impact shook the ground so intensely that volcanoes erupted everywhere, and a flood of hot basaltic lava poured out on the exact opposite side of the globe: in India. This means that a lot of volcanic ash goes up into the atmosphere, too.

All that dust and ash blocks the sunlight. There is nothing but darkness, utter darkness, for months — maybe years — everywhere on the planet. And so it gets cold: very, very cold.

I would guess that being big and ferocious is no help in a time such as this. Am I correct?

CLIMATE (32 million years ago). *[Say and gesture "Brrrrrrrr" as you rise from your seat. Then resume reading when inside continent.]*

32 million years ago, at the beginning of the OLIGOCENE Epoch, the climate COOLS — fast and far. I mean, we are seeing cold the likes of which this continent has not seen since the dinosaurs' passing. Scientists call this time "THE BIG CHILL." *[pause for laughter]*

More than just cold; there are now huge seasonal swings in temperature. North America starts having cold winters and very hot summers too.

About the only thing a plant can do to cope with intensely cold winters and hot summers is to become DECIDUOUS: to drop leaves at the onset of the cold. So this is the time in Earth history when deciduous DAWN REDWOOD TREES, also known as META-SEQUOIAS, move southward from the Arctic, replacing their cousins: the evergreen REDWOOD trees.

This is also the time when autumn starts being a very colorful time of year. For we now have oaks and maples and birches. This is also a time when a major event in coevolution is about to unfold. What an OPPORTUNITY for plants and animals to work together!

CLIMATE (24 million years ago). *[Recite first sentence while rising from seat, then rest while in continent.]*

I do indeed!

All those mountain ranges going up must mean something for climate. Even though the world has warmed considerably since the Big Chill of the Oligocene, it is much DRIER now as the MIOCENE EPOCH begins. I bet that a dry climate is a Crisis for many of you. Sorry about that.

CLIMATE (2 million years ago). *[begin reading this as you rise from your seat and move to the Arctic to mime the Ice flowing south.]*

And it's going to get a lot chiller before I am through!

The Big Chill of the Oligocene was nothing compared to what I have in store for our continent now. The clock has advanced to 2 million years ago, as we enter the PLEISTOCENE Epoch. Climate is becoming exceptionally cold. Winters seem like they will never end, and snow falls and falls.

Continental glaciers begin to grow, and soon vast ICE SHEETS cover Canada and flow further still. The ice sheets carve and polish the northern APPALACHIAN Mountains. A tongue of Ice forces the old, northward-flowing OHIO RIVER to turn west and head out to the Mississippi. During this time, the newest species of animals will evolve to thrive in these conditions: CARIBOU and POLAR BEARS. It is thought that polar bears evolved less than a half million years ago.

The tongues of ice advance, and they retreat. They advance and they retreat. Seventeen times, the great Ice advances and retreats. At each advance, I urge the Plants to move south. And at each retreat, I give the Plants a chance to return to the north. Isn't that right, Plants?

LANDFORMS (duet with Climate): Let us consider SIBERIA. The great beasts died out in SIBERIA some 18,000 years ago, when the first artifacts of people appear in the far north.

1. CLIMATE (duet with Landforms) Let us consider AUSTRALIA. Some 30,0000 years ago, Australia experienced a mass extinction of large marsupial mammals and formidable reptiles when the first humans and their dogs (the dingo) arrived.

LANDFORMS (duet with Climate) Let us consider CUBA. Just 6,000 years ago, Cuba lost its ground sloths, when pioneering peoples stepped off their boats or rafts.

2. **CLIMATE (duet with Landforms)** Let us consider MADAGASCAR. Madagascar lost its giant lemurs and elephant birds only 2,000 years ago — again, precisely when the first traces of human colonization show up.

LANDFORMS (duet with Climate) Let us consider HAWAII. Hawaii was stripped of its flightless birds 1,600 years ago, soon after the first Polynesian sailors pulled their boats ashore. The pigs that the new settlers brought with them would take an even greater toll on Hawaiian wildlife.

3. CLIMATE (duet with Landforms) Let us consider NEW ZEALAND. Isolated in the ocean far from Australia, New Zealand was the last large land mass to suffer the arrival of the only creature who could kill from a distance. New Zealand lost all its giant flightless birds, the moas, some 800 years ago. Bones and eggshells are abundant in old firepits and hearths.

LANDFORMS (duet with Climate) Let us consider NORTH AMERICA — North America just 500 years ago. Soon after the first Europeans stepped ashore, North America would lose 90 percent of its Native peoples to disease, killing, and starvation.

4. CLIMATE (duet with Landforms) The Great Auk, the Carolina Parakeet, the Passenger Pigeon, the Ivory-Billed Woodpecker, and others would follow. Vast herds of Bison and Pronghorn, throngs of spawning Salmon, churning Cod, and nesting Sea Turtles would become only memories. Mighty Chestnut trees and elegant American elms would fall to exotic diseases. Cheatgrass would ravage the arid grasslands. Lamprey would invade the Great Lakes. In the southeastern states, pollution would decimate the world's most diverse communities of freshwater mussels. And who knows what will happen when the human impact spreads even to Climate?

5. CLIMATE & LANDFORMS (in unison) – What is to be done?

CLIMATE: *[After 5 characters, and then Landforms, speaks of "What is to be done," stand at your seat and proclaim:]*

What is to be done? We can teach HUMANS that Climate is a powerful and mysterious force, not to be tinkered with. We can do this by telling the 65 million year story of this continent so that humans will remember the consequences for life whenever climate warmed or cooled or dried. That is what is to be done. END

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Script for "CONNECTIONS" Character

by Connie Barlow

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CONNECTIONS (70 million years ago). It is true, there is no such thing as North America yet. Rather, there is a western land mass, and there is an eastern land mass. The two are not connected 70 million years ago. East and West are separated by a broad, but shallow, seaway that runs all the way from the Arctic Ocean to the Gulf of Mexico through the very center of what will become a mighty continent. This is the BEARPAW SEAWAY. The western land mass is actually attached to Asia by way of BERINGIA, which is a wide stretch of land across what will later become the Bering Sea. And the eastern land mass that contains the old Appalachian mountains is attached to Europe by way of Greenland and Scandinavia, because 70 million years ago the ATLANTIC OCEAN is still young and narrow, and these lands have not yet been pulled apart. All this means that there is *no North America yet, no North American continent.*

Meanwhile, all of CENTRAL AMERICA and SOUTHERN MEXICO are covered by shallow marine waters, so there is no land connection to the south. The great continent of SOUTH AMERICA is isolated, and will remain that way for tens of millions of years. Oh, what a different world this is! I wonder what is going on with Climate 70 million years ago?

CONNECTIONS (60 million years ago) *[You come forward with Landforms. Landforms speaks first for a paragraph. Halfway through a sentence, Landforms will signal you to take over. Be sure to demonstrate on the continent what you are saying, and remove the BLUE SCARF of the seaway if there is one.]*

. . . united across Montana and the Dakotas. That bridging land will continue to spread south and north as the millennia pass. This means that, finally, *NORTH AMERICA IS BORN!* East and West have been connected, as the Bearpaw Seaway begins to recede. Hallelulia! Please join me in praising the birth of our fine continent. Hallelulia! Hallelulia!

***[Stay there** while Connections tells the Iroquois creation story. Connections will end with, "For the Iroquois, that is how this continent, which they call Turtle Island, was born." Then you say:]*

The mythic story of the birth of North America does not end here. I believe that Little Ones has something important to tell us. *[be seated, as Little Ones comes forward.]*

CONNECTIONS (58 million years ago). *[stand at your seat; do not enter continent, and say]* I appreciate the acknowledgment, Big & Ferocious, but I'll pass on my turn and suggest instead that we invite Landforms into the continent. At **55 million years ago**, something is making Landforms very unhappy.

CONNECTIONS (40 million years ago).

*[be ready to **shout from your seat "CATS!"** when Big & Feroc. says, "But if there be dogs, I suppose there should also be . . ."]*

CATS! LET THERE BE CATS! *[Walk proudly over to Asia and then stand in Beringia for your whole speech.]*

North America may have been able to fashion a DOG, but only Asia could fashion a CAT! And only because of MY CONNECTIONS was it possible for your continent to enjoy cats too.

Thanks to this Beringia connection, North America will receive countless forms of CATS over the next tens of millions of years. Do I hear the cat chorus greeting their arrival? *[pause for audience to respond]*

Silence, please! The first cats to evolve in Asia and to immigrate to North America are not actually true cats. They are Nim-RAH-vids; not FEE-lids. But to you and me? Well, they look just like your average pussycat – or lion! Come, Nimravids, come! Evolve into glorious ferocious forms on the continent of Turtle Island!

CONNECTIONS (20 million years ago). *[begin talking at your seat, with a tone of frustration, and keep reading as you walk forward.]*

I can't tell you who that cat is until we can get past this darn "Cat Gap"! That's what scientists call the period from 23 million to 17 million years ago, because during that time the Nim-RAH-vids had all died out in North America, but true cats, the FEE-lids, had not yet entered our continent from where they originated in Asia.

So, Time: Please move us ahead to **17 million years ago**, and I shall continue. [pause]

Okay, so it is 17 million years ago, and the first true CATS, family FEE-lid-dee, are crossing Beringia into North America, thanks to my CONNECTIONS. Do I hear a cat chorus? [pause]

Come, Cats, come! Welcome!

Oh yes. The identity of the cat who chased speed and agility into American Pronghorn is none other than CHEETAH. Yes, Cheetah! Fancy that! Cheetah is a genus of cat that evolved right here in America! Oh, we celebrate you, Cheetah! We know that the African cheetah of modern times is really an American cat who strayed far from home.

But I suppose I am beginning to infringe on the territory of one of my dear comrades here. Big and Ferocious: Why don't you continue the story of Who's Who during the Miocene Epoch?

CONNECTIONS (3 million years ago). Three million years ago is a very special time for me! This is when South America and North America come together, for this is when the ISTHMUS OF PANAMA forms.

Do not be quick to celebrate. No! The next million years will be a sad time for South America, as many of the mammals that evolved there, completely isolated from the other continents for 70 million years, will prove no match for the North American invaders. Truly, this is a time of CRISIS!

CONNECTIONS (13,000 years ago). All eyes are on Beringia again. Who is that coming across 13,000 years ago? Why, it is a creature who will cause more extinctions than the mighty glaciers caused. It is a creature who will eventually change the course of rivers. It is the HUMAN!

These first two-leggeds to walk into the very heart of our continent are called the CLOH-vis PEOPLE. Clovis hunters fashion big, beautiful spear points — big enough to puncture the gut of a mammoth and doom that animal to death by infection days later.

Alas, the great animals of North America know nothing of spears. African animals co-evolved behaviors to safeguard themselves from gradually advancing technologies. But North American mammals are still innocent of these learned skills.

Crisis & Opportunity: please tell us what happens next.

CONNECTIONS: *[After Big & Ferocious speaks of "What is to be done," stand at your seat and proclaim:]*

What is to be done? We can invite HUMANS to tell and tell again the 65 million year story of North America, and to begin to deeply value the connections this continent has always had with the rest of the world. Surely HUMANS can learn from this Sacred Story. Surely they will see how important it is to walk gently when establishing connections with continents in which they and their technologies are not native. That is what is to be done.

END

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Script for "CRISIS" Character

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CRISIS & OPPORTUNITY (65 million years ago). *[Read loudly the first sentence as you rise from your seat. Then come forward in silence, face audience and continue readings.]*

Did I hear the word crisis?

Sixty-five million years ago, Earth is about to receive an uninvited visitor from space. A meteor 3 miles in diameter, traveling 90 million miles per hour, is on a collision course with our planet. The meteor strikes at the southern entrance to the Bearpaw Seaway. Ground Zero is along what will later be called the Yucatan Peninsula of Mexico. The force of impact is a thousand times greater than that of the total destructive power of all the nuclear weapons humans will ever build. Just think: a thousand times greater! And it hits in one spot, all at once – and right along the edge of our own fair continent – at the place that will later be called the Yucatan Peninsula of Mexico.

The devastation is unimaginable! Huge tsunami waves roll across the oceans, devastating coastal ecosystems everywhere in the world. The force of impact also launches hot rock and dust into the atmosphere, much of which then crashes back down to Earth in flames of friction: Firebombs land everywhere, torching even the wettest forests.

I wonder what my magnificent Crisis did to Climate?

CRISIS & OPPORTUNITY (50 million years ago). *[Read first sentence as you rise from your seat, then enter continent to resume.]*

Did I hear the word "opportunity"?

Right here in North America some 50 million years ago, evolution is giving birth to two magnificent families of mammals that I bet most of you believe belong to some other continent. One is the HORSE FAMILY, and the other is the CAMEL FAMILY. Yes, camels and horses are deeply native to North America. They will thrive here and nowhere else for tens of million of years before dispersing across Beringia into Asia and onwards into Africa. Oh, do I hear any galloping and whinnying spirits celebrating their birth? *[cup hand to ear and pause for audience response]*

Hmmm. I detect another OPPORTUNITY waiting in the wings. If TIME will turn the clock to **40 million years ago**, I think we will witness the birth of something destined to become FEROCIOUS!

CRISIS & OPPORTUNITY (32 million years ago). *[Speak the first sentence as you rise from your seat. Then come forward in silence before you resume.]*

Did I hear the word "opportunity"? *[pause]*

Oh marvel at this story! You see, during the Big Chill some 32 million years ago, North America becomes the continent of NUTS. Yes, this is true! I would invite PLANTS up here to tell the story, but the story is equally about the LITTLE ONES, so I think I'll just tell the story myself.

Recall that the horse family, the camel family, and the dog family all originated right here in North America. Well, during the Big Chill of the Oligocene, so does one more family: the SQUIRREL FAMILY. Yes, darling little squirrels! During the Big Chill, squirrels and nut trees co-evolve. And that happens right here in North America!

What teamwork! By burying nuts for the winter, and by forgetting where some of those nuts were, squirrels made it possible for oaks and beech trees and walnuts and hickories to evolve seeds that could pack a big sack lunch to help the seedling grow tall in dark forests. This glorious partnership soon spread around much of the rest of the world.

So, EVOLVE, SQUIRRELS, EVOLVE! *[audience repeats]*

EVOLVE, NUTS, EVOLVE! *[pause]*

Oh look! *[gesture]* Who is that flying toward Turtle Island across Beringia? I believe that the LITTLE ONES know the answer!

CRISIS & OPPORTUNITY (24 million years ago). *[just stand at your seat and read this short part*]

Did I hear the word "crisis"? Warm and dry: Hmmmmm. Those sound like perfect conditions to evolve CACTUSES AND GRASSES. Don't you think so, Plants?

CRISIS & OPPORTUNITY (**20 million years ago)**. *[first sentence as you rise.]*

Did I hear the word "opportunity"?

The partnership of newly evolved grasses and big grazing beasts is working so well during the MIOCENE EPOCH, that 20 million years ago North America enters "THE GOLDEN AGE OF MAMMALS." Unbelievable numbers and kinds of native horses and camels, and our own species of rhinoceroses, thrive on the vast grasslands of North America.

A whole new family of grass-eater now evolves right here on this continent during the Golden Age of Mammals. This is the PRONGHORN family. Emerge, Pronghorn, emerge!

[pause, then continue].

The Pronghorn family provides North America with its very own antelope-like creatures, only one of whom will persist into modern times. No Pronghorn will ever successfully venture beyond its continent of birth. So the only member of the Pronghorn family alive in modern times anywhere in the world will be the species that will greet human tourists who visit Yellowstone National Park. This pronghorn gains its amazing speed by millions of years of co-evolution with the only genus of true cat to ever originate right here on this continent. Who might that cat be, Connections?

CRISIS & OPPORTUNITY (3 million years ago).

Did I hear the word "Crisis"?

The rise of the ISTHMUS OF PANAMA is a crisis for South America. Yet it is also an opportunity for many of the creatures of North America. This is because North America sends South America all kinds of animals that our southern neighbor has never before experienced, and our creatures have all been honed on a huge land mass connected to another huge land mass. By modern times, it will mean that no deer, no tapir, no peccary, no squirrel, no raccoon or coati, no cat, no fox, no bear, no llama will have been native to South America for more than 3 million years, because they all marched down from the North. They are all recent immigrants around the time the Isthmus of Panama formed.

Fancy that! What is native, after all? And what is immigrant? How exactly does one become native to a continent?

At the same time, South America sends northward some LITTLE ONES who are among our most recent immigrants. Who are these Little Ones?

CRISIS & OPPORTUNITY (13,000 years ago) *[Walk in silence to the center of the continent, then begin to read solemnly]*

The Clovis culture spreads throughout North America, south of the retreating Ice Sheet which still covers most of Canada. Within 300 years, a cascade of extinctions ravages the continent. This is truly a crisis. It is not a mass extinction. Rather, it is an extinction of the massive.

North America will lose two-thirds of all species of mammal as big or bigger than a deer. And South America will lose three-fourths of its large mammals, many of whom are recent invaders from the north.

Big & Ferocious: Please stand. It is time for us to honor the passing of so many of your kind.

- Gone are the mammoths and the mastodons. [**chime**]
- Gone are the ground sloths and the glyptodonts. [**chime**]
- Gone are the camels and the horses. [**chime**]
- Gone are a shrub oxen and the long-horned bison [**chime**]
- Gone are large tapirs and peccaries; our biggest deer; a beaver the size of a black bear; and our continent's largest land tortoises, who rivaled in size those of the Galapagos Islands. [**chime**]

Gone, too, are the large carnivores and scavengers who depended on the plant-eaters:

- the dire wolf [**chime**]
- a giant hyena [**chime**]
- a giant condor called a TARE-uh-torn, along with carrion-feeding storks [**chime**]
- a lion bigger than the great African lion [**chime**]
- the sabertooth cat; [**chime**]
- the cheetah [**chime**]
- and the greatest bear of all time: Ark-TOE-duss SIGH-muss [**chime**]

Who will replace these creatures? Please tell us, Big and Ferocious?

CRISIS and OPPORTUNITY: *[After Climate speaks of "What is to be done," stand at your seat and proclaim:]*

What is to be done? We can remind HUMANS, whenever they grow despondent, that a Crisis may, through their own actions and the grace of God or Nature, be turned into an Opportunity. We can do this by helping humans find ways to bring the Sacred Story of North America into their seasonal and religious celebrations. That is what is to be done.

END

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Script for "Big & FEROCIOUS"

by Connie Barlow

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BIG & FEROCIOUS (70 million years ago). *[begin to roar and gesture as you rise from your seat and enter the continent.]*

ROAR!!!!! The DINOSAURS abound on land in this greenhouse climate, while giant marine reptiles more fearsome than sharks patrol the Bearpaw Seaway. Tyrannosaurus rex and Triceratops are in their prime. But, we should not forget the little ones. Let us hear from the little creatures of 70 million years ago.

BIG & FEROCIOUS (65 million years ago). *[Read your first sentence as you rise from your seat, then come into the continent while shaking your head in sadness, and continue reading.]*

This is not a happy time for big beasts.

Big beasts who were not fried by the firestorms and volcanoes that followed the meteor impact now face darkness and cold unlike anything our ancestors had to live through. So all — and I mean *all* — the big and ferocious creatures succumb to cold or starvation. There are no big and no ferocious life forms left anywhere on Earth. The DINOSAURS are gone, and so are the great marine reptiles: the MOH-suh-sores, the ICK-thee-uh-sores, and the long-neck PLEASE-ee-uh-sores. Earth feels empty now, utterly and terribly empty. [pause in sadness]. Let us all stand, and in a moment of silence we shall honor the passing of Earth's most awesome creatures of all time. [pause, **chime**]

Thank you. You may be seated.[pause]

The story shall now continue. Let us learn how the Little Ones fare?

BIG & FEROCIOUS (58 million years ago) Oh, I have been so forlorn since my dinosaurs went extinct. Little Ones, Land Forms, Connections, and Plants all have had exciting news to report, while I've just been sitting on the sidelines. But now, I am finally coming out of my slump. Praise Evolution! Praise!

There truly is life after one's dinosaur phase! Yes, I hear them now: the thundering hooves and snorts of Big Beasts! Here come the PRIMITIVE RHINOCEROSES! Here come the rhino-like BRONTOTHERES! I see them immigrating into North America from Asia, by way of Beringia.

Those of you who feel the power of these beasts, please rise from your seats and STOMP YOUR FEET and toss your heads in praise of these magnificent mammals! *[pause for stomping to happen]*

You may be seated. *[pause]*

Let me tell you more about these mighty immigrants. Rhinoceroses and Brontotheres are plant eaters and will evolve into a great diversity of magnificent species native to North America. Some will even become bigger than elephants — which, of course, aren't around yet. I suppose we ought to thank Connections for this happy occasion.

BIG & FEROCIOUS (40 million years ago). *[Howl while coming to the front, and encourage the audience to howl. After the howling subsides, begin reading:]*

About 40 million years ago, the first CANIDS that would become all sorts of foxes and wolves arise right here in North America. Emerge, DOG FAMILY, emerge! *[signal audience to repeat]* Welcome!

Later, I will send DOG FAMILY ambassadors to every part of the world, some of whom will become truly ferocious. Oh, what a glorious time this is! But if there be dogs, I suppose there should also be . . .

[Leave stage, as Connections finishes your sentence]

BIG & FEROCIOUS (20 million years ago). *[first sentence as you rise from your seat.]*

Thank you for sharing, Connections.

Well! Around the same time that the first true cats ventured into North America from Asia, so did the first of the ancient BEARS. "Lions, and tigers, and bears: oh my!"

So let us welcome to Turtle Island the great bear clan: Come, Bears, come! [pause] Welcome!

For millions of years, Asia will continue to send us new varieties of bears. In the meantime, we will be evolving our own native bears right on this continent, and one of those native bears will become the biggest and most ferocious mammalian land carnivore of all time:

Ark-TOE-duss SIGH-muss! [Arctodus simus]

This is the giant, short-face, long-legged bear. Ark-TOE-duss SIGH-muss! This great bear was able to run nearly as fast as Cheetah can run.

To greet Ark-TOE-duss SIGH-muss, I invite all of us to rise from our seats, [pause] stand tall, [pause] now STRETCH your arms high toward the sky, flex your claws, and ROOOOOOAAAAAARRRRRRR!

[Return to your seat while everyone is roaring.]

BIG & FEROCIOUS (3 million years ago). *[begin reading this as you rise from your seat and move up from South America thru the Isthmus of Panama.]*

You bet I would! When the Isthmus of Panama forms, and South America for the first time is connected, North America welcomes some big mammals. One kind is a close relative of armadillo, called GLYP-toe-donts. They are encased in armor, and have spiked clubs on the ends of their tails, like the Ankylosaur dinosaurs had 65 million years ago. Some of them are almost as big as a Volkswagon beetle.

A second kind of big beast that South America sends to our continent are GIANT GROUND SLOTHS. The biggest ground sloths from South America can stand up on hind legs and browse branches as high as elephants can reach. These animals have long claws on their fore-limbs, to protect themselves from sabertooth cats. But the babies probably escaped the big cats and other predators by climbing trees.

In order for you to understand why giant ground sloths moved so slowly, I invite you all to stand. [pause] Now stand on the sides of your feet, like this. That's why giant ground sloths were so slow. You see, having feet turned in this way allowed the young to easily climb right up a tree trunk, but the adults were too heavy to climb trees, and the turned-in feet meant they couldn't run. Evolution works in strange way, yes?

Golly, it is starting to feel a little chilly in here, don't you think, Climate?

BIG AND FEROCIOUS (13,000 years ago).

Very few will be replaced. There will be no more elephants in North America, no sabertooths or cheetahs, no ground sloths or glyptodonts, no giant beavers or giant tortoises. But there will be a few new-comers who have some big shoes to fill.

You see, there are fine creatures in Asia who have long been accustomed to spear-throwing mammoth hunters, and they have learned to run, to be wary, to survive. For many, many years these beasts have been making brief forays into North America, but they have always been sent back, unable to compete with the big beasts already native here.

But now, 13,000 years ago, there are vacancies in the ecosystems of North America. New creatures are welcomed into a new land. With the great grazers and browsers gone, there is plenty of room for ELK and for MOOSE to make their home here. Imagine that: elk and moose are newcomers to America!

And now that America is missing its giant bear, GRIZZLY BEAR can enter and spread across the land. So too with the Wolf clan: With our native Dire Wolf extinct, GRAY WOLF takes its place. And remember, the dog family arose here, so, in a way, Gray Wolf, who evolved in Eurasia, is returning home. You are welcome here, all of you! Go forth, and multiply!

And let us not forget BISON. Our own giant, long-horned bison have vanished. And so the smaller bison of Eurasia now may enter Turtle Island. Come, Bison, come! These new bison had coevolved with humans in Asia, and they survive well with America's first peoples.

But what is happening to the First Peoples?

BIG AND FEROCIOUS (Almost Today). It is true: These first Native Americans tell creation stories of HARMONY, of being native to place with the rest of the creatures who are no less than they: the modern bison, the moose, the elk, the grizzly — all of whom came to North America about the same time as the first peoples arrived. These peoples also tell stories about the LITTLE ONES who have been here far longer.

BIG AND FEROCIOUS: *[After Landforms & Climate ask in unison, "What is to be done?" stand at your seat and proclaim:]*

What is to be done? We can invite the HUMANS to remember the great beasts who were here before their own cultures arrived. We can invite them to tell stories about these big and ferocious creatures. We can urge humans to take inspiration from ELK, MOOSE, BISON, GRIZZLY, AND GRAY WOLF, because these creatures only very recently became native to this continent, and perhaps the newest humans can too. That is what is to be done.

END

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Script for "LANDFORMS" Character

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LANDFORMS (70 million years ago). The APPALACHIAN MOUNTAINS are already ancient and worn, having been uplifted 160 million years earlier. But I am happy to report that 70 million years ago, out west, the SIERRA NEVADA RANGE is newly born. And Earth is just beginning to stir beneath what will, in a few million years, become the ROCKY MOUNTAINS. Alas! There is no such thing as NORTH AMERICA — yet. I bet Connections can tell us why.

LANDFORMS (60 million years ago). *[stand alongside Connections inside the continent before you begin reading.]*

The same Earth forces that began to push up the Rocky Mountains ten million years earlier, while T. rex was still prowling the land, have also heaved up what had been the bottom of the shallow BEARPAW SEAWAY. East and West are now . . .

[signal Connections to continue reading]
[After Connections leads audience in Halleluias, resume]

Silence, please! [pause] The IROQUOIS tell a creation story about the birth of this continent. You see, at one time there was no land at all upon Earth; only water. To form the continent, the water creatures had to work together as a team. First, Old Turtle floated on the ocean surface. Then Muskrat dove to the bottom, gathering mud and piling that mud on the back of Old Turtle. Again and again, Muskrat dove, gathered mud, and deposited it on the back of Old Turtle. The mud on Turtle's back expanded and expanded, finally becoming North America. For the Iroquois, that is how this continent, which they call TURTLE ISLAND was born.

LANDFORMS (55 million years ago). *[Read your first paragraph as you rise from your seat and walk forward.]*

Gosh, darn it! When you build mountains out of cheap materials, they just don't last very long. *[resume reading when inside continent]*

You see, the granites of the Sierras, and even the old metamorphic rocks of the core of the Appalachian Mountains, are holding up just fine, but I confess to having cut corners when I built the ROCKY MOUNTAINS. Mudstones and shales just don't hold up very well. My Rockies are eroding away fast, and I fear that in another ten million years they will be just a few bulges rising out of vast plains of sediment. Oh, if I could only stop Time!

LANDFORMS (24 million years ago). *[rise from your seat and rush forward while shouting the first paragraph]*

Halleluia! The ROCKIES are resurrected! The Rockies are resurrected!

The Rocky Mountains are rising again, after having eroded away some millions of years ago. Halleluia! Do I hear a Hallelulia? [pause]

About the same time, the Andes and the Himalayas are galloping skyward, too, and for the very first time. So much action is happening with landforms right now! The excitement is almost too much to bear! Don't you think so, Climate?

LANDFORMS (5 million years ago). *[Come forward 5 million years ago, right after Plants talks about Ginkgo, and asks if anyone can give "rise" to new hopes. Begin reading as you come forward.]*

I can! "I feel the Earth, move, under my feet!" Yes, indeed. Earth is once again restless beneath the continent, this time over at the Colorado Plateau. The ground is heaving skyward, and the Colorado River begins to cut down, down, down — matching the skyward rise of ground. Soon we shall have the world's most awesome canyon. Ladies and gentlemen: May I introduce, the GRAND CANYON! [encourage applause]

About the same time, something is happening to the north, in the eastern side of Washington State. Five million years ago, there is a mighty turmoil, and the crust cracks open. Lava gushes out everywhere, and flows in a vast sheet of molten rock, a flood of lava, through which the Columbia River will later carve spectacular cliffs.

Ladies and gentlemen: May I introduce, the COLUMBIAN FLOOD BASALTS!

LANDFORMS (2 million years ago). Continental glaciers begin to grow, and soon vast ICE SHEETS cover Canada and flow far down into what will become the United States. The ice sheets smooth down the northern Appalachian Mountains. The tongues of ice advance, and they retreat. Seventeen times, the great Ice advances and retreats. At each advance, I urge the Plants to move south. And at each retreat, I give the Plants a chance to head back north. Right, Plants?

1. LANDFORMS (duet with Climate): Let us consider SIBERIA. The great beasts died out in SIBERIA some 18,000 years ago, when the first artifacts of people appear in the far north.

CLIMATE (duet with Landforms) Let us consider Australia. Some 30,0000 years ago, Australia experienced a mass extinction of large marsupial mammals and formidable reptiles when the first humans and their dogs (the dingo) arrived.

2. LANDFORMS (duet with Climate) Let us consider CUBA. Just 6,000 years ago, Cuba lost its ground sloths, when pioneering peoples stepped off their boats or rafts.

CLIMATE (duet with Landforms) Let us consider Madagascar. Madagascar lost its giant lemurs and elephant birds only 2,000 years ago — again, precisely when the first traces of human colonization show up.

3. LANDFORMS (duet with Climate) Let us consider HAWAII. Hawaii was stripped of its flightless birds 1,600 years ago, soon after the first Polynesian sailors pulled their boats ashore. The pigs that the new settlers brought with them would take an even greater toll on Hawaiian wildlife.

CLIMATE (duet with Landforms) Let us consider New Zealand. Isolated in the ocean far from Australia, New Zealand was the last large land mass to suffer the arrival of the only creature who could kill from a distance. New Zealand lost all its giant flightless birds, the moas, some 800 years ago. Bones and eggshells are abundant in old firepits and hearths.

4. LANDFORMS (duet with Climate) Let us consider NORTH AMERICA — North America just 500 years ago. Soon after the first Europeans stepped ashore, North America would lose 90 percent of its Native peoples to disease, killing, and starvation.

CLIMATE (duet with Landforms) The Great Auk, the Carolina Parakeet, the Passenger Pigeon, the Ivory-Billed Woodpecker, and others would follow. Vast herds of Bison and Pronghorn, throngs of spawning Salmon, churning Cod, and nesting Sea Turtles would become only memories. Mighty Chestnut trees and elegant American elms would fall to exotic diseases. Cheatgrass would ravage the arid grasslands. Lamprey would invade the Great Lakes. In the southeastern states, pollution would decimate the world's most diverse communities of freshwater mussels. And who knows what will happen when the human impact spreads even to Climate?

5. LANDFORMS AND CLIMATE (in unison) – What is to be done?

LANDFORMS: *[After Little Ones speaks of "What is to be done," stand at your seat and proclaim:]*

What is to be done? We can teach the newest HUMANS that Native American stories of ancestors rising up from the ground or descending from a sacred mountain are deeply true in this sense: they all show that to be native to this continent is to belong to a culture that emerges from the landforms of this continent — no matter where the ancestral genes may have immigrated from. That is what is to be done.

END

Coming Home to North America

Script for "LITTLE ONES" Character

by Connie Barlow

revised March 2004

www.thegreatstory.org

THE LITTLE ONES (70 million years ago).

Seventy million years ago, MAMMALS are among the little ones. Mammals have lived alongside the dinosaurs for at least 50 million years, but they have been evolving in the shadow of the great beasts. So they have never gotten any bigger than the size of a squirrel. These early mammals are master burrowers. They emerge from their burrows in the safety of darkness to hunt insects and feed on whatever scraps of dead dinosaur flesh they can find. They navigate by their noses; they have a keen sense of smell.

Also 70 million years ago can be found lots of INSECTS, some of whom are coevolving with a new kind of plant. Who are these new plants?

THE LITTLE ONES (65 million years ago).

Not all is lost! Some little ones do survive the holocaust 65 million years ago.

The little mammals and reptiles and amphibians who *do* survive are all burrowers, capable of waiting out tough conditions deep in the ground or safe in the mud beneath the waters of river or pond. The bedtime story we Little Ones like to tell our littlest Little Ones is that our ancestors who survived the darkness and cold were the lucky ones who happened to live near HOT SPRINGS. There geothermal heat kept them snug and warm in their burrows, yet they could venture out into the frozen wasteland to feast on — guess what?! — frozen dinosaur dinners! [pause for laughter].

I wonder how the Plants fared during these cold and dark times?

THE LITTLE ONES (60 million years ago). *[Enthusiastically read your first sentence as you rise from your seat. Then enter the continent to read the rest.]*

Oh, this is my favorite part, because we Little Ones come into our glory.

60 million years ago, at the birth of Turtle Island, some of us Little Ones will become Big Ones. You see, scientists tell a story that links turtles with the very birth of this continent. This is because turtles were among the best survivors of the meteor impact 65 million years ago. Turtles burrowed down into the mud beneath ponds, rivers, and lakes. They slowed their metabolism way down, and waited, waited for sunlight and warmth to return. So when they finally poked their noses out of the mud, they looked out upon an empty continent.

Turtles then began to reproduce in abundance, and they diversified too. Some grew to enormous size, for a turtle, that is. Nowhere else in the world, and at no other time in Earth history, has there ever been a more glorious moment for us turtles. That's why scientists call this time in North America, on Turtle Island, THE GOLDEN AGE OF TURTLES. And the Golden Age of Turtles was happening right when North America, Turtle Island, was being born! Is that a coincidence?

Surely, science and sacred myth come together at this moment.

THE LITTLE ONES *[Find a RATTLE to use for this]*
(30 million years ago)

Let us advance the CLOCK to 30 million years ago. And yes, a magnificent bird is right now winging its way across Beringia.

This bird initially evolved in Australia, way down under. But this Australian bird is destined to become a citizen of the world. Who is this clever bird? RAVEN! Yes, Raven! Oh, do I hear a chorus of crows delighting in the telling of your story today? *[pause]*

Raven: We are pleased to welcome you to our lovely continent. For some of us humans, you will become a messenger of transformation. For others, a trickster. Welcome, Raven, welcome!

Oh my! I just noticed some other Little Ones coming across Beringia at about the same time as Raven. The Oligocene has warmed up a little since it began a couple million years ago, and that warming makes this crossing possible.

Unlike Raven, these newcomers cannot fly across in the course of a single summer: they are slithering here from Asia. These immigrants are Snakes! GARTER SNAKES, to be precise. And among them, too, is the ancestor of a more powerful kind of snake that will soon evolve into a family of snakes unique to the western hemisphere: *[rattle!]* RATTLESNAKES. Do you feel the spirit of SNAKE slithering toward your feet right now? Slither, snakes, slither! *[walk back to seat while rattling]*

LITTLE ONES (3 million years ago).
[begin reading this as you rise from your seat and move up from South America thru the Isthmus of Panama.]

Here come the Little Ones! Here come POSSUM and PORCUPINE and ARMADILLO! They are waddling northward across the Isthmus of Panama, slowly extending their range. For tens of millions of years, Possum and Porcupine and Armadillo were native to the isolated continent of South America. But now they are moving north. Hello, you cute little creatures! Welcome to North America!

Oh look! Coming across the Isthmus, too, are some huge creatures that I'll bet Big and Ferocious would like to tell us about.

THE LITTLE ONES :
[After Plants speaks of "What is to be done," stand at your seat and proclaim:]

What is to be done? We can invite the HUMANS of North America to remember how the Little Ones played a profound role in both the IROQUOIS creation story and the GOLDEN AGE OF TURTLES. We can show these humans that it is possible to honor both the traditional story and the science story. We can urge them to develop a deep love for Turtle Island. We can also remind them that Raven, the trickster, flew in from Australia and then became native to Turtle Island — and that they can too. That is what is to be done.

END

Coming Home to North America

Script for "PLANTS" Character

by Connie Barlow

revised March 2004

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PLANTS (70 million years ago). *[begin to read this as you rise from your seat to enter the continent.]*

Oh, let us sing praises to the flowering plants! We have such bright colors and rich aromas! Our flowers produce nectar to seduce insect pollinators. But flowers are not my only glory. There are magnificent trees too: trees who evolved long, long ago. Among the oldest are GINKGO TREES and DAWN REDWOODS. Both live in the far north, for Ginkgo and Dawn Redwood are both deciduous, dropping their leaves during the months of darkness in the far north and growing them again when the light returns. To the south, we find lush, tropical forest — but no desert and no grasslands yet. But what is this? Is it true that a CRISIS is about to happen?

PLANTS (65 million years ago). We Plants like to tell our seeds and spores that they are tough little characters and can survive anything!

It is true: few of our kind went extinct, but many of us got pretty rare for a long time. It took millions of years for forests to regenerate, as seeds slowly spread from patch to patch. In the meantime, FERNS were having the time of their life! You see, Fern spores are so tiny that the gentlest breeze can carry them halfway around the world. Millions of years later, human scientists would dig into this 65 million-year-old layer of sedimentary rock and marvel at the abundance of ferns. Oh what a fine time it was for the ferns!

PLANTS (35 million years ago). *[Recite first sentence as you rise from your seat, then come into the continent to resume.]*

I thought you all had forgotten me!

We plants are more than just food for Big & Ferocious animals, and for Little Ones, you know. Sometimes we make excellent vehicles. And that's exactly what happened 35 million years ago. Let me tell you a story:

It was a dark and stormy night along the northern coast of South America. A big tree along a river bank was swept into a raging flood: roots, branches, and all. Out to sea it went, with a small population of desperate creatures clinging to it.

Currents swept the fallen tree north, and rains kept the leaves and branches drenched in freshwater. Days passed as the tree drifted with its precious cargo. Finally, the little ark washes up on the southern shore of North America, and the new immigrants disembark. Oh, here they come now!

Let us bid each one welcome!

Welcome, TREE FROGS, welcome! [pause]

Welcome, WHIPTAIL LIZARDS, welcome! [pause]

Welcome, TOADS, welcome! [pause]

Please make yourselves at home! And you humans out there, from now on, whenever you hear a chorus of peepers in the spring or come upon a lizard or toad, you will remember the generosity of our neighbor to the south and the role we plants played in this grand adventure.

PLANTS (24 million years ago). *[begin reciting as you rise from seat and walk into continent.]*

CACTUS? Sure I can do that: get bloated and puffy, put on a few spines. Yeah, I can do cactus.

And GRASSES? I'll do that, too. Big & Ferocious will love me for this innovation, because grasslands can feed big beasts much better than forests can. Unless you are a long-neck dinosaur, the leaves on tall trees are simply out of reach for big herbivores. And guess what!?! Grasses don't mind being eaten! Here is why:

Just like the hair of big and ferocious beasts *[demonstrate on your own hair or partner]*, grasses grow from the base, not the tip. So grasses don't mind having their tips grazed away by hungry beasts. Grazing can't hurt them, and, in fact, it helps them by preventing anything that might otherwise grow into a shrub or tree from overtopping them and shading them out. So Grasses are actually *grateful* for grazing!

What is more, grasses do well in conditions too dry to support trees: like out on America's great plains. And much later, they will thrive in landscapes patrolled by . . . lawnmowers! *[act out lawnmower]*. What an opportunity!

PLANTS (8 million years ago). *[rise at your seat begin reading as you solemnly walk forward]*

Yes, indeed. *[pause, solemnly]*

I've got a very sad extinction of an Old One to report. DAWN REDWOOD, whose scientific name is Metasequoia, goes extinct in North America. This is an ancient redwood tree who, unlike the modern redwood in California, drops its leaves during the winter. Fortunately, a small population of Dawn Redwoods will survive in China through modern times, when they will be discovered by botanists and brought back to American parks and gardens.

But until then, we must bid farewell to our Dawn Redwood, who has been part of our North American forests since the time of the long-neck dinosaurs. Goodbye, Dawn Redwood, goodbye! [**chime**]

Alas! I have another sad extinction to report, if TIME will please advance the clock to **5 million years ago**. For we will lose another old one, the oldest of all. After having been here on this continent and throughout the Northern Hemisphere for some 150 million years, GINKGO tree goes extinct in North America. Fortunately, like Dawn Redwood, a tiny enclave of ginkgo in China will persist into modern times, when they will be rescued by humans and replanted throughout the world. But for now, let us bid farewell to Ginkgo. Farewell, Ginkgo, farewell! [**chime**]

Enough sadness! Is there someone who can give RISE to new hopes if we move ahead to **5 million years ago?**

PLANTS (2 million years ago). *[begin reading this as you rise from your seat and come into the continent.]*

Oh, Climate! You do know how to make life difficult for us plants! We seem to be getting the short end of the stick. You see, every time Ice advances, DECIDUOUS FORESTS have to gather up all their greenery and head south — all the trees, all the shrubs, and all the delicate herbs must move seed by seed. By golly, during the peaks of each glacial advance, my rich Appalachian diversity was confined to just a few small refuges along the Gulf and southern Atlantic coasts.

Were it not for these precious refuges, my dogwoods and tuliptrees, my mayapples and ginseng, my azaleas and rhododendrons, and countless other species would have been lost. So all hail the Ice Age Refuges! Hail!

Sacred is the Tunica Hills region of Louisiana. Sacred is the Mississippi Flood Plain. Sacred is the Apalachicola region of the Florida Panhandle. These, truly, are sacred sites of the North American continent. To them, we owe are deepest gratitude.

PLANTS: *[After Connections speaks of "What is to be done," stand at your seat and proclaim:]*

What is to be done? We can invite all the HUMANS of North America, of all ethnicities and heritages, to become ROOTED to this continent, to truly view it as their one and only home. We can invite these same HUMANS to seek out partnerships with the natural world around them for the good of all, just as nut trees forged partnerships with squirrels 32 million years ago, and just as grasses forged partnerships with grazers some 20 million years ago. That is what is to be done.

END