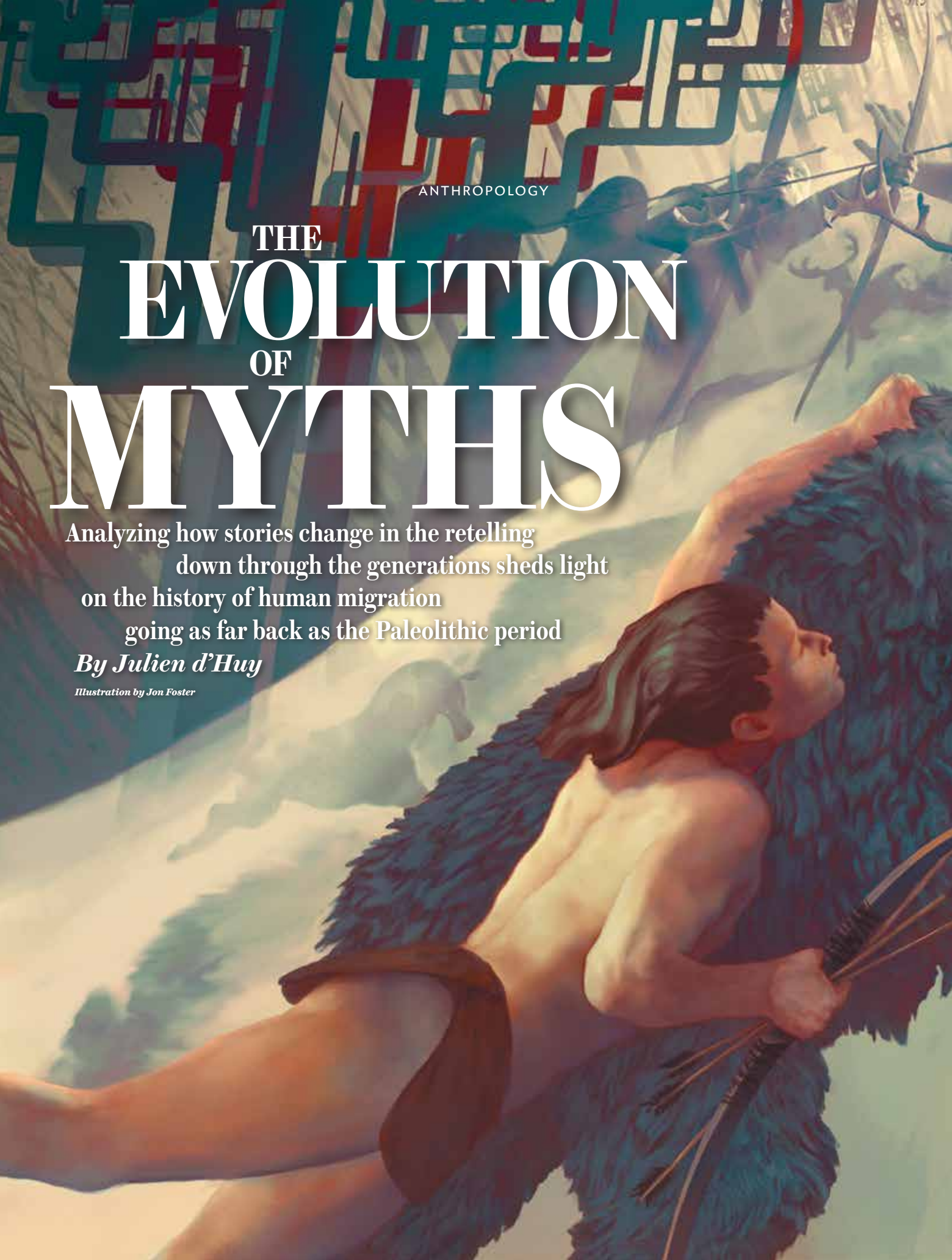


ANTHROPOLOGY

THE EVOLUTION OF MYTHS

Analyzing how stories change in the retelling down through the generations sheds light on the history of human migration going as far back as the Paleolithic period

By Julien d'Huy

Illustration by Jon Foster

Julien d'Huy is a doctoral candidate in history at Pantheon-Sorbonne University in Paris. His multidisciplinary research, conducted in association with the Institute of African Worlds, draws on evolutionary theory and computer modeling in the comparative analysis of myths.

THE GREEK VERSION OF A FAMILIAR MYTH STARTS WITH ARTEMIS, GODDESS OF THE HUNT and fierce protectress of innocent young women. Artemis demands that Callisto, "the most beautiful," and her other handmaidens take a vow of chastity. Zeus tricks Callisto into giving up her virginity, and she gives birth to a son, Arcas. Zeus' jealous wife, Hera, turns Callisto into a bear and banishes her to the mountains. Meanwhile Arcas grows up to become a hunter and one day happens on a bear that greets him with outstretched arms. Not recognizing his mother, he takes aim with his spear, but Zeus comes to the rescue. He transforms Callisto into the constellation Ursa Major, or "great bear," and places Arcas nearby as Ursa Minor, the "little bear."

As the Iroquois of the northeastern U.S. tell it, three hunters pursue a bear; the blood of the wounded animal colors the leaves of the autumnal forest. The bear then climbs a mountain and leaps into the sky. The hunters and the animal become the constellation Ursa Major. Among the Chukchi, a Siberian people, the constellation Orion is a hunter who pursues a reindeer, Cassiopeia. Among the Finno-Ugric tribes of Siberia, the pursued animal is an elk and takes the form of Ursa Major.

Although the animals and the constellations may differ, the basic structure of the story does not. These sagas all belong to a family of myths known as the Cosmic Hunt that spread far and wide in Africa, Europe, Asia and the Americas among people who lived more than 15,000 years ago. Every version of the Cosmic Hunt shares a core story line—a man or an animal pursues or kills one or more animals, and the creatures are changed into constellations.

Folklorists, anthropologists, ethnologists and linguists have long puzzled over why complex mythical stories that surface in cultures widely separated in space and time are strikingly similar. In recent years a promising scientific approach to comparative mythology has emerged in which researchers apply conceptual tools that biologists use to decipher the evolution of living species. In the hands of those who analyze myths, the method, known as phylogenetic analysis, consists of connecting successive versions of a mythical story and constructing a family tree that traces the evolution of the myth over time.

My phylogenetic studies make use of the extra rigor of statistical and computer-modeling techniques from biology to elucidate how and why myths and folktales evolve. In addition to the Cosmic Hunt, I have analyzed other major families of myths that share recurring themes and plot elements. Pygmalion stories depict a man who creates a sculpture and falls in love with it. In Polyphemus myths, a man gets trapped in the cave of a monster and escapes by insinuating himself into a herd of animals, under the monster's watchful eye.

This research provides compelling new evidence that myths and folktales follow the movement of people around the globe. It reveals that certain tales probably date back to the Paleolithic period, when humans developed primitive stone tools, and spread together with early waves of migration out of Africa. My phylogenetic studies also offer insights into the origins of these myths by linking oral stories and legends passed down from generation to generation to motifs that appear in Paleolithic rock art images. Ultimately I hope my ongoing quest to identify prehistoric protomyths may even offer a glimpse of the mental universe of our ancestors when *Homo sapiens* was not the only human species on Earth.

TRAIL OF THE COSMIC HUNT

CARL JUNG, THE FOUNDING FATHER of analytic psychology, believed that myths appear in similar forms in different cultures because they emerge from an area of the mind called the collective

IN BRIEF

Scholars have long wondered why complex mythical stories that surface in cultures widely separated in space and time are strikingly similar.

New research models harness conceptual and statistical tools from evolutionary biology to untangle the history of myths.

Phylogenetic trees reveal that species of myths evolve slowly and parallel patterns of mass human migration out of Africa and around the globe.

Recent studies provide insights into the prehistoric origins of some myths and the migration of Eurasians to North America more than 15,000 years ago.

unconscious. "Myths are first and foremost psychic phenomena that reveal the nature of the soul," Jung argued. But the dissemination of Cosmic Hunt stories around the world cannot be explained by a universal psychic structure. If that were the case, Cosmic Hunt stories would pop up everywhere. Instead they are nearly absent in Indonesia and New Guinea and very rare in Australia but present on both sides of the Bering Strait, which geologic and archaeological evidence indicates was above water between 28,000 and 13,000 B.C. The most credible working hypothesis is that Eurasian ancestors of the first Americans brought the family of myths with them.

To test this hypothesis, I created a phylogenetic model. Biologists use phylogenetic analysis to investigate the evolutionary relationships between species, constructing branching diagrams, or "trees," that represent relationships of common ancestry based on shared traits. Mythical stories are excellent targets for such analysis because, like biological species, they evolve gradually, with new parts of a core story added and others lost over time as it spreads from region to region.

In 2012 I constructed a skeletal model based on 18 versions of the Cosmic Hunt myth previously collected and published by folklorists and anthropologists. I converted each of those accounts of the myth into discrete story elements, or "mythemes"—a term borrowed from the late French structural anthropologist Claude Lévi-Strauss. Like genes, mythemes are heritable characteristics of "species" of stories, which pass from one generation to the next and change slowly. Examples of Cosmic Hunt mythemes include: a woman breaks a taboo; a divine person stops a hunter; a god transforms an animal into a constellation. My initial analysis yielded a database of 44 mythemes. For each version of a story, I then coded mythemes as either 1 (present) or 0 (absent) and applied a successive series of statistical algorithms to trace evolutionary patterns and establish family trees. In 2013 I expanded the model to include 47 versions of the story and 93 mythemes. Eventually I used three separate databases to apply different algorithms and cross-check my results.

One of the most up-to-date phylogenetic trees of the Cosmic Hunt [*see box on page 68*] suggests that the family of myths arrived in the Americas at several different points. One branch of the tree connects Greek and Algonquin versions of the myth. Another branch indicates passage through the Bering Strait, which then continued into Eskimo country and to the northeastern Americas, possibly in two different waves. Other branches suggest that some versions of the myth spread later than the others from Asia toward Africa and the Americas.

A MYTHICAL METAMORPHOSIS

EVOLUTIONARY BIOLOGISTS HAVE observed that most species do not change much for the greater part of their histories. When significant evolutionary change occurs, it is generally restricted to rare and very fast events of branching speciation. This phenomenon is called punctuated equilibrium. The same appears to hold true with myths. When sister mythological versions diverge rapidly because of migration bottlenecks, challenges from rival populations, or new environmental and cultural inputs, those events are followed by extended periods of stability.

By and large, structures of mythical stories, which sometimes remain unchanged for thousands of years, closely parallel the history of large-scale human migratory movements. Ironically, phylogenetic analysis reveals that one of the most enchanting mythical stories of sudden transformation—the Pygmalion story—is a prime example of this stable pattern of evolution.

As the Greeks tell it, Pygmalion, a handsome sculptor from Cyprus, spurns the company of local women relegated to a life of loveless prostitution for failing to pay proper homage to Aphrodite, the goddess of love and patron deity of the island. Throwing himself into his work, Pygmalion chisels an ivory statue of a woman, which he names "Galatea" (or "sleeping love"). He dresses the sculpture in fancy clothes and jewels, kisses and caresses it, and talks to it every day. During a festival in honor of Aphrodite, Pygmalion goes to the goddess's temple, sacrifices a bull and prays for a wife just like his beloved statue. When he returns home and kisses Galatea, he is surprised by the statue's warmth. Aphrodite has brought Galatea to life.

Roman poet Ovid immortalized the Greek folktale in *Metamorphoses* and inspired countless writers, dramatists and artists ever since.

My research suggests the evolution of the Pygmalion myth followed a human migration from northeastern to southern Africa that previous genetic studies indicate took place around 2,000 years ago. In folktales told by various tribes along that route, a man carves an image of a woman and falls in love with it; the doll comes to life and marries the master. According to the Venda of South Africa, a man sculpts a woman out of wood. After she is animated, the head of the tribe tries to kidnap her. The sculptor resists and throws the woman to the ground, whereupon she turns back into wood.

A phylogenetic tree I constructed using the Greek version of Pygmalion and a version from the Bara people of Madagascar as starting points yielded intriguing results. The Greek and Bara myths mirror each other structurally, even though they represent the greatest geographical separation of any of the stories included in the computer model. In addition, the Bara settled on an island that did not allow for great population expansion and mythological diversification, and the Greeks remained isolated for much of their history from exposure to African folktales. Nevertheless, both the Bara and Greek versions of the myth bear remarkable similarities to an earlier version of the story from the Berber tribes of the Sahara.

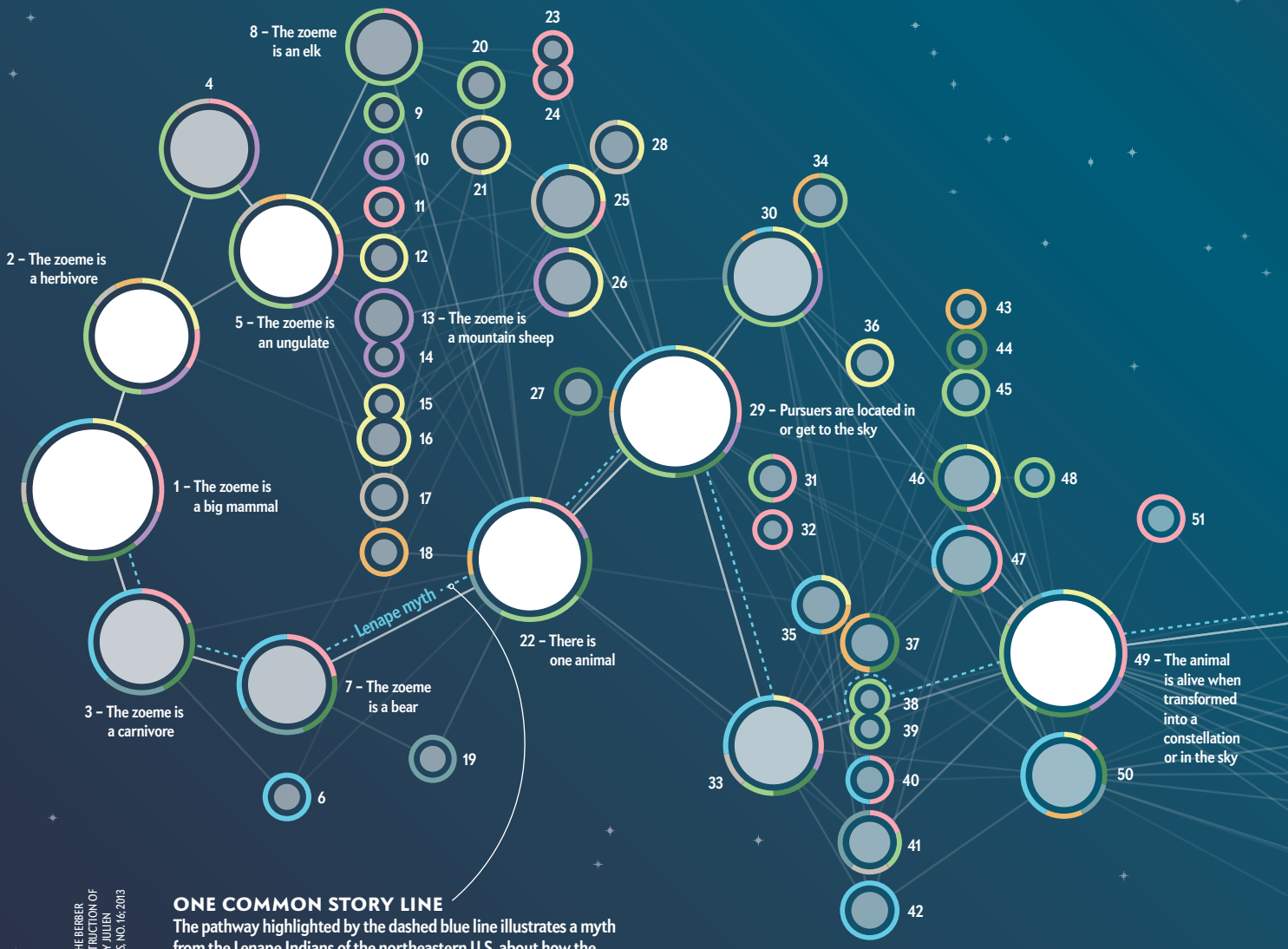
Statistical and empirical analysis suggests that the accounts of the Greeks and Baras probably preserve a version of the Pygmalion saga that originated with the Berbers between 3,000 and 4,000 years ago and appears to encapsulate a very ancient version of the myth: A man makes a statue from a tree trunk to lessen his solitude; he or another man clothes it; the statue comes to life, thanks to a god, and turns into a beautiful young lady; she becomes the wife of her creator, even though another person also desires to marry her. Of course, the real protomyth was probably as rich in complexity as the versions on which the reconstruction is based.

THE MONSTER IN THE CAVE

IN THE PAST, COMPARATIVE MYTHOLOGY scholars relied heavily on intuition and manual processing of information, which limited both the breadth and granular detail of the work they could do. With computer-aided phylogenetic analysis, we can now test the impact of mythological borrowings between different cultural groups. We can create large and flexible databases that in-

Deconstructing Myths

Cosmic Hunt myths, which depict constellations of stars as animals pursued by hunters, are common in Eurasia and the Americas. Comparative mythologists study the surprising similarities and subtle variations in the myths of widely dispersed cultures using analytic tools developed by evolutionary biologists. First, they break down a particular "species" of mythical stories into small building blocks that are analogous to genes: "mythemes." Then they record such factors as the frequency of the elements in various stories (*below*). Computer analyses of similar elements can reveal which versions came earliest and how the core stories changed with time and place. The mythemes depicted here are the building blocks of various Cosmic Hunt stories related to Ursa Major, Ursa Minor, Orion and the Pleiades.



ONE COMMON STORY LINE
The pathway highlighted by the dashed blue line illustrates a myth from the Lenape Indians of the northeastern U.S. about how the Ursa Major constellation took the shape of a bear. The Lenape legend shares several mythemes with various Cosmic Hunt myths preserved by other cultural groups in Eurasia and the Americas, including: The zoeme is a big mammal (*1*); pursuers are located in or get to the sky (*29*); the animal is alive when transformed into a constellation (*49*); one of the main constellations of the story is the Big Dipper (*86*).

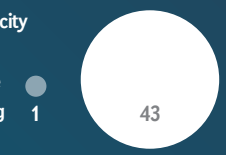
SOURCE: "A COSMIC HUNT IN THE BERBER SKY: A PHYLOGENETIC RECONSTRUCTION OF PALAEOLITHIC MYTHOLOGY," BY JULIEN D'HUY, IN *LES CAHIERS DE L'AARS*, NO. 16, 2013

Graphic by Accurat

HOW TO READ THIS FIGURE

Each of the 88 circles in the illustration represents a Cosmic Hunt mytheme (story component) as defined by the author. Below, we have loosely ordered those mythemes (*listed more fully at right*) according to general categories, including zoemes (animals) (□), pursuit details (＼), transformations of animals and pursuers (○), and manifestations of the stories in particular constellations (+).

Circle size and opacity show how many tales the mytheme appears in, ranging from 1 to 43.

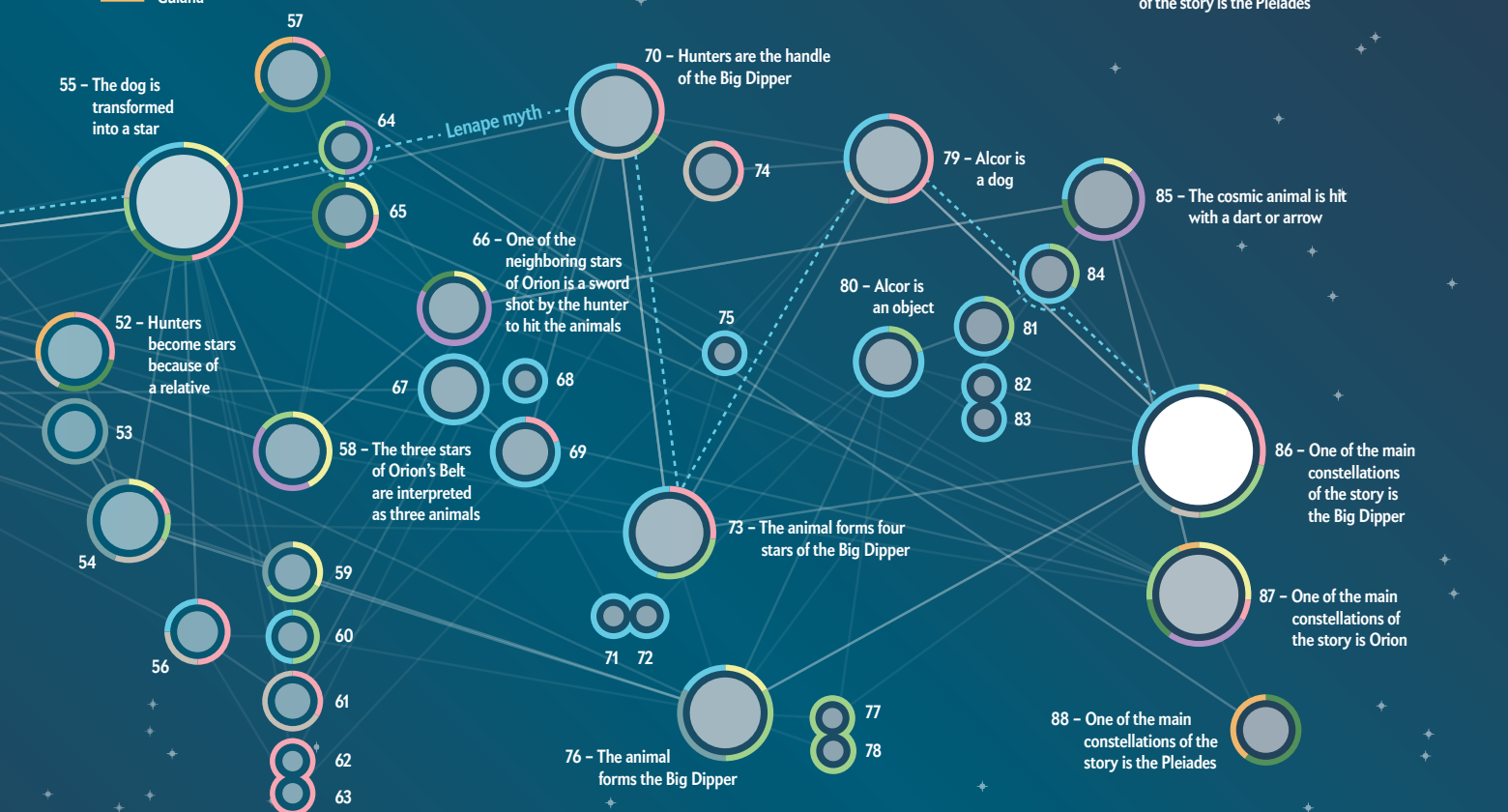


Lines connect mythemes that occur in tales together.

Ring color indicates the regions associated with each mytheme's tale. For example, this mytheme occurs in three tales, one from Guiana (*orange*) and two from Asia (*light green*).

- Africa
- American Coast-Plateau/British Columbia
- American Great Basin/Great Southwest
- Northeastern America
- Asia
- Arctic
- Basque
- Greece
- Guiana

□ 1 – The zoeme is a big mammal
□ 2 – The zoeme is a herbivore
□ 3 – The zoeme is a carnivore
□ 4 – The zoeme is a horned animal
□ 5 – The zoeme is an ungulate
□ 6 – The zoeme is a fisher
□ 7 – The zoeme is a bear
□ 8 – The zoeme is an elk
□ 9 – The zoeme is a reindeer
□ 10 – The zoeme is a deer
□ 11 – The zoeme is a moose
□ 12 – The zoeme is a camel
□ 13 – The zoeme is a mountain sheep
□ 14 – The zoeme is an antelope
□ 15 – The zoeme is a zebra
□ 16 – The zoeme is a pig
□ 17 – The zoeme is an ox
□ 18 – The zoeme is a tapir
□ 19 – Zoeme is the pursuer's mother, who has been transformed into a bear
□ 20 – It is a six-legged animal
□ 21 – It is a domestic animal
□ 22 – There is one animal
□ 23 – There are four animals
□ 24 – There are seven animals
□ 25 – There are two animals
□ 26 – There are three animals
□ 27 – The Pleiades are an animal
□ 28 – Animals are associated with their owner
＼ 29 – Pursuers are located in or get to the sky
＼ 30 – There is one pursuer
＼ 31 – There are two pursuers
＼ 32 – There are five pursuers
＼ 33 – There are three, or at least three, pursuers
+ 34 – Orion is a pursuer
＼ 35 – There are seven pursuers
+ 36 – The sword of Orion is a pursuer
＼ 37 – A woman breaks a taboo
＼ 38 – The zoeme captures the sun
＼ 39 – An animal is punished for its pride
＼ 40 – A man goes down alone from the sky to Earth and destroys the way to access to the sky
＼ 41 – A divine person stops a hunter
＼ 42 – The hunt continues until the fall
+ 43 – The Hyades are a game
+ 44 – Betelgeuse is a game
+ 45 – Cassiopeia is a game
＼ 46 – Pursuers are dogs
＼ 47 – Pursuers are members of the same family
＼ 48 – An animal pursues an animal that pursues an animal
○ 49 – The animal is alive when transformed into a constellation or in the sky
○ 50 – The animal is dead when transformed into constellation
○ 51 – A man turns his brothers into stars
○ 52 – Hunters become stars because of a relative
○ 53 – A god transforms a nymph into a bear
○ 54 – A god transforms an animal into a constellation
○ 55 – The dog is transformed into a star
+ 56 – Each animal is transformed into a star of the Big Dipper
+ 57 – The Pleiades are hunters
+ 58 – The three stars of Orion's Belt are interpreted as three animals
+ 59 – Members of the same family turn into Ursa Major and Ursa Minor
+ 60 – One animal turns into a star of the Big Dipper
+ 61 – Two animals turn into two stars of the Big Dipper
+ 62 – Four animals turn into four stars of the Big Dipper
+ 63 – Seven animals form seven stars of the Big Dipper
+ 64 – Three stars of Orion's Belt are interpreted as one single animal
+ 65 – The three stars of Orion's Belt are interpreted as three pursuers
+ 66 – One of the neighboring stars of Orion is a sword shot by the hunter to hit the animals
○ 67 – The grease or the blood dripping from the animal's body falls on Earth and becomes something else
○ 68 – The grease becomes honeydew
○ 69 – The dripping blood of the animal tinges the autumn foliage
+ 70 – Hunters are the handle of the Big Dipper
○ 71 – The grease becomes snow
+ 72 – Hunters form seven stars of the Big Dipper
+ 73 – The animal forms four stars of the Big Dipper
+ 74 – Hunters form five stars of the Big Dipper
+ 75 – Cutoff limbs are stars seen in winter
+ 76 – The animal forms the Big Dipper
+ 77 – The Big Dipper is a drawing
+ 78 – Three stars are the shadow of the animal
+ 79 – Alcor is a dog
+ 80 – Alcor is an object
+ 81 – Alcor is an arrow
+ 82 – Alcor is a knife
+ 83 – Alcor is a cooking pot
＼ 84 – The hero is the origin of warmth
＼ 85 – The cosmic animal is hit with a dart or arrow
+ 86 – One of the main constellations of the story is the Big Dipper
+ 87 – One of the main constellations of the story is Orion
+ 88 – One of the main constellations of the story is the Pleiades



corporate the wealth of empirical observations by scholars over the years. And we can expand those databases to include new versions of stories and test previous results.

In 2012 I constructed the initial model for a phylogenetic study of the Polyphemus myth based on 24 versions of the story from Europe and North America and 79 mythemes. Then I progressively enlarged the sample size to include 56 versions of the story and 190 mythemes drawn from a variety of previous studies published in English, French, German and Italian. I also created three separate databases and applied a variety of evolutionary and statistical algorithms to calibrate and cross-check my results.

Polyphemus, the monstrous one-eyed, human-eating progeny of Poseidon, god of the sea, makes a dramatic appearance in Homer's *Odyssey*. When Odysseus lands on the island of Cyclops in search of food, he and 12 men surreptitiously enter Polyphemus' cave. The giant returns from grazing his sheep, seals the entrance and devours four of Odysseus' men before leaving the next morning to tend his flock. That evening, after Polyphemus eats two more men, Odysseus gets him drunk on undiluted wine. Polyphemus asks his generous guest to tell him his name, and Odysseus replies, "Nobody." Once Polyphemus falls asleep, Odysseus blinds him with a sharpened stick hardened in a fire. Polyphemus screams for help, but when other Cyclopses arrive and ask who blinded him, he answers, "Nobody." Meanwhile Odysseus and his remaining men escape by clinging to the underbellies of the monster's sheep as Polyphemus lets them out to graze.

The Blackfoot Indians, an Algonquin tribe that depended on hunting buffalo to get enough food to survive, passed a related story from generation to generation. The trickster Crow, who is both human and bird, hides a herd of buffalo in a cave. Crow is eventually captured and placed over a smoke hole, which explains why, ever since, crows are black. Crow promises to free the buffalo. But he breaks his promise. Two heroic hunters transform themselves—one into a puppy, the other into a wood staff. Crow's daughter picks up the puppy and staff and takes them to the cave. There the two hunters transform themselves again, one into a large dog, the other into a man, to drive the buffalo aboveground. They get past Crow by hiding under the skin of a buffalo as the herd charges out of the cave.

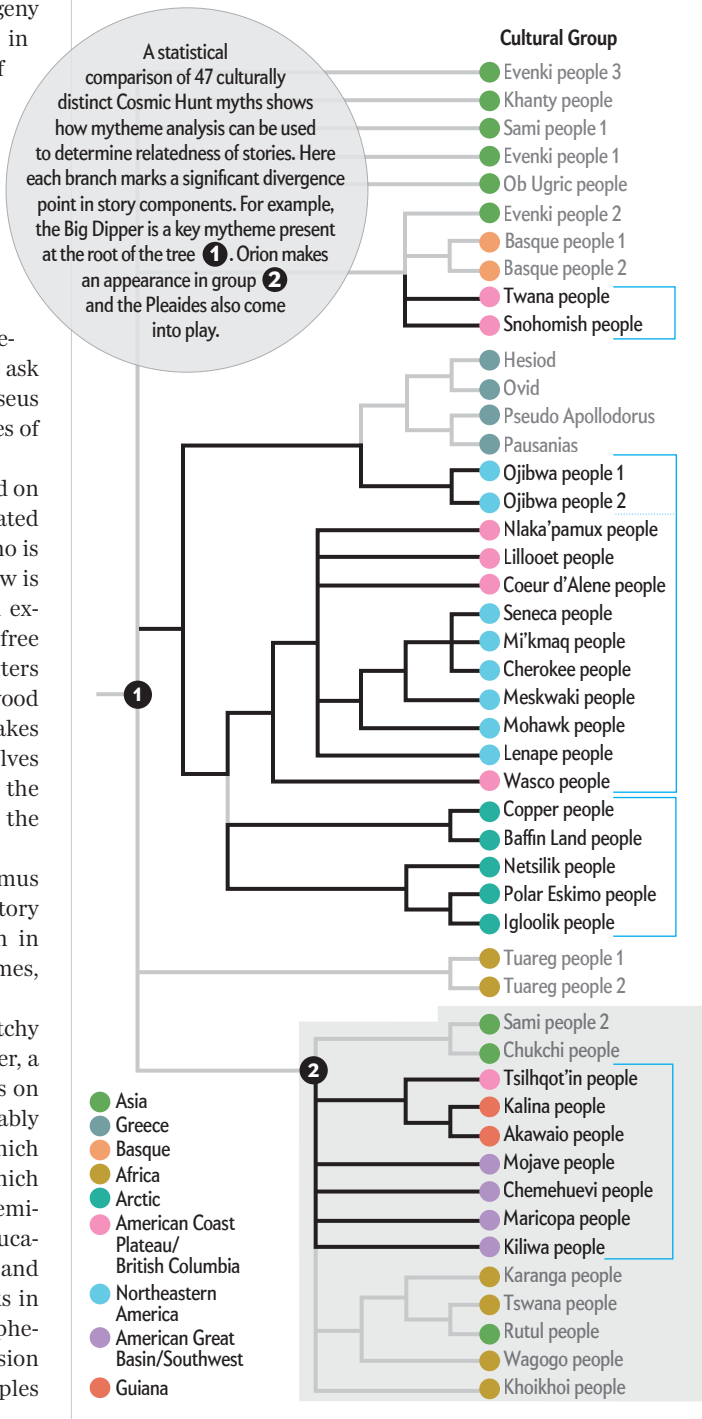
A composite phylogenetic tree of the family of Polyphemus myths indicates that the stories followed two major migratory patterns: The first, in Paleolithic times, spread the myth in Europe and North America. The second, in Neolithic times, paralleled the proliferation of livestock farming.

One version of the Polyphemus story, conserved in a sketchy form in Switzerland, may preserve an old form: The monster, a dwarf with one eye found by a hunter, is a master of beasts on a mountain. But this form of the story disappeared, probably as glaciers advanced during the Last Glacial Maximum, which peaked around 21,500 years ago. Then a new version, in which the monster resides in a shelter, appears to have been disseminated, thanks to successive migrations from areas in the Caucasus and Mediterranean that had provided refuge for people and other biological species from severe climate changes. Links in the phylogenetic tree suggest the Homeric versions of Polyphemus created an oral tradition with an independent diffusion among many groups, for instance, the ancestors of the peoples of modern-day Hungary and Lithuania.

GENEALOGY OF MYTHS

Family Tree

Analysis of variations in Cosmic Hunt myths using several different statistical models reveals that the humans who first populated the Americas brought the stories with them when they crossed the Bering Strait land bridge from Siberia more than 15,000 years ago. Branches in this model indicate how versions of the myth passed from generation to generation and to different cultural groups during four successive waves of migration.



SOURCE: JULIEN D'HUY

SCIENTIFIC AMERICAN ONLINE Listen to a podcast about the evolution of myths at ScientificAmerican.com/dec2016/myths

Graphic by Jen Christiansen

QUEST FOR ANCESTRAL PROTOMYTHS

PHYLOGENETIC RECONSTRUCTIONS of both the Polyphemus and Cosmic Hunt stories build on decades of research by scholars who based their work primarily on oral and written versions of folktales and legends. The current models also incorporate empirical observations of mythological motifs in prehistoric rock art. Similarities in certain rock art motifs and the reconstructed stories open a new window on the mental universe of the first humans who migrated across the Bering Strait to the New World between 30,000 and 15,000 years ago.

In the myth of Polyphemus, as its original public most likely heard it, a hunter faces one or many monsters that possess a herd of wild animals. He enters the place where the monster keeps the animals and finds his way out blocked by a large obstacle. The monster tries to kill him. The hero manages to escape by clinging to the underbelly of one of the animals.

This protomyth—revealed by three separate phylogenetic databases, many statistical methods and independent ethnological data—reflects the belief, widely held by ancient cultures, in the existence of a master of animals who keeps them in a cave and the need for an intermediary to free them. It could also be part of a Paleolithic conception of how game emerges from an underworld. At the Cave of the Trois-Frères (or "three brothers") in the French Pyrenees, frequented during the upper Paleolithic, a panel shows a small creature with the head of a bison and the body of a human, which seems to be holding a short bow. Lost in the middle of a herd of bison, another animal, similar to a bison, turns its head toward the human hybrid, and the two creatures exchange gazes. On examination, the left rear thigh of the "bison" is not the thigh of a ruminant; its proportions are much smaller, like a human thigh—so much so that archaeologist André Leroi-Gourhan took it for a human silhouette. Moreover, the artist has meticulously drawn the anus and the vulvar orifice. These two elements can be compared with some Amerindian versions of the Polyphemus story, where the man hides himself in the animal by entering its anus.

The first version of the Cosmic Hunt, the ancestor of all the other accounts of the story of Callisto, reconstructed from three different databases, would have gone like this: A man is hunting an ungulate; the hunt takes place in the sky or ends there; the animal is alive when it is transformed into a constellation; and this constellation is the one we know as Ursa Major.

This reconstruction of the Cosmic Hunt story might explain the famous Paleolithic "well scene" found in a cave in Lascaux, France. The intriguing lone black spot near the bison's withers would thus be a star. The fixedness of the animal, which does not give the impression of actually charging, would make sense if it represented a constellation rather than an action. Moreover, according to some experts, the man might be upright and the bison ascending, which echoes the rise into the sky of the protomythic animal. Finally, the black stains on the ground under the bison suggest the bloodstained autumnal leaves of the hunted animal.

Linking a mythical story and a Paleolithic image is tricky. These examples serve simply to illustrate the interpretive power of the phylogenetic method, which makes it possible to propose plausible hypotheses and to recover stories that disappeared long ago.

PRIMEVAL DRAGONS AND SERPENTS

MY CURRENT RESEARCH LENDS credibility to the out-of-Africa theory of human origins, asserting that anatomically modern humans originated in Africa and spread from there to the rest of the world. It complements phylogenetic studies by biologists that indicate the first major wave of human migration radiating from Africa followed the southern coastline of Asia, peopled Australia some 50,000 years ago and reached America from an East Asian source. Both the biological and mythological research point to a second migration reaching North America at more or less the same time from a North Eurasian source.

I recently constructed a phylogenetic supertree to trace the evolution of serpent and dragon myths that emerged during those early waves of migrations. One protonarrative that most likely predated the exodus from Africa includes the following core story elements: Mythological serpents guard water sources, releasing the liquid only under certain conditions. They can fly and form a rainbow. They are giants and have horns or antlers on their heads. They can produce rain and thunderstorms. Reptiles, immortal like others that shed their skin or bark and thus rejuvenate, are contrasted with mortal men and/or are considered responsible for originating death, perhaps by their bite. In this context, a person in a desperate situation gets to see how a snake or other small animal revives or cures itself or other animals. The person uses the same remedy and succeeds. I constructed this protomyth from five separate databases by varying both the definition of serpent/dragon and the units of analysis, including individual versions of the same tale type, types of serpents and dragons, and cultural or geographical areas.

Eventually I hope to go back even further in time and identify mythical stories that may shed light on interactions during the Paleolithic period between early *H. sapiens* and human species that went extinct. Evolutionary biologists have identified possible interbreeding with Neandertals, Denisovans and perhaps other archaic humans. Material exchanges, as well as language and mythological borrowings, may have also occurred. My more immediate goal is to expand and refine the burgeoning phylogenetic supertree of Paleolithic myths, which already includes stories of the life-giving sun as a big mammal and of women as primordial guardians of sacred knowledge sanctuaries. SA

MORE TO EXPLORE

A Cosmic Hunt in the Berber Sky: A Phylogenetic Reconstruction of Palaeolithic Mythology. Julien d'Huy in *Les Cahiers de l'AARS,* No. 16, pages 16, 93–106; 2013.

A Phylogenetic Approach of Mythology and Its Archaeological Consequences. Julien d'Huy in *Rock Art Research,* Vol. 30, No. 1, pages 115–118; May 2013.

Polyphemus, a Paleolithic Tale? Julien d'Huy in *The Retrospective Methods Network Newsletter,* No. 9, pages 43–64; Winter 2014–2015.

Première Reconstruction Statistique d'un Rituel Paléolithique: Autour du Motif du Dragon. Julien d'Huy in *Nouvelle Mythologie Comparée/New Comparative Mythology,* No. 3. Published online March 18, 2016.

FROM OUR ARCHIVES

Chain Letters and Evolutionary Histories. Charles H. Bennett, Ming Li and Bin Ma; June 2003.