



Arctic Studies Center Newsletter Supplement

Smithsonian Institution

National Museum of Natural History

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www.mnh.si.edu/arctic

Chinggis Khaan: 800 Years of Mongolian Statehood

WELCOME FROM THE DIRECTOR

William W. Fitzhugh, Director of the Arctic Studies Center

Sain Banu!!! Welcome to the Smithsonian's festival celebrating this anniversary of Mongolia's birth as a nation! 800 years ago Chinggis Khaan, born in 1162 as Temujin, unified the warring Mongol tribes and built an empire stretching from the Pacific Ocean to the Hungarian plains. During the first week of October, 2006, the National Museum of Natural History, together with the Embassy of Mongolia and the Smithsonian Associates present a special three-day program to bring the art, culture, and history of this little-known region of Central Asia to the American public and the wider world. During this period we will present a cornucopia of musical performances, seminars, workshops, lectures, films, art and photography exhibits, and scientific demonstrations that will bring ancient and modern Mongolia to life.

To many Americans, Mongolia seems as distant as that day in the 13th century when Temujin was proclaimed Khan of all Mongol peoples and received the title 'Chinggis Khaan.' In the succeeding three hundred years Mongol hegemony and influence spread throughout much of central Eurasia, as it did also at the end of the Ice Age when Mongol-related peoples immigrated into the Americas, via Bering Strait, first as ancestors of American Indians, and later as its Eskimo peoples. Throughout most of the 20th century Mongolia was hidden from the West as an occupied border state contested by the Soviet Union and China, and nearly half of its people and territory (Inner Mongolia) were absorbed into China. Emerging from Soviet dominance in 1990, Mongolia claimed its independence and has begun to modernize its economy, education, and political systems and has re-joined the free democratic world.

Mongolia at 800 is vastly different in 2006 that it was even five years ago when I first started archaeological studies of its Bronze Age monuments in 2001. But what a half-century of Soviet domination and Chinese influence never could change was the spirit and openness of Mongolia's independent-minded people. Year after year I marvel at the beauty of the Mongolian country, the open hearts of its people, and the traditions that

Mongolians have maintained, reaching back over the centuries.

Experiencing this festival, I think you will recognize there is a little 'Mongolia' in all of us. We welcome Mongolia back into the wider circle of cultures and acknowledge the contributions they have made to the world over the past millennium. Due to the wonders of modern DNA science we are told that we are all, to some small degree, descendants of Chinggis Khaan. I guarantee that through this festival and its educational programs you will experience your Mongol relatedness in different ways than millions did in the 13-14th centuries!

WELCOME FROM THE AMBASSADOR

Ravdan Bold, Ambassador to the United States

In the heart of the vast Eurasian plateau only one nation sandwiched between two giants survived without being swallowed up like numerous others.

That nation is Mongolia, a land of seemingly endless steppe and barren sand dunes bordered by snow-capped mountain ranges — a land known for centuries for its warriors and its nomadic life style. This year Mongolia is celebrating the 800th anniversary of its founding by Chinggis Khaan, recently named by *The Washington Post* as "Man of the Millennium". He not only consolidated Mongolia's warring tribes into a unified state in early 13th century but also promoted religious tolerance, pluralistic thinking, free trade, and international diplomacy long before these values were appreciated by many other nations, values which the free world has been striving for since the end of Cold War.

Despite foreign dignitaries and tourists from all over the world flocking to this ancient land to become acquainted, most people in the United States know little about Mongolia. For this reason, the Mongolian Embassy in Washington, D.C. and the Smithsonian's National Museum of Natural History have joined together to host a special anniversary festival introducing Mongolia's history, culture, musical traditions, folk art, and contemporary life to Washingtonians and Smithsonian visitors. Our collaboration celebrates the rapidly growing bilateral ties between Mongolia and the United States of America and brings the good wishes of Mongolians everywhere to the people of America.



Chinggis Khaan: 800 Years of Mongolian Statehood

National Museum of Natural History

Event Schedule
Friday-Sunday, October 6-8, 2006

Welcome to the family festival in celebration of 800 Years of Mongolian Statehood! Please join us for special events throughout the weekend at the National Museum of Natural History. Activities include art displays, storytelling, dancing, movies, music, scientific demonstrations with Smithsonian scientists, and children's activities.

Photographic Displays

National Geographic: Mongolia: A Century of Photographs

Gordon Wiltsie: Mongolia

Elaine Ling: Mongolian Portfolio
Collections from the Mongolian Embassy

FRIDAY, OCTOBER 6

*Festival Hall, Second floor,
10am-5pm*

See the beauty of Mongolia in photography displays; visit a ger (traditional Mongolian home), or stop in for children's activities. Visit with **Rachel Suntop**, clothing artist, and **Elaine Ling**, photographer.

SATURDAY, OCTOBER 7

*Festival Hall, Second floor,
10am-5pm*

See the beauty of Mongolia in photography displays, talk with artists, learn how to felt, or discuss current research with Smithsonian scientists. **Chris McKee** discusses the making of the documentary, *Mujaan*. Visit with **Rachel Suntop**, clothing artist, and **Elaine Ling**, photographer.

11:00 Mongolian Storytelling
12:00 Musical performances including overtone singing, traditional long songs, and the horse head fiddle
1:00 Opera performance by **Saran Erdenebat**
2:00 Mongolian shaman dance
2:30 Buddhist Tsam dance (with masks)
3:00 Children's performance featuring two young dancers, **Khongorzul Khosbayar** and **Zolboo Munkhbaatar**

SPECIAL EVENT SATURDAY

Baird Auditorium, Free to the Public, 7pm

The Mongolian Image in Western Cinema

Lecture with Film Clips

Location: National Museum of Natural History, Baird Auditorium (enter Constitution Ave)

Myagmar Saruul-Erdene shows film clips and discusses how

the West's perception of Mongolia is greatly influenced by portrayals of the country in film — from early caricatures of Genghis Khan by John Wayne and Omar Shariff to the majestic landscapes of *The Story of the Weeping Camel*.

SUNDAY, OCTOBER 8

Festival Hall, Second floor, 10am-5pm

See the beauty of Mongolia in photography displays, talk with artists, learn how to felt, or discuss current research with Smithsonian scientists.



Tsam dancer

11:00 Mongolian Storytelling
12:00 Musical performances including overtone (throat) singing, and the horse head fiddle
1:00 Mongolian shaman dance
1:30 Buddhist Tsam dance (with masks)
3:00 Children's games with local Mongolian school children

MONGOLIAN FILM SERIES

11:00 **The Story of the Weeping Camel** (Germany-Mongolia, 2003, 87 min)
An enchanting film that follows the adventures of a family of herders in Mongolia's Gobi region who face a crisis when the mother camel unexpectedly rejects her newborn calf after a particularly difficult birth.

12:45 **Tribe: Darhad** (UK, 2005, 50 min)
The Darhad herders of Outer Mongolia are some of the last nomadic people on the planet. Explorer Bruce Parry joins a family for their arduous winter migration. He finds the going tough as he helps them herd their three hundred animals across a high mountain pass.

2:00 **Balapan, Wings of Altai** (France, 2005, 52 min)
In the Deloun Valley of western Mongolia, nomadic herdsman struggle to keep their sheep alive by hunting wolves with eagles. Hamid Sardar captures one boy's journey as he becomes an eagle hunter.

3:00 **Cave of the Yellow Dog** (Germany-Mongolia, 2005, 93 min)
From the director of *The Story of the Weeping Camel*, comes a tale of the bond between a young girl and a dog. Believing that it is responsible for attacking his sheep, her father refuses to allow her to keep it.

4:40 **Genghis Khan** (UK, 2004, 60 min)
This BBC film looks at the history and the legend of Genghis Khan.

ARTISTS AND PERFORMERS
SARAN ERDENEBAT

Mrs. Saran Erdenebat studied at the University of Culture and Arts between 1991-1996 and graduated with the profession of a singer and the degree of the Bachelor of Arts. Later she earned the degree of the Master of Arts by studying at this university between 1996-1998. Since 2001, she has been working for the Mongolian State Academic Theatre of Opera and Ballet as solo singer.



Mrs. Saran Erdenebat

“THE GREAT STORY OF MONGOLS”

The Great Story of Mongols, Inc., is a non-profit cultural organization founded by Ganna Natsag and Sansar Sangidorj and staffed by world-class professional Mongolian artists. The company’s objective is to bring the one of a kind cultural experience and tradition of Mongolian nomadic music and lifestyle to the wider audiences of the United States and the Western World.

The company is currently producing a dramatic full-scale cultural stage-show called, the Great Story of Mongols, which showcases live traditional Mongolian performances, such as Khoomei, Tsam Dance, Shaman Dance and Drum show, to name a few, combined with breathtaking collections of traditional Mongolian costume fashion show (such as Tsam, Shaman, Warrior, and ethnic costumes) presented with the originally composed combination - traditional Mongolian and modern electronic - music.

The Great Story of Mongols, Inc. also produces

- Mongolian Festivals for 1 to 2 days (includes 2 to 3 Ger or Yurts, fully furnished)
- Mongolian Traditional Art and Crafts workshops and exhibitions
- Live performances of traditional Mongolian song and music
- Traditional Mongolian and Contemporary Costume Fashion Shows.

For more information please visit us at www.storyofmongols.org; Email to contact@storyofmongols.org; or Call 703-868-6700.

ABOUT THE GREAT STORY OF MONGOLS; A STAGE SHOW

The Great Story of Mongols begins with a brief video introduction and a Story Teller narrating an ancient tale where Burte Chono (the Grey Wolf) with his wife, Goo Maral (the Beautiful Doe), settled on the banks of the River Onon and

started the nation of the Mongols.

The Shaman Dance. It has been passed on to us that the Great Chinggis (or Genghis) himself practiced Shamanism. From the ancient times the Mongols revered the Eternal Blue Sky. The trinity of the Eternal Sky, the Earth and the Human-kind constitutes the cornerstone of Shamanism in Mongolia.

The warrior drummers tell the story of Temuujin, an orphan boy who would grow up to be the greatest Warrior the world has ever known. In 1206, Temuujin - the Chinggis Khaan - founded the Great Mongol State by uniting the feuding nomadic tribes spread across the steppes of Central Asia. A live performance of Khoomei, a traditional Mongolian throat singing, accompanies this presentation.

Tsam is an ancient form of mystic dance using masks, which has origins in Buddhist tantric traditions. The Mongolian Tsam festivals incorporate the folk art and traditions, which are rarely surpassed by any other in its artistic expressiveness and craftsmanship. The biggest and the grandest Mongolian Tsam Festival, the Ih Huree Tsam, was held annually between the years of 1811 and 1937 a total of 126 times. At the height of Buddhist practices in Mongolia 500 of the 700 monasteries that existed there at the beginning of the 20th century held Tsam festivals unique to each locality, customs, and traditions.

In the 1990s, individual artistic expression free of ideology became possible as a result of the collapse of the communist regime in Mongolia. The contemporary and abstract designs showcased here were inspired by the traditions and lifestyle of historic and modern Mongolia.

The Project Team would like to thank and acknowledge artists and craftsmen of Gooertunts Society.

About our Staff:

Gankhuyag Natsag (Director & Designer) is a designer and a master craftsman of costumes and masks (including paper-mâché). He graduated from the State Pedagogical University of Mongolia with a major in Fine Arts. Since 1985, Ganna’s masterpiece exhibitions have been presented in numerous folk and traditional art festivals all over Europe and the US, e.g. Belgium, Denmark, France, Germany, Italy, Russia, Switzerland, New York and the National Geographic Society in Washington, DC. In 1992, Ganna opened his Art Studio named “Bi-Bid” in Mongolia.

Sansar Sangidorj (Executive Producer & Composer) earned a Master of Fine Arts degree with high honors from the Moscow Conservatory. Sansar also pursued advanced studies in composition in Moscow, Madrid, and Dartmouth College, USA. In 2000, he composed *Khara Khorum*, a highly acclaimed musical piece, commissioned by the Silk Road Project (founder Yo-Yo Ma). His music has been performed in China, Germany, Holland, Mongolia, Poland, Russia, Spain, and the United States. As a pianist, he has primarily played his own works.

Alimaa Jamiyansuren (Public Relations & Marketing) holds a BA degree, in Economics, from Bryn Mawr College and a Master’s degree, also in Economics, from Tufts University, USA. Alimaa worked at prestigious economic consulting firms in New York, NY and Princeton, NJ. A public relations board director of the Washington, D.C. Area Mongolian Community Association, she continues to combine a career in public relations with one in economic consulting.

Hulegu Battumur (Manager and Musician) completed the Music College of Mongolia as a classical instrument percussionist. He also received a BA degree, in Art Management, from the Art University of Mongolia. As a percussionist, Hulegu worked at the Mongolian Philharmonic Orchestra where he also acted as the General Manager of the Orchestra.

Davгаа Otгон (Artistic Director and Dancer) is a Khoomei singer and dancer. Davгаа graduated from the Music College of Mongolia and studied at the Art University of Mongolia majoring in dance choreography. Davгаа worked as a Khoomei singer and a dancer at the Tumen Ekh ensemble, the national ensemble of traditional Mongolian song and dance.

Bold Batchuluun (Coordinator and Actor) is a professional actor with a BA degree from the Art University of Mongolia who played lead roles in a number of successful stage productions in Mongolia. He also writes short stories, comedy pieces, and poems. His voice talents have been showcased as a presenter, poetry reader, and a host in various stage and TV events.

Ganbold Chuluunbaatar (Webmaster) is a graphic designer with a BA degree, in costume design, from the Art University of Mongolia. Ganbold completed his studies at the Kiahoga Falls Art Institute in 2002 where he specialized in art and design. Currently, he is studying computer graphic design and the 3D animation at the Kent State University.

MUSIC IN MONGOLIA

Natanya Zagorski

Music in Mongolia is diverse, ranging from classical or artistic music to regional and national folk music, to music associated with Buddhist and Shamanist rituals, to heavy metal, jazz, rap, and all possible combinations of the above. Mongolian music¹ reflects ethnic diversity within Mongolia and the cultural proximity of its neighbors. The vibrant Mongolian pop and rock scenes, which first emerged approximately two decades ago, provide a unique and fascinating Mongolian perspective on globalization.

Mongolian Traditional Music

Traditional music in Mongolia evolved from sounds in nature.² The main traditional musical instrument is the horse-headed spike fiddle, or *moorinkhur*. According to legend, a skilled and heroic young herdsman's beloved horse was killed by a witch in the form of a jealous wife. The grieving herdsman collected his horse's remains and created the first *moorinkhur*. The story of the origin of the *moorinkhur* resembles other instrument origin legends of Northern Eurasia, and shows peoples' love for, and interrelationship with horses. Bards who play *moorinkhur* are called *uligershin*. Some scholars believe that the *moorinkhur* has shamanic origins, since the staffs of Mongolian shamans often

sport carved horses' heads. As in other northern Eurasian cultures, the roles of Mongolian shamans and bards often overlap; one of the shaman's roles is to preserve the history of the people by singing epic songs. In addition, music is a central part of both Shamanist and Buddhist ritual; the two belief systems have coexisted and overlapped in Mongolia for many hundreds of years.³

Other types of musical instruments include the *limba*, or flute, often used to accompany shepherds' songs in eastern Mongolia. Other types of flutes include the *surnai* or the *tsuur*. Shamanist and Buddhist rituals often employ percussion instruments.⁴ The *hel khuur*, or Jew's harp is found in Mongolia, Central Asia, and Siberia; playing it requires techniques similar to overtone singing, or using the mouth as a resonating chamber while singing to make multiple notes. The *khun tovshuur*, a two-stringed lute similar to those of Kazakhstan and the Altai region in Siberia, is swan-shaped and strung with horsehair. It is also used to accompany singers of *tuuli*, or epic heroic myth songs. The *yatga*, or "half-tubed zither with moveable bridge," was a highly important ritual instrument, played in the palace or during musical interludes in epics.

It is impossible to give an overview of Mongolian music without mentioning the *urtin duu*, or "long song."⁵ The *urtin duu* symbolizes freedom on the steppe, and has traditionally been sung while riding along slowly, solo. *Urtin duu* can embody individual expression, love, and unity with nature.

Mongolian Popular Music

Mongolian rock developed as an underground genre during the '70s and '80s; however, the Socialist government eventually began promoting rock when its popularity first became evident.⁶ Mongolia's Socialist government had promoted folk

music very heavily, and early Mongolian rock in the '70s drew on folk music themes with which everyone was familiar. Mongolia's best-known rock singer, **Jargalsaikhan**, known by his black leather jacket and long curly hair, indirectly influenced the independence movement with his hit song "Chingis Khan" (Ghenghis Khan) in 1988, and is now a leader of a band by the same name.

Jargalsaikhan notes in an interview with MongolianExpat Magazine that prior to that time, under the Socialist government, few people knew very much about Genghis Khan as a national hero. However, people kept Genghis Khan's memory alive through indirect means; Jargalsaikhan's father, a sculptor, created a stature of a local hero for the city of Khovd, but explained to the young **Jargalsaikhan** that the statue was actually of Genghis Khan, explaining that "The traditional stories and heroes can never be wiped out by oppressors."

Another key pop singer is the female singer **Ariunaa**. Described by ethnomusicologist **Peter Marsh** as "Mongolia's answer to Madonna," Ariunaa enjoys a wide popularity within Mongolia.⁷ Fans admire her for her unusual singing style, provocative subject matter, and charisma.⁸



M. Araanziin Bat-Ochir

Enka-style songs are also popular in Mongolia.⁹ *Enka* is a nostalgic Japanese musical genre originating in Meiji-Era popular and folk music. **Enka** songs are usually gentle and melancholy, in pentatonic scale with Western instruments.¹⁰ Given that **Enka** features pentatonic scales like Mongolian music and that Mongolia is not far from Japan, it is not surprising that **Enka** is popular in Mongolia.

Mongolia has its share of youth bands, such as the hugely popular boy band **Camerton**. Their first song, “Maamuu Naash Ir,” became such a popular children’s song that it is considered a second Mongolian anthem. The members of **Camerton** make frequent appearances on MTV Asia and have also learned to sing in Chinese in order to expand their audience. Noteworthy girl bands include Spike, Nomiin Tast, and Sansara.¹¹

Like its neighbor Tuva, which generated world-music circuit favorite band **Yat-Kha**, Mongolia has its share of heavy metal bands, such as **Hurd** (“speed” in Mongolian). **Hurd**’s music imparts a particularly “soft” and unique Mongolian flavor by incorporating Mongolian ballads and classical instruments into their songs.¹² Jazz aficionados may enjoy the group **Borte**, self-described as “Mongolian Ethno Jazz.”¹³

Traditional and popular music coexist peacefully in Mongolia. One quote from a member of **Hurd** is very telling; in describing Mongolian heavy metal, he notes, “We are a young country and this is the music of young people...we are not ignoring traditional long song. It still exists.”¹⁴ Traditional music is part of what makes Mongolian popular music unique.

(Footnotes)

¹ <http://www.soundtransformations.btinternet.co.uk/MongolaimusicEnsembleTumbash.htm>

² http://www.greenkiwi.co.nz/footprints/mongolia/mong_music.htm

³ (http://worldmusic.nationalgeographic.com/worldmusic/view/page.basic/country/content.country/mongolia_541)

⁴ <http://www.soundtransformations.btinternet.co.uk/MongolaimusicEnsembleTumbash.htm>

⁵ For more information on urtin duu, see <http://www.soundtransformations.btinternet.co.uk/MongolaimusicEnsembleTumbash.htm>

⁶ <http://mongoluls.net/ger/sing.shtml>

⁷ For Ariunaa’s personal website, see <http://ariunaa.htmlplanet.com/>

⁸ <http://mongoluls.net/ger/sing.shtml>

⁹ http://en.wikipedia.org/wiki/Music_of_Mongolia

¹⁰ For more information on Enka, see Scandinavian historian Ainur Elmgren’s website, <http://www.ainurin.net/enka.htm>.

¹¹ For more information on Mongolian all-girl bands, see http://ubpost.mongolnews.mn/index.php?subaction=showfull&id=1110434285&archive=&start_from=&ucat=7&

¹² To learn more about Hurd, see <http://mongoluls.net/ger/hurd.shtml>

¹³ To learn more about Borte, see http://worldmusic.nationalgeographic.com/worldmusic/view/page.basic/album/content.album/borte_1_mongolian_ethno-jazz_9858), or Borte’s own website, <http://borte.calabashm>.

¹⁴ See <http://mongoluls.net/ger/hurd.shtml>.



M. Badam Bolormaabw

TRAVELS IN EAST TAIGA TO ABANDONED CAMPS ALONG THE MONGOLIAN-RUSSIAN BORDER

By Paula DePriest, Museum Conservation Institute, Smithsonian Institution

For the Mongolian steppe dwellers, the coniferous taiga is an important source of natural resources. It is the source of firewood, wild game, medicinal plants, and other goods that are required to supplement the herding lifestyle. In addition, for Mongolians it is a place of special shamanistic powers and scared sites marked by ovoos that are also associated with animal spirits and healing herbs. For the reindeer herding Dukha of the Sayan Mountains along the Mongolian border with Tuva and Russian Siberia, the taiga is spiritual home, seasonal pasture, and hunting ground. Their access and command of its special resources provides their unique identity among Mongolian ethnic groups. As with their taiga, the Dukha represent the meeting of north and south, and Chinese and Russian influences. Linguistically and ethnically they are Tuvan, although the closing of the Tuvan border first in the 1950s and with increased enforcement in the 1990s has virtually isolated Dukha and Tuva relatives.

In the past years the Deer Stone Project’s botany team led by Paula DePriest has been exploring the taiga territory with guides from the Western Taiga Dukha. These territories include hunting grounds, plant-gathering places, and traditional, but now abandoned, reindeer seasonal pastures. The team is conducting plant community reconnaissance and collecting representative vascular plants and lichens with special emphasis on those used by the Dukha as pasture for reindeer or medicinal plants. In 2004 a group including

Greg McKee,
Debbie Bell,
O. Sukbaatar,
Oyunbileg,
and Uundra,



Dukha guide *Bayanaa* collects flowering plant along the Ulaankhad Gol in June 2006.

traveled with Dukha guides along the Jams and Joloc Rivers to locate Siberian fir (*Abies sibirica*) that was used as a healing plant by Dukha Shaman **Suyan**, now deceased. In 2005

Sukhbaatar, J. Oyumaa, Oyunbileg, a cook **Tegshbayar**, and Dukha guides traveled to the Bussingol Depression along the Tuvan border. This area is notable as the spiritual homeland for shamans of the Soyot clan, the hunting grounds for Dukha and ethnic Darkhats, and traditional pastures for the overlapping migrations of reindeer herders that until the late 1950s crossed today's Tuvan-Mongolian border. Now fifty years after closing of that border and the cessation of herding in the valley, the Bussingol Depression shows ecological succession with increase shrubs and trees and reduced grass steppe.

This ungrazed area provides an important comparison for studies of Darkhat pasture health. In 2006 and 2005 the botany team also collected flowering plants at the Gol Mod II Royal Cemetery in Arkhangai Aimag's Erdenemandal Soum, and in 2006 were joined in that site by Batmaatsetseg of the Mongolian Museum of Natural History. Shaman researcher and ethonobotanist **Marilyn Walker** and translator **Amara** joined the team for work at Gol Mod and in the Dukha spring and summer camps.

This year the botany team, Paula, Mongolian botanists **Oyumaa** and **Oyunbileg**, and cook **Olzii**, traveled with Dukha guides **Sanjim, Bayanaa, Batmunkh, Enkhbat, Lhagvasuren, Tataar**, and **Tsogt-Ochir**, on a 100 Km horse-back circuit starting from the Shishhid Gol ferry crossing of north of Tsaagannur, June 15-24. The Shishhid Gol is a tributary of the Yenesei River draining through Tuva and Siberia into the Arctic Ocean and divides the current East and West Taiga territories, north and south respectively. From the ferry crossing we traveled west along the north shore of the Shishhid Gol to the mouth of Tengis Gol. Passing through this area we saw a bronze age khereksur, and Chinggis Rock and Fence, a rock dome and line of rocks with surrounding circular rock features reported to have been constructed during the Chinggis Khan period. **Chinggis Khan** (more likely his son **Joci**) is reported to have visited the confluence of the Tengis and Shishhid Gols to accept the peaceful surrender of the People of the Forest in 1207/08 leaving footprints and a fence of stacked stones. The Tengis Gol is a doubly important site for Mongolians as legend dictates that the Mongol clan originated from a

blue-grey wolf and a fallow doe along a body of water named 'Tenggis.'

The Tengis valley is broad and glacier carved. Ice dams

extending from the Tengis glaciers are proposed to have blocked the Shished River during the Last Glacial Maximum forming a lake of the Darkhat Valley. Continuing north and up along this Valley, and northeast along an ice-filled tributary, we reached the Ulaankhad Gol, and turned north to an unused reindeer summer pasture along the Russian border. The nearby summer camp was adjacent to a 30M waterfall with deep river gorges above and below, demonstrating the glacier formation of these valleys. From the border we turned south, passing through the East Taiga spring pastures, and visited the 10 ortzes of the East

Taiga's early summer camp. At this camp, we were the first to use the two new guest ortzes established to minimize the impact of frequent guests on fragile pastures. After leaving the East Taiga camp, we traveled to south sacred Tibetan Buddhist sites on Renchinkhumbe Mountain. Two ovoos, one the ridgeline and one summit of the south peak were used for worship by ethnic Darkhats during the two hundred years of the Buddhist ecclesiastical estate, Darhad Ih Shavɔ. The oovo on the lower ridge was the site of annual readings of sacred texts until its suppression in the 1930s. Since the 1990s, the site is being restored with new ovoos and including carved plaques with Tibetan writing. Ten days after our departure we returned to the Shishhid Gol ferry crossing and to Tsaagannur.

Our route along the Tengis Gol and its tributaries was a major herding area for Dukha until resettlement of the herders closer to the supply sites at Tsaagannur. Traditionally, the area was connected to the reindeer herding area of northern Tuva by a major trail, with the seasonal migrations crossing today's border. Lead guide **Sanjim**'s family escaped from Tuva in 1946 to settle in this area; we visited the camp of his relatives at the confluence of the Shishhid and Tengis Gols and in the East Taiga camps. Also, **Sanjim** located the poles of the ortz in the last fall camp his family used along a tributary of the Tengis Gol. Today both Dukha and Darkhat use this area for some hunting and fishing, especially in the winter when the rivers are frozen making travel by reindeer easy. The only wild game that we saw was two prong horn deer along the Tengis Gol, however, it is reported that the river valley to the west of Tengis Gol is supports a herd of wild reindeer. Use of these seasonal pasture along the Tengis Gol



Botany Team examines carved Tibetan Buddhist plaques at the oovo on the south peak of Renchinkhumbe Mountain.



Dukha guide Sanjim locates the ortz poles of his family's last camp along the tributaries of the Tengis Gol.

would significantly increase the carrying capacity of reindeer for the Sayan Mountains, but this would require protection of the area with control of hunting to increase the wild game, herd-building support such as importing appropriate Sayan breeding stock from Tuva, and infrastructure development to support year-round habitation by herding families. This will support the traditional role of taiga as natural storehouse for the adjacent steppes.

For the time being, the taiga remains a source of goods for sale in Hovsgol Aimag markets. On Renchinlkhumbe Mountain we encountered two women collecting the traditional Mongolian medicinal plant sawwort – *Saussurea* sp. Our group also documented this plant in flower along the Ulaankhad Gol as well as on Renchinlkhumbe Mountain. The plant, a mainstay of Mongolian traditional medicines, has special restrictions for collection. Its roots are only collected on overcast days, such as the day we were on the mountain. This plant is still traded to the regional centers, and by the time we reach the market in Moron, *Saussurea* from this area, perhaps the same that we saw collected, was one of more than ten taiga plants offered for sale.

CULTURE ON CLOTH IN MONGOLIA

By Judith Varney Burch

Mongolia was a complete unknown for me, **Bill Fitzhugh** is the only person I know who has been there. Sitting in his kitchen in Washington, I asked where should I take the “Culture on Cloth” exhibition next, and he suggested Mongolia. I have had the good fortune of lecturing in Mexico, Japan and many places in China. So with the backing of the Canadian embassy, last October I made my way to UlaanBaatar, Mongolia with no notion of what it would be like.

When I arrived in UlaanBaatar, I was shocked. A treeless city, full of square Russian cement buildings. After the first few days of museums and wandering, I left for Dalanzagad, the airport in the Gobi. The area is quite desolate and the housing minimal and windswept with sand and gravel. My sister **Kathy**, who sponsored this part of the trip, and I got into a Russian land rover with our interpreter and a driver. We headed out over a pink and yellow gravelly area called the Gobi. Five hours later we saw our first car. People were scarce although we did see gers (I had known them as yurts) and the occasional herders with camels, ponies, or sheep.

It was the end of the tourist season and we were heading to a ger camp. At the first camp, we had the privilege of having a Mongolian couple entertain us after dinner. An instrument similar to a long zither was accompanied by singing. But the most amazing thing for me was the gentleman throat singing. I am accustomed to two women throat singing in the Canadian Arctic, and I was thrilled at this connection and eager to share this with my Arctic friends. This was the first of many connections I realized, between Mongolia and the Arctic.

The food was plentiful, to the point that my driver was renamed “Second Stomach” as I often pushed unfinished plates in his direction. Walking off with our guide I felt as if I were on the moon, with no one around there was a vastness that was unequalled. It seemed to go on forever. At one gorge we wandered in and saw a beautiful family wearing delts and

carrying food for a day’s picnic in the gorge, I yearn for a del in chilly Nova Scotia.

We did the prescribed camel ride up on the dunes, luckily these camels were much more comfortable than the ones I’ve ridden in Egypt; they have 2 humps and are more like a recliner! After 4 nights on the Gobi in gers, it was time to fly back to UlaanBaatar. As soon as I arrived in UlaanBaatar things looked different, I am far more acclimated to Mongolia now. My sister left shortly thereafter, and my work began. The person I worked with at the Canadian consulate – **Saruul**, is effective, warm and wonderful. I worked with many other strong and competent women at the Arts Council of Mongolia. My exhibition of 19 wall hangings from Baker lake in Nunavut, “Culture on Cloth” was hung at the Mongolian Modern Art Museum. After the exhibit was up and before the actual opening, I had time to wander around in UlaanBaatar. I fell in love with the place and the people. While wandering around, the smiles and nods particularly from the older women were heartwarming. I adored UlaanBaatar, even after my first reaction – the people, the place, the shops, the museum folks – all are wonderful.

The exhibition is visually accessible to all people, so it was a terrific success according to the Canadian Embassy folks from Beijing. This was their first cultural exchange in Mongolia. I lectured to university students, master’s students and professors as well as working with 8 year olds. Working with young people began in Beijing and was met with such success, we did it again in UlaanBaatar. The children make astounding connections between cultures. The children then made small wall hangings of their own culture which have now been sent to Baker Lake. I want the artists to be recognized as significant for their work which has become a stepping stone of cultural awareness about the Arctic to people in Asia. I have asked that these artists help the students create wall hangings of Baker Lake today which will then be sent back to Beijing, Kunming, UlaanBaatar and Nanjing. All of the works of the children in these other areas, have now been received as gifts to the school.

The women in Baker Lake, who have written their story on cloth, have made the world a smaller place. The Canadian Embassy has done a superb job celebrating their Canadian art by sharing it with others around the world. I am a small link and have adored seeing this happen.

MONGOLIA AT 800

Dr. Alicia Campi

In 2006 Mongolia is home to 2.5 million people on a 1.5-million-square-kilometer (972,445-square-mile) landlocked high plateau, averaging 1,580 meters (almost 1 mile) above sea level. It has only two giant neighbors—Russia on the north and China on the south. The country has a harsh dry climate and thick forests, high mountains, and lakes in the north, but 90 percent of the land is arid grass steppes and desert (called Gobi), unsuitable for farming. For 3000 years it has been occupied by nomads mounted on horseback and living in mobile round yurt-like tents known as *gers*. Today, nearly half of the population still lives in the countryside and herds 33 million head of sheep, goats, cows, horses, and camels. The country’s population is quite homogeneous. Nearly 90 percent are Khalkha Mongol,

with the largest minority (around 7 percent) being Kazakh Turks mainly living in the western provinces. Outside the territory of the modern independent nation are Mongols in China (Inner Mongolia) and Russia (Buryatia and Kalmykia), who number another 6 million.

Mongolia traces its origins to the election of a young warrior named Temujin, who 800 years ago in 1206 was elected in a *kuriltai* (council) as Khan. Temujin chose the mystic name of Chinggis (Genghis) Khan, which perhaps means “universal or great khan.” This great military leader established the Mongolian Empire of the thirteenth and fourteenth centuries, the largest empire in world history. It stretched from Siberia, Korea, and China to Afghanistan and North India through Tibet, Central Asia including the Silk Road cities, Russia, Turkey, and Iraq to the borders of Egypt and Germany. The Mongols promoted trade, art, and cultural exchange throughout the empire, which is why historians call this period of history Pax Mongolica.

Chinggis Khan reorganized his nomadic warriors to establish a political-military system totally loyal to him. He first led his less than a half million Mongol warriors into North China, where his army developed siege techniques to attack fortified cities. Chinggis devastated the northern capital (modern Beijing), but the subjugation of all of China was completed only by his grandson, Kubilai, who in 1279 became the emperor of a new Mongol dynasty called *Yuan*. Chinggis Khan himself began campaigns against the Muslim Central Asian states and made a political-religious alliance with Tibetan Buddhists, which initiated more than 700 years of cultural and religious connections between the two peoples. Chinggis Khan died in 1227, dividing up his empire geographically among his four sons.

These sons expanded the empire further into Russia, Korea, China, Iran, and Syria, and built the empire its first sedentary capital called Karakorum in the heart of the Mongolian homeland steppe. This capital was visited by Western writers such as John of Plano Carpini, William of Rubruk, and the famous Marco Polo. During the imperial period the Mongol rulers in the four major parts of the empire usually promoted the religion and arts of the peoples they ruled. This was particularly true in Islamic and Buddhist countries. In West Asia the Mongol Ilkhans remained in power only until 1335. However, Mongol rule—“the Golden Horde”—persisted in Russia until 1502, when it was destroyed by the Muscovite state. The Mongols’ administrative practices greatly influenced Russia, and often this heritage, also known as Tatar, is credited with explaining why Russia’s culture is distinctive from other European nations.

When the Mongols were deposed in China in 1368 by the native Chinese Ming dynasty, they returned in disunity to the Mongol steppe. Mongol generals in the western regions became involved in Tibetan political and religious matters, and it was

the Mongols who established the political authority of the Dalai Lama over Tibet. At this time the Mongol people were converted to Tibetan Buddhism. Eventually, over 700 monasteries and temples were established throughout the country. In the early seventeenth century the Manchu people made an alliance with the Eastern Mongol nobles to conquer China and establish the last Chinese dynasty called Qing. Over the next three centuries this alliance disintegrated into full Manchu Chinese political and economic domination over the Mongols. With the fall of Manchu rule in China in 1911, Mongolia

was able to establish a weak Autonomous Government under a Buddhist religious leader called the Bogdo Gegen (Living Buddha). However, Republican China continued to dominate its foreign policy.

In 1921 Mongolia underwent a communist revolution with the aid of Bolshevik forces in Siberia, and became a loyal Soviet satellite from 1924 to 1990. The communists destroyed the Buddhist monasteries and purged the country of intellectuals and lamas, in their drive to establish a secular state. Chinggis Khan was banished from the history books. Although there were diplomatic and commercial contacts in the early part of the 20th century between the United States and Mongolia, full diplomatic recognition did not occur until 1987. During these socialist years, Mongolians and Americans knew little about each other. However, Mongolia did experience a few notable cultural contacts with Americans: The Roy Chapman Andrews dinosaur expeditions in the 1920s, the travels in the 1930s of the eminent



Portrait of Chinggis Khaan

Mongolist and writer Owen Lattimore, and the 1945 trip of Vice-President Henry Wallace. In 1990 the country experienced a peaceful democratic revolution, and soon thereafter adopted a new Constitution. Mongols consciously sought to revive native traditions, such as great respect for their founding father Chinggis Khan and Tibetan-style Buddhism. Today Mongolia has re-emerged internationally because of its successful adoption of both democratic and free market institutions, and because of its large untapped mineral deposits (copper, molybdenum, gold, uranium, oil, coal.).

In the post-socialist era Mongolia has developed a strong relationship with the United States. Mongolian Presidents have come several times to the U.S., and President George Bush made the first official visit to Mongolia in November 2005. The United States is Mongolia’s third largest investor, third largest foreign aid donor, and third most important trade partner. American business interests include sizable private investment in the mining, oil, cashmere goat hair, camel wool, motor vehicle, educational and tourism sectors. Mongolia was one of the first countries to offer support to the United States after the September 11th terrorist attacks and has contributed troops to coalition forces in Iraq and Afghanistan. Our two nations, despite very diverse cultures, believe they are united by important shared interests, which is why many policymakers consider the United States as Mongolia’s “Third Neighbor.”

THE DEER STONE PROJECT: EXPLORATIONS IN NORTHERN MONGOLIA

By William W. Fitzhugh

For the past five years Smithsonian and Mongolian researchers have been studying the cultures and environments of Hovsgol aimag, Mongolia's northernmost province and one of its least-known regions. Beginning as an investigation into the dating and relationships of Mongolia's enigmatic Bronze Age stone monuments, the Deer Stone Project has developed into a complex interdisciplinary anthropological, environmental, and conservation program involving researchers and institutions from the USA, Canada, and Mongolia. Results of some of the archaeological and conservation projects are presented in the Smithsonian's festival, "Chinggis Khaan's Mongolia: 800 Years of Statehood."

The Deer Stone Project was initiated in 2001 after **Steven Young** of the Center for Northern Studies at Stirling College and I visited the Hovsgol region in northern Mongolia at the invitation of **Ed Nef**, whose Santis English-language school in Ulaanbaatar served as our initial project sponsor. Thereafter the project affiliated with the National Museum of Mongolian History and the Institute of Archaeology and has been associated with researchers from the Mongolian Academy of Sciences and the Mongolian National University. Field projects and educational activities have been generously supported by the Trust for Mutual Understanding, the National Geographic Society, Smithsonian, and various private sponsors. Our work has also been assisted by the American Center for Mongolian Studies, whose Ulaanbaatar office provided logistic and organizational assistance and helped organize conferences, educational programs, and publications.

Mongolia: 'Crossroads' of Inner Asia?

When Mongolia opened its doors to the West in 1991, ending decades of 20th century domination by the Soviet Union (following centuries of subjugation by China), almost nothing was known outside China and the USSR about a region that once was the seat of the largest pre-modern empire the world has ever known. Located at the eastern end of the great Eurasian grassland steppe stretching from Manchuria to Hungary and from the Gobi Desert to the Siberian taiga forests, Mongolia lies at the crossroads of Inner Asia. Although not a center of early plant domestication, the domestication of horse, cattle, yaks, and camels in the steppes of central Asia may have had Mongolian involvement, and it has been proposed that reindeer were first domesticated in the southern Sayan Mountains of northern Mongolia and South Siberia. It also seems likely that early Mongolian peoples contributed to the spread if not the development of horse-based nomadic warfare technology and battle tactics. Furthermore, Mongolia's history includes the development of early states and empires whose origins in nomadic societies do not square with existing theories of state and empire evolution, raising interesting questions about the potential of nomadic societies for higher levels of socio-political organization.

Mongolia's central location in Inner Asia also called for studies investigating historical links between it and neighboring



Deerstones were repurposed in "square burials" by a later culture

East Asian cultures and civilizations. What was Mongolia's role in the origins and development of Neolithic and Bronze/Iron Age cultures and art in China to the south, and in Siberia to the north? What influences and links existed to the east with Korea and Manchuria? And, concerning my particular interest in the origins of ancient Eskimo cultures of Alaska and the Bering Sea, what influences or contacts might be discovered to the north-east? The earliest and most artistic Eskimo cultures such as Ipiutak, Okvik, and Old Bering Sea have display highly developed animal-style art, and their shamanistic and masking traditions closely parallel those of Siberian, Chinese, and East Asian Bronze Age and later cultures. In particular, the ornate Scythian animal-style art of ca. 500 B.C. and its Siberian relatives and the art of Shang and Chou China seemed the most likely to have influenced North Pacific cultures.

Having previously searched along the coast of the Russian Arctic for proto-Eskimo cultures and art without success, I became intrigued with the possibility that Mongolia's Bronze Age deer stone art with its kinetic sense of motion, its transformed deer-bird images, and its use of animal art for decorating artifacts and human bodies (tattoos), providing protection from harmful spirits, might hold clues for solving the long-standing problem of the origins and relationships of early Eskimo art.

However, there were many other interesting problems to explore in northern Mongolia as well. Previous archaeological research in Mongolia has emphasized the importance of southern (Chinese) influence throughout its history, and the role of the Silk Road in Mongolia's trade and cultural connections to the east and west. In contrast, there is very little knowledge of Mongolia's northern connections to Siberia and northeast Asia, despite the fact that the Mongolian physical type is genetically linked to Korean, Northeast Asian, and Eskimo peoples. We also hoped to test the theory that reindeer domestication began among the early reindeer hunting peoples of northern Mongolia and southern Siberia, among people who may have been ancestors of modern Tsaatan (Dukha) reindeer herders living today in the mountains around the Darkhat Valley.

As we began our deer stone investigations, **J. Bayarsaikhan** and I were joined by Smithsonian and Mongo-

lian colleagues who took up other topics, including ethnography and shamanism among the Tsaatan reindeer people (**Paula DePriest**, **Marilyn Walker**, **Ayush**); botanical studies of reindeer herding and impacts of climate change and herding pressure on local reindeer forage (**Paula DePriest**; **Tsendekhuu**); studies of Bronze Age ceremonial and ritual practices, landscape ritual, and demography (**Bruno Frohlich**); relationships between nomadic cultures and the rise and decline of urban centers and empires and the role of agriculture (**Dan Rogers**); and settlement pattern studies and studies of Chinese influence on the development of Mongolian cultures and empires (**Bill Honeychurch**). And finally, working with political scientists and computer modelers from George Mason University in Virginia, we began to explore political complexity and the rise and fall of Inner Asian cultures using Mongolian archaeological data as the core for our theoretical modeling studies. Each of these projects is briefly described below.

Exhibits and Training Programs

In 2002 **Paula Sabloff** of the University of Pennsylvania Museum produced an exhibition, *Modern Mongolia*, that was seen at the Smithsonian's National Museum of Natural History in 2003. This exhibit was the first ethnographic exhibition to be presented outside Mongolia for decades and explored changes in Mongolian society, politics, and history over a 100-year period from feudal, Soviet, and post-Soviet times. To provide time depth and appreciation for the early achievements of Mongolia's ancient past, the Smithsonian installation of this exhibit included a full-size replica of a deer stone from the famous Ushkin Uver site near Muron, the capitol of Hovsgol Province. The cast was made by **Carolyn Thome** of the Smithsonian Exhibits Central facility, assisted by **Paul Rhymer**, now of NMNH Exhibits, and several Mongolian museum staff. The replica – almost indistinguishable from the original – was made from a latex rubber mold cast in the field and fabricated in the lab with epoxy and 'blenderized' multi-colored plastic foam that faithfully replicated the monument's crystalline granite surface. The replica used for the exhibit was retained for the NMNH collections, and a duplicate was given to the National Museum of Mongolian History for use as a centerpiece in its main exhibit hall. Since then it has traveled as a prized object in other Mongolian traveling exhibitions.

Each June when we return to Mongolia we organize conferences and educational activities and publicize the results of our research. Smithsonian and Mongolian team members present the results of their research, and in recent years the conference has broadened to provide papers on related topics. The proceedings of the 2004 and 2005 conferences have now been published in a monograph entitled *The Deer Stone Project: Anthropological Studies in Mongolia, 2002-2004*, edited by **William Fitzhugh**, **J. Bayarsaikhan**, and **Peter K. Marsh**, published jointly by the Smithsonian's Arctic Studies Center and the National Museum of Mongolian History (2005). This volume is available for sale in Mongolia and through the Arctic Studies Center. Annual reports of our work are available of the ASC website (mnh.si.edu/arctic/mongolia) and a number of reports are available in a variety of publications and journals.

We also hold a series of annual research and museum study workshops annually in Ulaanbaatar. **Bruno Frohlich** has demonstrated use of high-tech GPS (geographical position

system) equipment in mapping and documenting excavations and sites; **Rae Beaubien** and **Vicky Karas** (MCI) presented on the use of laser-scanning equipment to record deer stones and other archaeological surfaces and monuments; **David Hunt** and **Natalie Firnhaber** (NMNH) provided instruction on museum storage and conservation techniques; and **Carolyn Thome** and **Paul Rhymer** gave hands-on instruction on casting, replica production, and exhibit mounting procedures. Following these workshops, they remained in Ulaanbaatar for several days visiting museums and archives and advising their staff on how to apply new materials and skills in their day-to-day collections and conservation work. As a result the Deer Stone Project has contributed to the exchange of information on museum studies and has facilitated establishment of professional communication networks.

Mongolia's Enigmatic Deer Stones

On my first visit to the Hovsgol region in 2001 I was astonished to find scores of beautifully carved stone monuments standing vertically in isolated groups in the grassy steppes of northern Mongolia. Most had rectangular cross-sections and angled tops and were covered with ranks of engravings representations of the great Asian elk or maral, whose huge rack of antlers was shown flowing like waves along the back of what seemed like a flying stag. The odd thing about these deer figures was their highly stylized form, having peaked withers, coils of antler, folded legs, and a peculiar long narrow snout with a bulbous end, looking like a spoonbill's bill. These figures deviated little among hundreds of deer stones. While deer figures dominate the central part of the stone's composition, its top was often engraved with a necklace-like series of dots or pits, circles and hoops resembling Bronze Age-style earrings, and rarely a human face. Bracketing the deer and encircling the base, the stones almost invariably show a cross-hatched band clearly depicting a man's belt with its assortment of tools and weapons including knives, axes, and other implements that are so detailed that researchers have been able to date them stylistically to ca. 500 B.C.

None of these deer stones, of which several hundred are known from northern and western Mongolia and neighboring Russia and Kazakhstan, had been excavated or dated by modern methods. Because artifacts or burials were never found with them, the deer stones had been left to stand as mysterious monuments to a Bronze Age past that



Engraved deerstone

lay unexplained and unknowable. Many thought they dated as late as 2000 years ago, and various interpretations of their art had been advanced by scholars. And even though they were frequently found near large stone burial mounds, many saw them as chronologically and functionally distinct from the Bronze Age stone burial mound tradition.

Four years of excavation and study have radically altered these views. Although we have not been able to conclusively prove the function of the stones or the meaning of its deer stone images and other motifs, excavations at deer stone sites throughout the Hovsgol region have provided consistent answers to the structure of deer stone sites, the rituals that accompanied their dedication, their relationship with burial mounds, and their accurate chronological age. A few results are noted below:

(1) *Structure:* Deer stones are found singly and in small groups, in which case they are often arranged in north-south alignments. Individual deer stones are often found surrounded by a ring of circular stone features, each containing a single east- or southeast-facing horse head, usually accompanied by the neck vertebrae and one or more hoofs. Few artifacts are found near the deer stones or the horse remains, which appear to be the remains of an animal sacrificed and eaten as part of the ritual related to the erection of the stone. Small circular stone features lying beyond the ring of horse head burials contain cremated remains of sheep, goats, large ungulates, possibly including horses as well.

(2) *Ritual Practice:* Despite the similarity of their deer images, the representation of belts, shields, weapons, and other motifs varies from stone to stone, with no two being identical. This suggests that the stones may be portraits of specific individuals whose tools and implements would be recognizable to their fellows. The placement of horse heads and feasting hearths around individual deer stones suggests that deer stones commemorate important individuals – perhaps warriors or chiefs who died whose bodies lie elsewhere but are memorialized in their homelands in stone, by horses sacrificed by relatives and followers, and by complex feasting and ceremonial ritual. The presence of hard rock pecking stones in the vicinity of the deer stones but outside the horse burials suggests that engravings were made or refreshed on location.

3. *Deer Stones and Burial Mounds:* Mapping and excavation of deer stone and burial mound sites reveals many common features common to both. Horse head burials are also found around the east and southeast stone fences of burial mounds, and further out, beyond the horse burials, small oval or

circular rings containing cremated or burned food bone remains are found. While deer stones do not contain human burials, the stone mounds almost always do, making these two types of structures complimentary in many respects. While one does not always find deer stones associated with burial mounds, sites with large numbers of deer stones are usually associated with mounds. And it seems certain that both are part of a single ritual system, belonging to a single cultural group and time period.

4. *Dating the Deer Stones:* Radiocarbon dating of horse teeth found in the sacrificial features associated with deer stones has resulted in a consistent series of dates ca. 2800-3300 radiocarbon years ago. Presumably many of the burial mounds will have similar ages. These dates are 400-500 years earlier than those previously determined by stylistic features of deer stone tool images. The latter dates resulted from typological research in the Altai region of Russia, west of Mongolia, and were coeval with the dates on Scythian burial mounds whose tattooed human bodies and elaborate grave goods covered with animal-style art have been preserved by permafrost. Such remains have not been found in Mongolian sites, and the reason may be because these sites – and their deer stones – date several hundred years earlier.

Although we have not yet reached final conclusions about deer stone dates, function, and relationships, our work suggests that deer stone art and Scythian animal style art are related and that the art of Mongolian deer stones represents an earlier developmental stage of classic Scythian art. Lacking perishable

remains, we can only speculate about what other art produced by deer stone people might have looked like. But the form of deer stone images, its animal transformation nature, and its early age places it in a good position to have been part of a prototype horizon of spiritual art spread among the peoples of northeast Asia that might have stimulated the developments seen so gloriously in the early ivory Eskimo art of the Bering Sea.

Mongolia's Ritual Landscapes

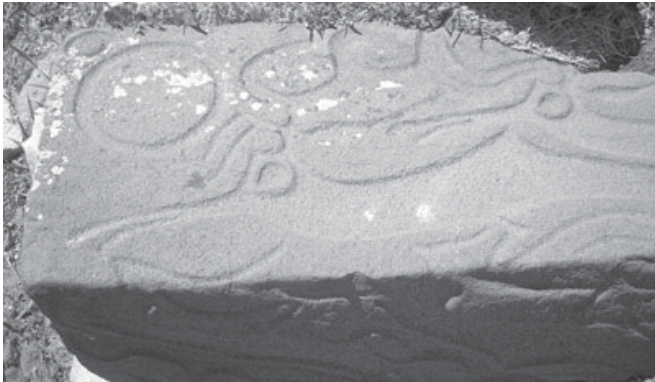
Deer stones are the lesser part of the Bronze Age landscape one encounters while traveling across the steppes of northern Mongolia. Even more striking are the thousands of conical boulder mounds that rise above the grassy plains, mimicking equally numerous piles of eroding bedrock that may have been the original inspiration for these gateways to the gods. One cannot pause before these crumbling extrusions of earthly crust without imagining that they, and the hills and



Excavations in 2006

mountains that emerge from the surrounding contoured steppe, served as models for the heaps of boulders people constructed over the span of about one thousand years to honor the deceased and help them pass from this world into the afterlife. Few other locations on earth demonstrate so dramatically the ritual passion of a people constructing a life for the dead. Only among Egypt's pyramids does one come close to experiencing the duality of ancient and modern life.

Smithsonian investigations of Mongolia's burial mounds



Detail of a deerstone

(known as kherigsuurs) have taken several approaches. During the past five years **Bruno Frohlich** has applied sophisticated global positioning systems (GPS) to pin-point the location of thousands of mounds he and his Mongolian colleagues have discovered while conducting surveys in Hovsgol Province. Most were found in clusters, and the largest mounds were located in the best herding pastures near lake shores and river courses, suggesting the presence of high-ranking elites.

More surprising was the fact that in areas where kherigsuur mounds were often associated with prominent hills, and in these locations they extended up the slopes to the hillcrest. Although smaller than the mounds on the plains, these upland mounds appears to crowd their way to the top as though seeking special benefit from proximity to the dwelling place of spirits.

Scholars have speculated upon the purpose of kherigsuur for decades. Unquestionably, some were burials, since they contain human remains in shallow sub-mound chambers. But many have no obvious human remains, and few have been found to yield the elaborate caches of artifacts that accompany Scythian burials. Still, Frohlich's excavations have revealed human burials at the center of most mounds, and this seems to be the pattern throughout the Mongolian Bronze Age.

One of the most intriguing problems relates to architectural design. Among all the kherigsuur mounds dating to this period, those found in northern Mongolia occur in two forms. Around the central mound one always finds a border made of rocks placed side-by-side in the form of either a circle or a square. These alternative fence forms seem to divide the sacred ground inside from the secular ground beyond the fence. Here, outside the fence, are found smaller cobble mounds of one to two meters in diameter which contain the remains of sacrificed horses – typically the east-facing head of a horse accompanied by its neck vertebrae and one or more hoofs. Beyond the horse mounds one may find small oval or round boulder rings

containing the remains of cremated sheep, goats, and larger animals – apparently the remains of a ritual meal.

The ceremonies that accompanied the burial of individuals in the central mounds must have taken place with highly structured rituals. One imagines a priestly interment with ceremonies taking place inside the fence, while outside, horses were slaughtered, eaten, and their remains buried in the smaller individual mounds. Small mounds may have no external horse burials or feasting circles; but some of the largest have as many as 1700 horse burials. Clearly, here is good evidence for social and political hierarchies in Bronze Age Mongolia!

We have not yet been able to resolve the significance of the round vs. square fence shapes. Some have suggested that they designate male or female gender of the deceased, and this is supported by a near 50:50 split in occurrence of the two forms. But other explanations are possible, and the only way to resolve the matter is by digging enough mounds and analyzing the human remains and artifacts they contain. At the moment we are years away from being able to settle this question.

Another contentious issue is dating. Some scholars have maintained that Mongolia's cobblestone kherigsuur have a long history, beginning in the Bronze Age and persisting into the late Iron Age or later. Because most of the mounds were excavated during the Soviet period, before radiocarbon dating became available, few have been dated. And those that have been excavated contain few diagnostic artifacts. Although this question remains unsettled, the recent discovery that deer stones and kherigsuur have a common construction syntax, with identical forms of horse burial and feasting features, suggests a shorter chronology linked to the that of the deer stones. At the moment we seem to be seeing ages of 2600-3200 years ago for the deer stone-kherigsuur complex than earlier estimates of ca. 3000-1500 years ago. Given these new datings it has become apparent that we need to extend our research into the western provinces of Mongolia where deer stones and kherigsuur take on different forms that I believe may be later in age and are more directly ancestral to later Scythian cultures.

3D SCANNING MONGOLIA'S ANCIENT DEER STONES

By Rae Beaubien and Basiliki Vicky Karas (MCI)

In June 2006, three MCI conservators – **Rae Beaubien**, **Vicky Karas** and **Leslie Weber** – traveled to northern Mongolia as part of the joint Mongolian-Smithsonian Deer Stone Project (DSP). They brought with them an exciting new addition to their conservator's toolkit: together with the scalpels, brushes, and adhesives of their profession, the conservators packed along a structured light 3D scanning system to document some of Mongolia's magnificently carved ancient deer stones. 3D scanning has been part of the DSP since 2005, when Beaubien and Karas, along with model maker **Carolyn Thome**, from the Smithsonian's Office of Exhibits Central (OEC), first pilot tested this technology at several deer stone sites in the Darkhat region, using a 3D laser scanner.

Laser and structured light scanning are two cutting edge technologies being used by archaeologists, conservators, and museum specialists to collect valuable information about an object's surface without having to touch or move the object. The ability to accurately record three dimensional data using a non-contact approach is very new to the field of heritage

conservation and of particular value in the case of at-risk artifacts. Mongolia's deer stones are considered to be at-risk because of the extreme environmental conditions that have affected them for thousands of years. The degradation caused by yearly freeze-thaw cycles is clearly visible in the spalling (splitting or chipping) of the stones' surfaces. Wind and water erode them. Harmful lichens physically and chemically decay the stones, while animals wear away at them with rubbing. Human degradation ranges from graffiti to looting. In extreme cases the natural bedding planes (formational weaknesses) in the stones cause entire sections to shear off.

Despite this continuing degradation, the elaborate images of deer and decorative accessories carved almost three thousand years ago can still be seen on almost every deer stone. These stones provide rare evidence of an ancient nomadic peoples living on the Mongolian steppes and are now considered to be among the most important archaeological treasures of Central Asia.

The unique cultural status of Mongolia's deer stones makes efforts to understand and preserve these national icons a high priority. Their at-risk status drives the documentation program being carried out by MCI conservators. The 3D digital data collected by laser and structured light systems are now being used to complement traditional documentation methods, such as high quality photography, condition notes, and drawings.

Recording all Three Dimensions

Producing a 3D record has long been of interest to the DSP, but until the MCI conservators began using 3D scanning technology, only more traditional methods were an option. In 2002, a small team headed by experienced model makers from the Smithsonian's Office of Exhibits Central [OEC] produced the DSP's first physical 3D record. Model makers used a direct molding and casting technique to replicate one deer stone, famous for its rare depiction of a human face, its beautiful carving, and its great height (#14 at Ushkiin Uver). In this case the stone was deemed strong enough to physically withstand this technique. It took two days to produce a mold of this stone. The mold was then brought back to the United States, and two casts were made. One was given to the National Museum of Mongolian History, in Ulaanbaatar, for permanent display. The other is now in the collection of the Smithsonian's National Museum of Natural History (NMNH) and was used in their 2002 exhibition *Modern Mongolia-Reclaiming Genghis*

Khan. This cast is currently being used here in the NMNH's family festival, *Chinggis Khaan: 800 years of Mongolian statehood*.

Traditional molding and casting can be extremely successful and accurate in documenting an artifact's topographic and dimensional details. The application and removal of mold materials, however, pose a serious risk to sensitive object surfaces, such as those of weathered deer stones. As an alternative, 3D computer technology provided a way to carry-out a virtual molding process at a much more rapid rate and without fear of harming the stones' surfaces. In 2005, the conservation team used a Polhemus FastScan Cobra 3D laser scanner to document 12 deer stones at sites in Northern Mongolia. The laser light used in this type of scanning system is of extremely low energy and frequency, and harmless to humans and stones. As it was slowly swept above the deer

stone surface, the hand-held scanner would emit a single laser line, used by the camera and computer components to triangulate the details of the surface in 3D space. In 2006, a Breuckmann GmbH TriTos structured light scanner was used to scan 14 deer stones and several stone fragments at Ushkiin Uver. The MCI conservators also completed a full scan of the tallest known deer stone (ca.4m) at the site of Ulaan Tolgoi. The structured light scanner projects a



Laser scanning a deer stone at night

pattern of white light across an object's surface. The deformation of the pattern is recorded and processed by the camera and computer components to locate details of the object's surface in 3D space.

The advantage of 3D imaging is that it produces a highly accurate, high resolution archival record. These digital records can then be manipulated on a computer monitor for use in research, conservation, documentation, education, or exhibition on a global scale. They can also be used to produce a physical 3D record: the data can also be transmitted to specialized machines to be milled or "printed" in positive or negative forms.

3D Scanning Under Shade and Starlight

3D scanning in the field poses many challenges to conservators. Both the laser and structured light scanning systems are sensitive to light. In order to collect good data shade shelters needed to be built over every stone scanned. For daylight scanning, the conservators, assisted by their Mongolian drivers, devised shelters using about 70 meters of canvas and long wooden poles borrowed from neighboring animal

corrals. In 2006, collapsible *ger* (yurt) walls were added to the shelter construction, allowing for increased mobility around the stone and added structural support. Once a stone was scanned the shelters were dismantled and moved to the next stone. Both scanning systems are portable and light-weight and are easily powered by a small Honda generator. However, only the structured light scanner will operate in cold nighttime temperatures. Because of this, the structured light scanner offered a great advantage over the laser scanner as it allowed the conservators to work through the night, eliminating the need to construct shade shelters and therefore expediting the scanning process. By the end of the 2006 field season, conservators were using shade shelters for daylight scanning until about 11pm, at which time they packed up the canvas, poles and *ger* walls and continued scanning under the night sky until 5am.

Using the Data

The successful results from both DSP field seasons are encouraging for the continued use of 3D imaging in heritage conservation applications. For Mongolia's enigmatic deer stones this technology provided a safe, non-contact approach for recording in accurate detail the rare cultural evidence of Mongolia's ancient nomads. MCI conservators are now beginning the next phase of the scanning program which involves data processing. This phase will create digital graphic files that can be studied, exhibited, physically replicated and archived. Over time these records can play a pivotal role in monitoring changes in the stones and can become integral in the development of strategic plans for conservation and preservation.



Shading deerstones with ger walls at Ulaan Tolgoi to avoid direct sunlight during the scanning process

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