

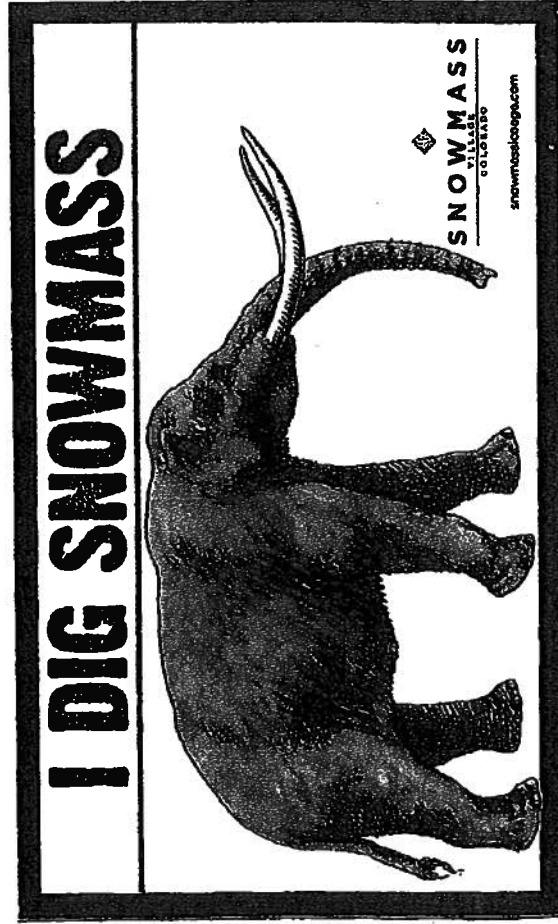
AFTER THE DIG

In 2010 and 2011 a discovery and two masterful excavations led to an unparalleled trove of fossils –
over 5,000 bones from over forty kinds of animals –
a unique high alpine ice age collection –with world-wide excitement.

A group of individuals and institutions in Snowmass and Denver are laying plans
for building on this amazing find.

The following pages provide a framework to guide their deliberations and road map for next steps.

John McCarter
January 2013



MY THANKS TO

John Rigney, Vice President, Aspen Skiing Company
Brenda O'Connor, Aspen Skiing Company
Mike Kaplan, President, Aspen Skiing Company
Kirk Johnson, PhD, Director National Museum of Natural History, Smithsonian Institution
formerly at Denver Museum of Nature and Science and Director of the Dig
George Sparks, President and CEO, DMNS
Ian Miller, PhD, Paleontologist and Co-Director of the Dig, DMNS
Steve Nash, PhD, Chair, Department of Anthropology, DMNS
John Demboski, PhD, Vice President, DMNS
Joe Sertich, PhD, Curator of Vertebrate Paleontology, DMNS
Richard Stucky, PhD, Curator of Paleocology and Evolution, DMNS
Nancy Walsh, Director of Museum Programs, DMNS
Bridget Coughlin, PhD, Vice President Strategic Partnerships, DMNS
Mac West, Research Associate, DMNS and President Informal Learning Experiences, Inc.
Peter Ziegler, Ziegler Family
Dan Fisher, PhD, University of Michigan, Curator Paleomammology
Gary Staab, Staab Studios

Liz Miller, former excavator
Jason Haber, TUSK Force
Sandy Jackson, TUSK Force
Rhonda Basil, TUSK Force, Board Water and Sanitary District
Susan Hamley, TUSK Force
Bob Purvis, TUSK Force
David Perry, Executive Vice President, Aspen Skiing Company
Auden Schendler, Vice President, Sustainability, Aspen Skiing Company
Steve Santomo, General Manager, Destination Resorts, Snowmass
John Borthwick
Chris Jacobson, Snowmass Village Councilman
Vaughan Shafer, Sculptor and Blacksmith, Iron Arts
Lori Shafer, Manager, Iron Arts
Marc Bennett, Director, Romeo the Movie, Documentary Film Director
Kit Hamby, District Manager, Snowmass Water and Sanitation District
John Katzenberger, Director, Aspen Global Change Institute
Dwayne Romero, President, Related Colorado
Heidi Zuckerman Jacobson, CEO and Director, Aspen Art Museum
Don Schuster, Vice President, Aspen Skiing Company
Jaap Hoogstraten, Director of Exhibitions, Field Museum of Natural History, Chicago
Timothy Quady, Blue Rhino Studio, Eagan, Minnesota

Lance Grande, Curator Paleontology, Field Museum of Natural History, Chicago
Don Kempf, President, D3D Cinema, Evanston, IL
Jeff McCarter, Founder and Director, Free Spirit Media, Chicago, IL
Dave Spence, Manager, Top of the Village Condominiums, Snowmass
Jamie Cundruff, Aspen Center for Environmental Science
John Curnow, General Manager, the Westin Snowmass Resort
David Wasserman, Westin and Wildwood

THE TOP LINE

1. Reestablish the excitement of the discovery through fossil preparation and related scientific and educational initiatives in 2013 - GETTING STARTED
2. Create public outdoor and indoor art for installation in 2014 - BUILDING PRESENCE
3. Build scientific educational programs for international and regional participants by 2015 -
ENHANCEMENT OF PRESENCE
4. Establish Snowmass as the intellectual center on climate change issues by 2016 -
FULFILLING THE PROMISE
5. Reopen the Reservoir in 2018 - WOW!
6. Construct a theatre and exhibition space by 2019 - A PERMANENT PRESENCE
7. Put in place a consensus vision, strong leadership and an organization to accomplish all six of the above - NECESSITY

GETTING STARTED

2013: THE CRITICAL YEAR

1. Adopt a working draft of the vision and discuss branding
 2. Recruit a full-time executive director
 3. Build a financial model of potential sources of financial support – cash and in-kind – commercial, philanthropic, institutional, governmental
 4. Establish memoranda of understanding (MOU's) with all interested parties in order to provide structure of commitments – Water and Sanitation, Denver, DMC, ACES, Ski Company, others
-
5. Open temporary preparation laboratory in Ticket Pavilion or space in Base Village. Use as trail head for visits to Discovery Center and nature walks and hikes
 6. Open dig pit with fossil casts to discover – gondola connection?
 7. Install telescopes for night sky exploration – roof or slope?
 8. Integrate above with Elk Camp initiative and Tree House
 9. Initiate pod casts “Climate Conversations from Snowmass”
 10. Install lenticular vitrines – Aspen Airport, Elk Camp as models
 11. Enhance partnerships among major participants – developers, town, others
 12. Learn, survey, benchmark, measure – quantitative, qualitative – in anticipation of 2014 and beyond

VISION

SNOWMASS - JANUARY 2013

VISION

A "Grand Reinvention" of Snowmass as Center for Understanding the Environment

Fundamentally rebrand Snowmass focused on science and climate
while maintaining great winter and summer experiences.

"Dream Big" – "the Davos of Climate" Paepcke, Goethe, Schweitzer in Aspen

"Do not miss the opportunity"

or

Use Snowmastodon Project to add new dimension to Snowmass in order to
build summer visitorship and revenues:

"The mountain is the story"

"Another arrow in the quiver"

"Exercise caution"

"So many underutilized facilities"

"Summer population small, not a metropolitan area"

ELEMENTS

1. Outdoor Public Art
2. Indoor Art
3. Science Education
4. Scientific Conferences
5. Reopening the Reservoir
6. Facility
7. Snowmass as Environmental Convening Center
8. Organization

OUTDOOR PUBLIC ART

Outdoor Public Art

1. Bronze life-size Mastodon at Intersection of Route 82 and Brushcreek Road. Fiberglass?
 - . Welcome
 - . Transients and visitors
 - . Audio link to accompany drive up the Valley
 - . Celebrity spokesperson
 - . Ian Miller
 - . Complexity – widening median or using adjacent openland. Traffic congestion
2. Center of pedestrian traffic – base or mall - Bronze Mammoth life-size - Herd of Mastodons - Fiberglass
3. Mastodon footprints – cast (Laetoli bipedalism) – Dan Fisher
4. Mastodon/ Mammoth skeleton sculpture – Vaughn Schafer
5. Cool Globes – Artists work on 5' diameter blank globes, underwritten by corporations, families and auctioned at end. Displayed in Chicago, San Francisco, San Diego, Marseilles, Copenhagen, and Amsterdam.

Purpose: Provide maximum exposure to all visitors year-round

Outdoor Life Size Sculpture

Thousands of people visit Snowmass annually and most will not have the opportunity to participate in the scientific and education programs described in later sections of this report.

Investment in life size bronzes, perhaps two or three, will open the subject to all of these visitors. Installation at the intersection of Route 82 and Brush Creek Road can welcome visitors and other sculptures at heavily trafficked locations can reinforce the story. Similar to the street banner program but much more impactful, these permanent sculptures will provide "photo ops", stimulate conversation in lift lines and provide stimulation to young minds.

There are at least two sculptor/foundry entities capable and aware of this opportunity. The first is Blue Rhino from Minnesota whose sketches and examples of other work follow. Blue Rhino did the sculptures for the Field Museum exhibition that opens in Denver in February.

The second is Kent Ullberg who sculpted the Mastodon which will be installed outside the Denver Museum of Nature and Science. Replication possibilities should be explored via George Sparks, CEO of DMNS.

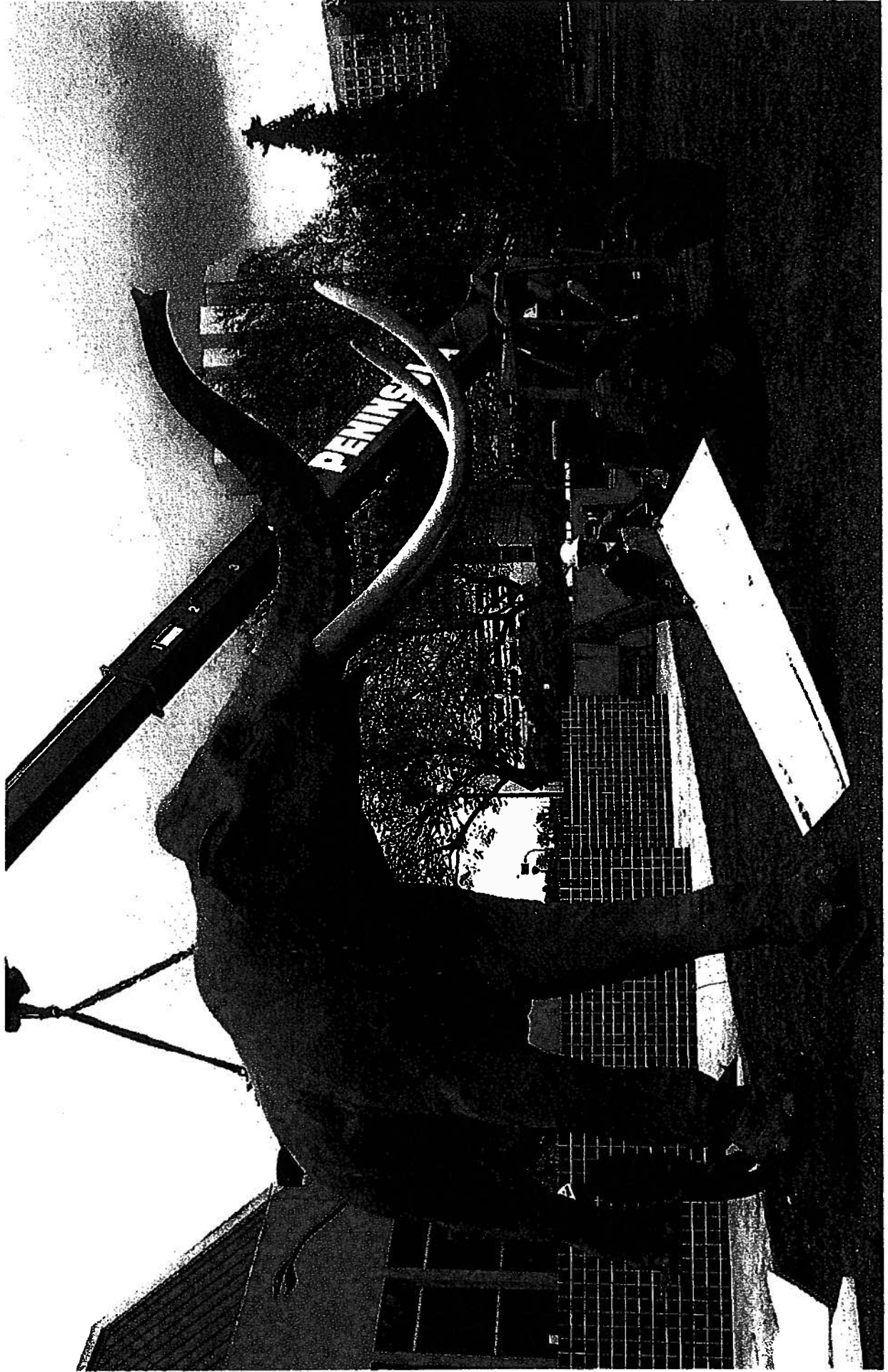
These are major expenditures and a cost-benefit analysis should measure whether these could eventually add 2% to summer occupancy, from 30% to 32% and what margin and tax revenue would result.





Full scale Columbian Mammoth for the Field Museum's "Mammoths and Mastodons" exhibit





Columbian Mammoth sculpture being installed outside the San Jose Children's Discovery Museum in San Jose, CA.





John McCarter <jmccarter@fieldmuseum.org>

later today

Thu, Jan 3, 2013 at 6:55 PM

Timothy Quady <tim.quady@rhinocentral.com>
To: John McCarter <jmccarter@fieldmuseum.org>

Hey John,

I have put together some pricing for you that will hopefully help with your discussions.

As we have discussed I think the first specific example to run up the flagpole should be proposing a majestic mastodon sculpture that would be designed, sculpted as a scale model to be produced as limited edition bronzes, and have an eventual goal of producing a life-size bronze cast to be located in the most prominent spot in Snowmass (entrance to the village, center of town, base of the mountain....).

I have attached two separate proposals as well as sketch of a more dynamically posed mastodon. These are ballpark numbers based on a rough concept design and numbers previously provided to me for the scale bronzes by a Minnesota firm we work with called casting Creations and for the faul-size cast and install by Eagle Bronze out of Wyoming. If this became something a little more concrete I would contact both of them to ensure these numbers are still alright, but for now I would assume they are close enough.

The first proposal represents doing a new original scale sculpture, molding it, and casting 20 bronzes. Without a background in fundraising I don't know what the best quantity vs. cost should be. I am curious if the goal could be connecting with 20 key corporate and/or personal donors who would pledge at least \$15,000 each. Amortized over 20 pieces, the sculptures run under \$k each, so that would put at least \$200,000 into the fundraising efforts. You and I had been talking about smaller bronzes and lower numbers, but I really feel it should be something grand and represent what might be the key icon that might be done to celebrate the finds. Again, I don't know how fundraising should play out so it's just a place to start discussing. We're obviously open to what would work best. Perhaps there's 3 different levels of donors and 3 different sizes/subjects of bronzes...

The second proposal represents the costs of a full-size sculpt, bronze cast, and installation. The total based on what we had in mind for Denver is \$317,600. I broke out the costs of the rock outcropping base as it's a pretty hefty percentage of the total. It might be more cost effective and more interesting to use actual rock and landscaping. It would certainly tie it in to the surrounding landscape if there's interesting landscape to use... as far as the full scale bronze is concerned, it could knock \$69,600 off the total and make it possible for selling 20 scale bronzes to fund the entire full scale sculpture. There's going to be ways to raise some sort of money, but I LOVE the idea that 20 people each purchasing a bronze sculpture for their home or office at a realistic gallery price could fully fund a timeless icon. This is why the conversation should start here.

This piece should end up being an icon that gets used in marketing. Additionally, we could easily plan so we can rework and finish our original sculpture realistically for use elsewhere at a very very inexpensive cost.... The full scale bronze should also include at least one large outdoor graphic that explains the find and its significance. I think this should be the first step in a pile of exterior public art and educational pieces. In that same vein, each small bronze should come with a nicely framed graphic that talks about the find at Snowmass and the goal of public art and education.

Something of note that just occurred to me, there's no cost in there for whatever concrete footings would be required. That would probably be something that Eagle could coordinate with someone local.

As I said, I think this is a great place to start the discussion. Beyond that we have had a number of ideas; all

exterior public art pieces and graphic panels spread throughout the town and near the lift lines. Other life-size bronze animals, large illustrations and paintings, graphic panels that discuss the history... We can start to talk about those next, but this would be an awesome way to get that ball rolling as well.

Anyway, enough rambling. Let me know what your thoughts are and what other information I can get you right away.

Tim Quady
Blue Rhino Studio
3277 Sun Drive, Eagan, MN 55121
651.287.0900
www.rhinocentral.com
tim.quady@rhinocentral.com

3 attachments

PastedGraphic-1.tiff
3874K



6167 SNOWMASS MASTODON TABLETOP BRONZES.pdf 120K
6168 SNOWMASS FULL-SIZE BRONZE MASTODON.pdf 119K

PROJECT:

SNOWMASS MASTODON SCULPTURE

BRS CONTACT:

TIM QUADY

DESCRIPTION:

ORIGINAL FULL-SCALE MASTODON SCULPTURE
BASED ON ORIGINAL MASTODON SCULPTURE TO BE FABRICATED
FULL-SCALE SCULPTURE TO BE DONE IN FOAM, COATED WITH
MARINE RESIN AND FIBERGLASS, AND TEXTURED WITH SCULPTING
EPOXY.
FINAL APPROVED SCULPTURE TO BE SPLIT INTO SECTIONS PER
DIRECTION OF EAGLE BRONZE FOR MOLDING.
ALL CORRESPONDENCE, CONFERENCE CALLS, DESIGN TIME, INITIAL
ENGINEERING, PROJECT MANAGEMENT, AND SHIPPING OF ORIGINAL
SCULPTURE FROM BLUE RHINO STUDIO TO EAGLE BRONZE INCLUDED
IN TOTAL.
\$ 98,200

ORIGINAL SCULPTED BASE
BASE FOR MASTODON SCULPTURE TO BE FABRICATED TO LOOK LIKE
ROCK OUTCROPPING.
BASE TO BE DONE IN FOAM, COATED WITH MARINE RESIN AND
FIBERGLASS, AND TEXTURED WITH SCULPTING EPOXY.
TOTAL ASSUMES BASE AT APPROX. 10' L X 6' W X AVERAGE 2' H
FINAL APPROVED SCULPTURE TO BE SPLIT INTO SECTIONS PER
DIRECTION OF EAGLE BRONZE FOR MOLDING.
ALL CORRESPONDENCE, CONFERENCE CALLS, DESIGN TIME, INITIAL
ENGINEERING, AND PROJECT MANAGEMENT INCLUDED IN TOTAL.
\$15,100

BRONZE CASTING, DELIVERY, AND INSTALLATION OF
MASTODON SCULPTURE BY EAGLE BRONZE
TOTAL INCLUDES ONE PRELIMINARY SITE VISIT, ALL MOLDING, WAX
AND BRONZE CASTING, MATERIAL, DELIVERY, AND INSTALLATION.
CASTING COST INCLUDES WAX PULL THROUGH PATINA, STRUCTURAL
ENGINEERING SPECIFIC TO SNOWMASS, AND ANY STRUCTURAL STEEL.
MATERIAL BID AT AN INGOOT COST OF \$4.50/LB
ALL CORRESPONDENCE, CONFERENCE CALLS, DESIGN TIME, INITIAL
ENGINEERING, AND PROJECT MANAGEMENT INCLUDED IN TOTAL.
\$149,800

BRONZE CASTING, DELIVERY, AND INSTALLATION OF BASE
SCULPTURE BY EAGLE BRONZE
TOTAL INCLUDES ONE PRELIMINARY SITE VISIT, ALL MOLDING, WAX
AND BRONZE CASTING, MATERIAL, DELIVERY, AND INSTALLATION.
CASTING COST INCLUDES WAX PULL THROUGH PATINA, STRUCTURAL
ENGINEERING SPECIFIC TO SNOWMASS, AND ANY STRUCTURAL STEEL.
MATERIAL BID AT AN IN-GOT COST OF \$4.50/LB
ALL CORRESPONDENCE, CONFERENCE CALLS, DESIGN TIME, INITIAL
ENGINEERING, AND PROJECT MANAGEMENT INCLUDED IN TOTAL.
TOTAL FOR CAST BRONZE BASE SCULPTURE
\$54,500

DATE: 1-4-13

PRICE: \$317,600 TOTAL FOR ALL ITEMS AS LISTED

TERMS:

TBD

NOTE:

TAXES NOT INCLUDED IF APPLICABLE

PROPOSAL:

6168

PAYABLE TO:

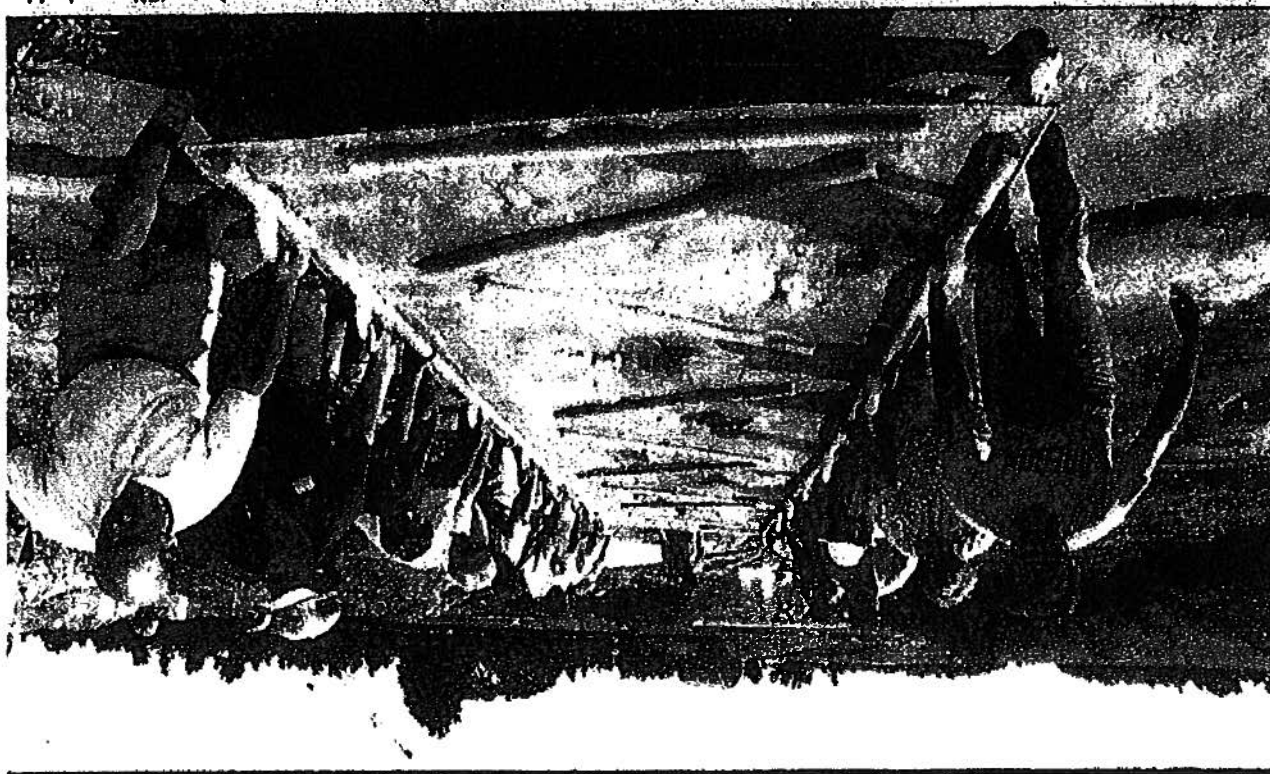
BLUE RHINO STUDIO
3277 SUN DRIVE
EAGAN, MN 55121
PHONE: (651) 287-0900
FAX: (651) 287-0901

Footprints

The Laetoli early hominid footprints in hardened volcanic ash in East Africa provide the first evidence of our bi-pedal mode of locomotion. Powerful as images of our basic biomechanics, they are known throughout the world.

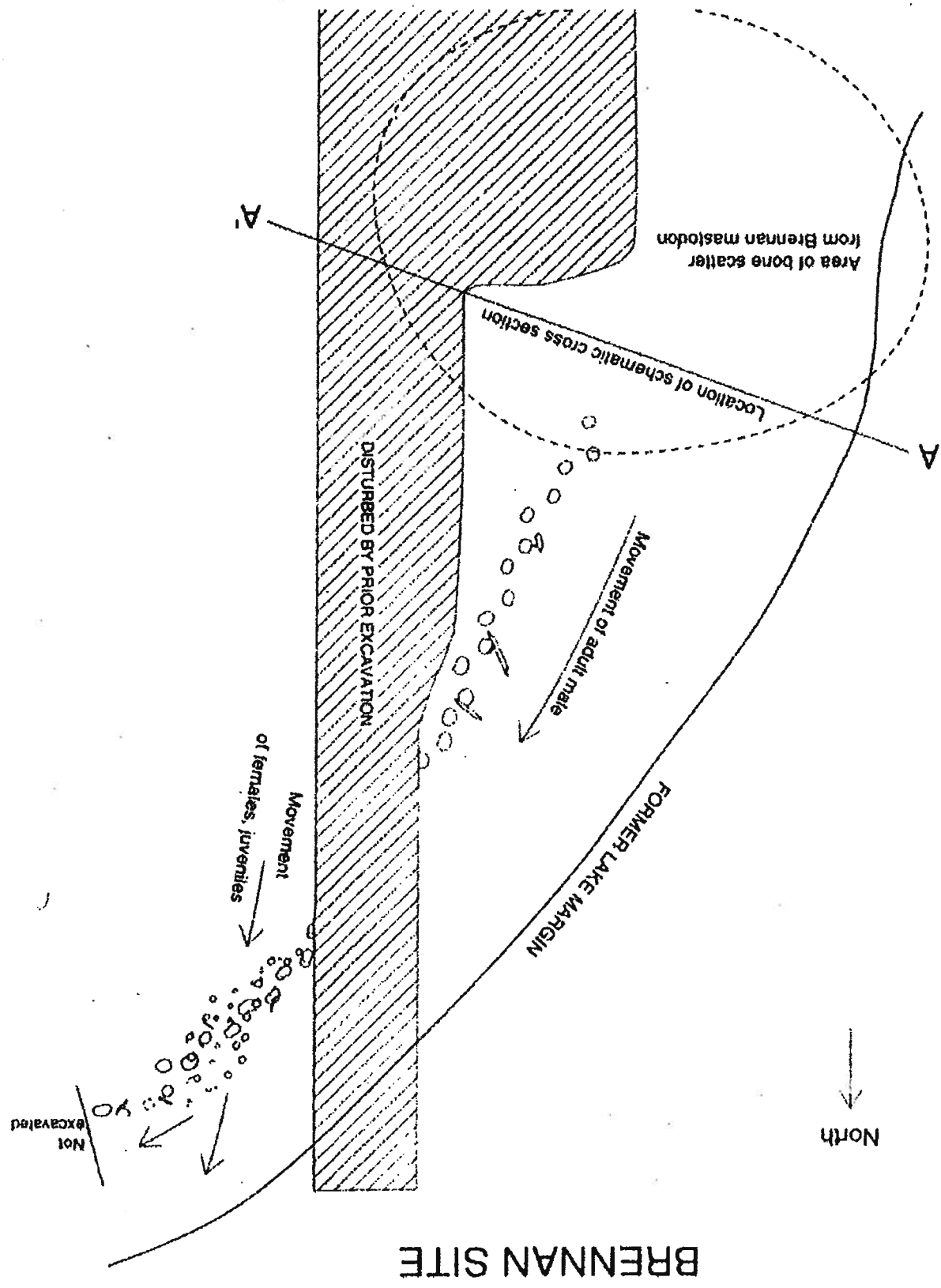
We are fortunate that Dan Fisher, distinguished professor and paleontologist at the University of Michigan has discovered Mastodon Footprints and has made a cast of them. Installed in conjunction with the life-size bronzes or in another location, these footprints with attached stories will stimulate the imagination as people "step to the Mastodons".





Above: Volunteers lift the fiberglass mold that covered the mastodon tracks on the Harry Brennan farm. "We are looking

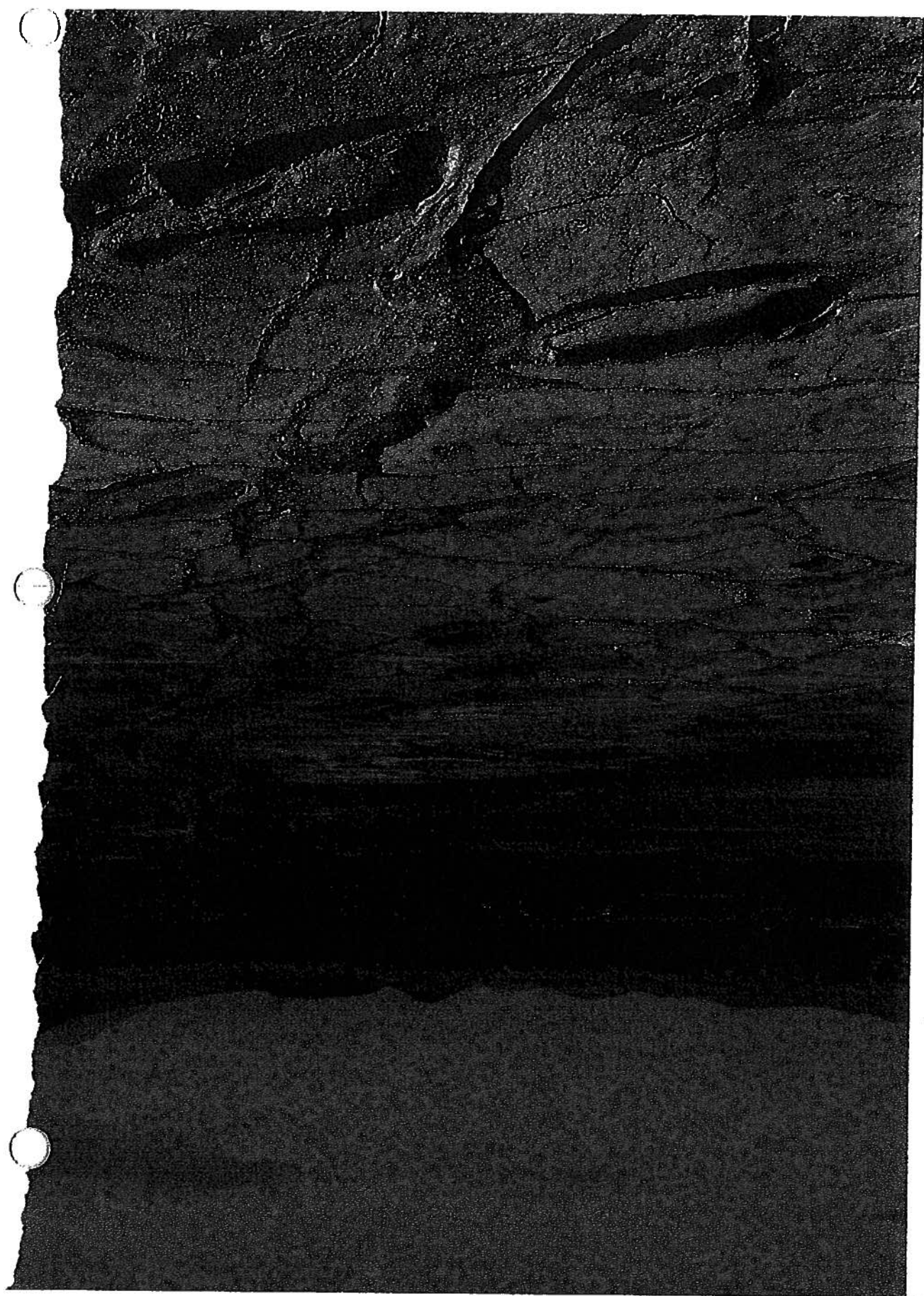
brennan map.jpg



BRENNAN SITE

A fast-moving party of more than a dozen adults and adolescents left footprints in volcanic ash in the Pliocene, providing ancient evidence of modern humans on the move in East Africa. The tracks are preserved at Engar Sero in Tanzania beneath a still active volcano.

ROBERT CLARK



Skeletal Sculpture

Vaughn Shafer is a sculptor and blacksmith in El Jebel, just down valley. His establishment is called Iron Arts. His concept is different – he would sculpt individual bones and assemble them into complete animal fossil replications. A visit to his studio in El Jebel (The Jewel) is unforgettable. His thoughts are expressed in the following pages. He has also proposed a documentary film of his process of design and fabrication.

The combination of “fleshed out” and skeletal replications is worth exploration.

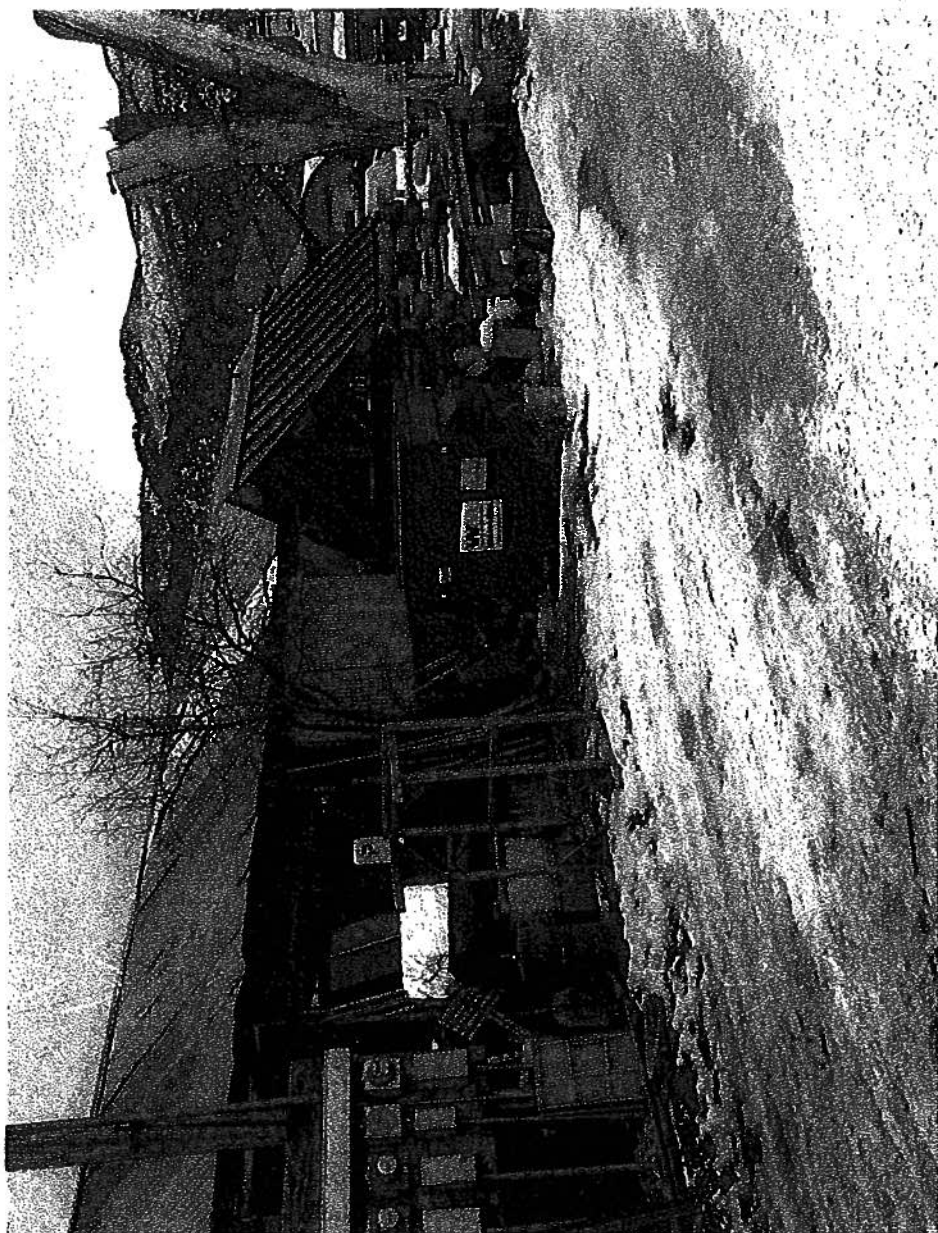
	Price	Time Required
Mammoth	\$325,000.00	8 months
Mastodon	325,000.00	8 months
Latifrons	175,000.00	4-5 months
Jefferson Ground Sloth	185,000.00	5 months
Camel	185,000.00	5 months
Horse	185,000.00	5 months
Deer	150,000.00	4 months

To complete the whole large animal series will take 3 years, 2 months.

Overall cost of the full series is: \$1,530,000.00

The price includes powder coating of each animal and delivery.





ESTIMATE OF TIME AND COST:

FULL SIZE HAND FORGED METAL MASTADON

THE CONSTRUCTION WILL TAKE 8-10 MONTHS, THE COST
IS \$325,000.00

FULL SIZE HAND FORGED LATIFRONS

THE CONSTRUCTION WILL TAKE 6-8 MONTHS, THE COST
IS \$175,000.00

TO DATE WE ARE AWARE OF SEVEN SPECIES THAT HAVE
BEEN UNCOVERED IN OUR VALLEY, ALL OF THESE ARE
OPEN FOR DISCUSSION. VAUGHN WOULD TRULY ENJOY
MAKING THEM ALL.

THE PRICES QUOTED INCLUDE POWDER COATING,
DELIVERY AND INSTALLATION. THE FINAL CREATIONS
WILL BE STRUCTURALLY SOUND IN ALL ENVIRONMENTS,
HARSH WEATHER CONDITIONS WILL NOT HARM THE
POWDER COATED STEEL. THEY CAN ALSO BE MOVEABLE
SO THAT YOU CAN CHANGE LOCATIONS THROUGHOUT
THE YEARS.

VAUGHN'S CONCEPT IS TO CREATE AN OUTDOOR
MUSEUM.

VAUGHN L. SHAFFER

275 S El Jebel Rd., El Jebel, Co. 81623 970-274-8300 borebonzchoppens@gmail.com

Objective

To be able to use the creativity the Lord has given me to share with others, and care for my family.

Experience

Blacksmith--Artist

I began learning the art of blacksmithing from my grandfather, father and Uncles at the age of 7 in Indiana. I continued to work in the family shop until I was 18 becoming proficient at all the basics and expanding into metal art.

I then went on to open my own shops first in Arizona where I set up shop at Rawhide continuing my ironwork and directing stunt shows for approximately 7 years. Then I moved to Branson, Missouri working in the same field for 2 years.

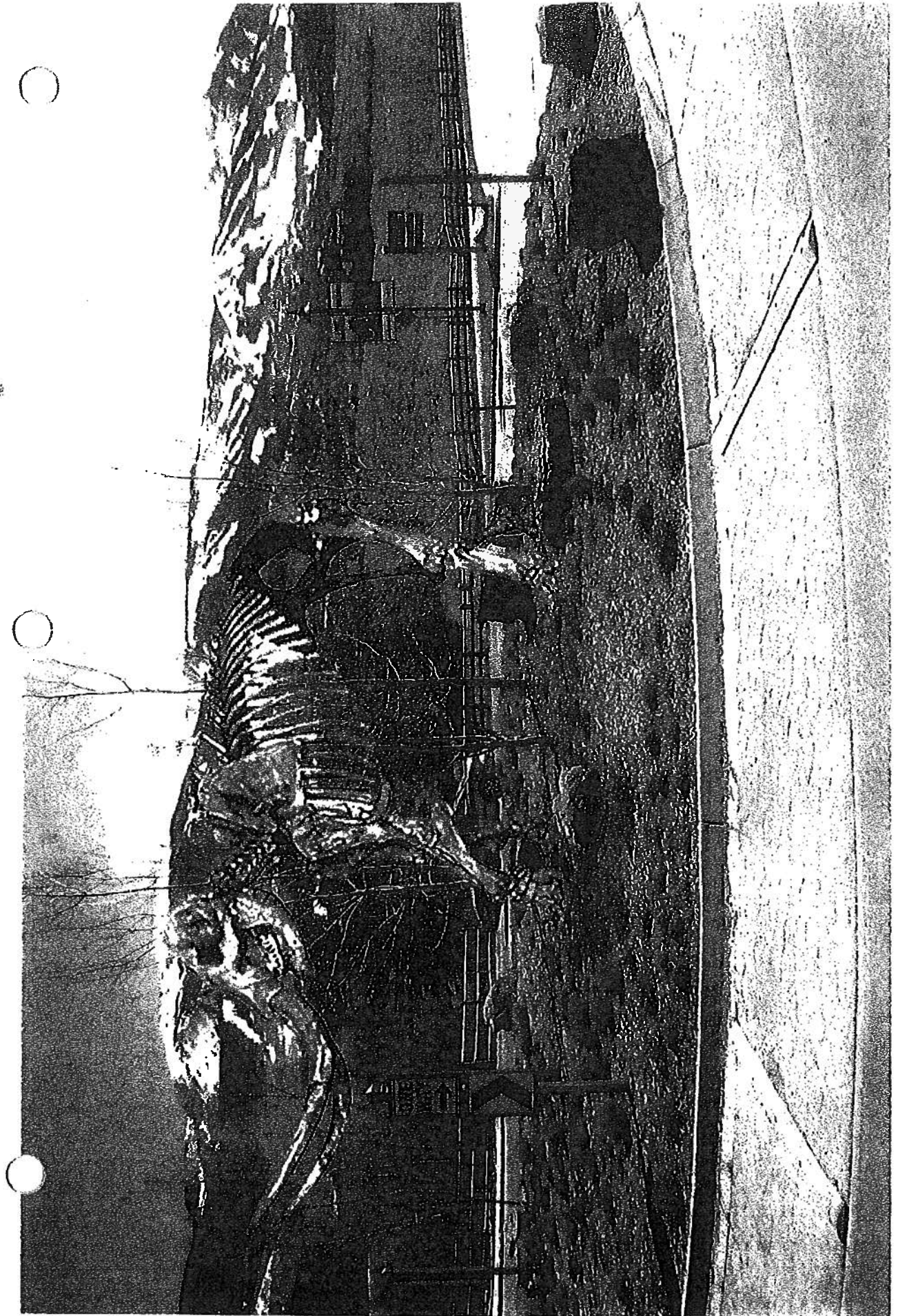
We finally settled in the small town of El Jebel, Colorado, where I have had my shop for the past 17 years. I have done a great deal of ornamental ironwork for custom homes in the Aspen area, where I have designed many unique pieces for home owners. My wife and I also had a gallery for 12 years where we were able to display our artwork and expand our interests.

I began a North American Wildlife series in 1997 when I came up with a method of looking at the actual skull of an animal, then hand forging it completely out of steel right down to all the cartilage, making it look just like the real skull....by hand no pouring or casting of any kind. Making each creation a "one of a kind". I continue to be hired by hunters to forge them these special art pieces.

The next area that caught my eye was the custom bike building era. I decided to apply the completely hand forged method and with my second bike I had the honor of winning second place in Sturgis SD. I made the Sabertooth Tiger bike as close to the actual size and structure as possible.

I have completed several large sculptures in the last 2 years, a very large Buffalo Head for the Sculpture Garden at the Buffalo Chip in Sturgis SD, an Elk Skull and Town Sign in Colorado, a 14' Robo Bull in California and the one I completed this summer is a 12' Military Memorial that has traveled and been on display, it may go to Washington DC or end up permanently at Fort Carson in Colorado, that is yet to be decided.





ROUNDABOUT

REAR



Cool Globes

Wendy Abrams, environmentalist, friend of Robert Kennedy and Bill Clinton, crusader on climate change, conceived the Cool Globes Art Project as a way to focus on actions that can be taken to ameliorate the impact of greenhouse gases.

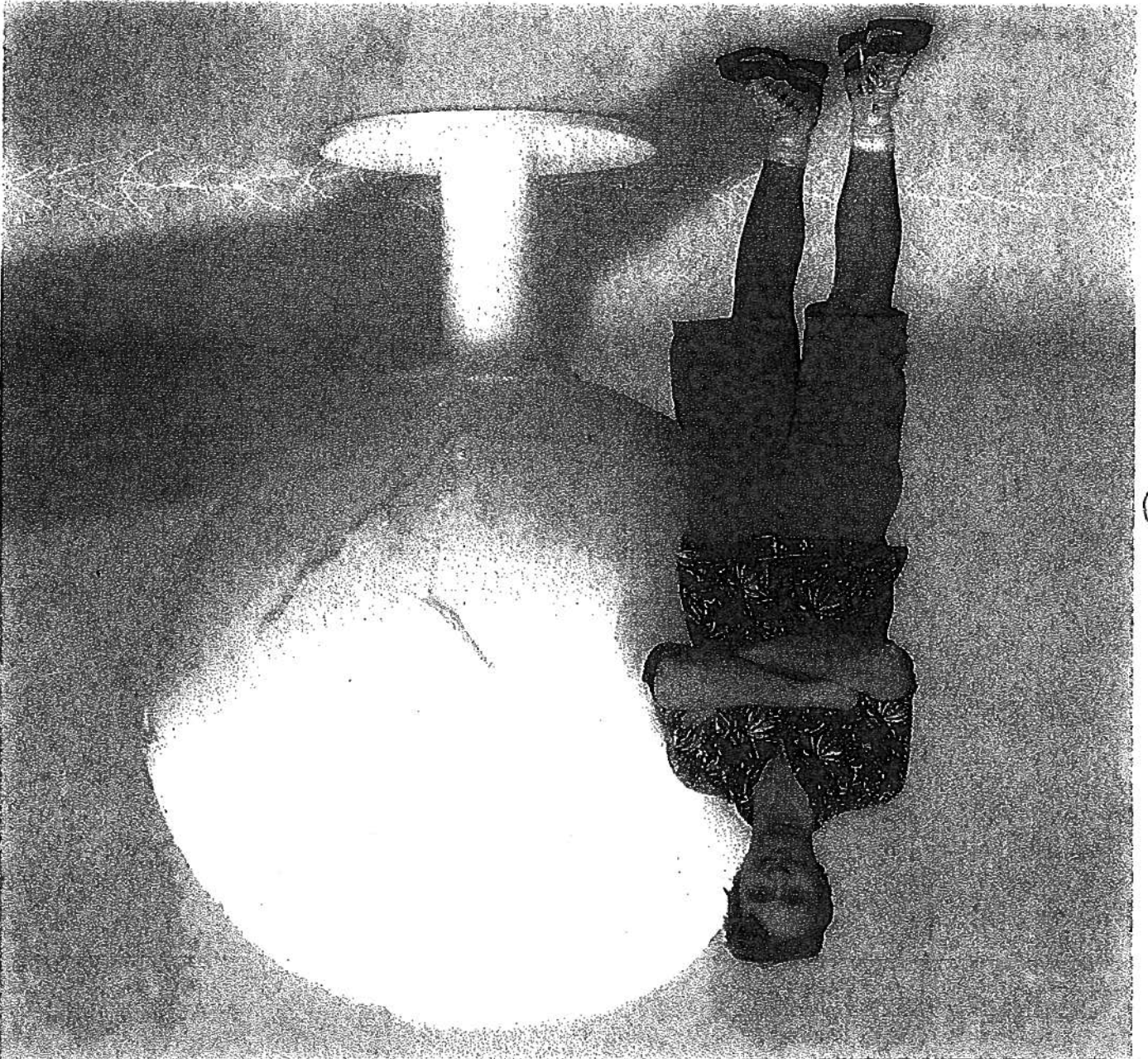
The business model is to seek underwriting of artists to create images on blank 5' globes. Sponsors have included Toyota, Whole Foods, Starbucks and other corporations, foundations, families and individuals. At the end of the display – perhaps six months or a year – the globes are auctioned – sponsorship followed by sale.

Opened in Chicago with 120 globes arrayed along the lake front – the globes have appeared in San Diego, San Francisco, Washington, DC, Marseilles, Copenhagen and Amsterdam.

In Snowmass, perhaps in partnership with the Anderson Ranch, globes could tell the stories of local activities – microhydro, LEEDS, methane project, carbon offsets – as well as more global themes. The themes have focused on individual action but could include broader issues of forests, ocean currents around the world and glaciers.

This would enhance the emerging theme of Snowmass as the center of climate change issues.

PUBLIC ART WITH A PURPOSE



Cool Globes will provide a large (5-foot diameter) uniquely crafted and molded representation of the planet to each artist. Artists will either select an environmental topic or be commissioned by the sponsor to work with a specific solution to global warming as the underlying theme for the artwork. The globes will be painted and manipulated, transforming each piece into an artistic vehicle

to create awareness and discussion. The globes will serve as a blank canvas for exposing people to a wide array of solutions to meet the challenge of global warming. Artists selected for the exhibition will include some of Chicago's finest artists as well as acclaimed members of the national art community.

CLINTON CLIMATE INITIATIVE



Sponsor:

Artist: Sandra Bacon

The William J. Clinton Foundation and the world's largest cities have joined forces in the race against climate change. The Clinton Climate Initiative offers strategies for cutting greenhouse gas emissions, standards for measuring progress, technical resources, and the opportunity for city leaders to learn from each other. As President Clinton stated, "The fate of the planet that our children and grandchildren will inherit is in our hands, and it is our responsibility to do something about this crisis."

To highlight and honor the initiative's 40 partner cities, Sandra Bacon painted translucent circular ripples of color around each area. The ripples represent the impact that each city's carbon dioxide reductions can have on their surrounding regions. She hopes viewers will notice that many of the ripples overlap, showing the promising results of this initiative in a vivid way.

coolglobes.org

69



Ripple



Artist: Robert Donley

Sponsor:

Robert Donley's globe illustrates the earth as Eden. Through a textured and painted surface, Donley drew, with pencil, both natural and technological features that make the world a paradise. Donley includes examples of wind and solar power, green buildings, forests, jungles, crops, and hydropower. By working with nature's bounty to enhance what is already here, the world will truly be a paradise found.

Paradise Regained

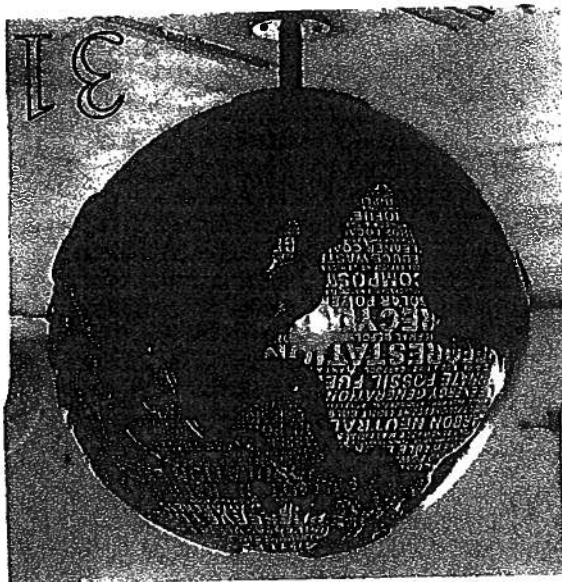
THE NEW YORK TIMES MAGAZINE

Planet Alert: Level Red!

Continuing to live unsustainably makes global climate change inevitable. Choosing instead from a multitude of green solutions can help to vastly reduce greenhouse gas emissions and ultimately solve the problem. The earth is on the verge of experiencing drastic climate changes, and some regions of the world are bigger culprits in this than others.

The red areas on Stanley Tigerman's globe denote those most responsible for the global "blackened Earth" policy, and list the unsustainable choices that have contributed to the threat. The green areas impart sustainable solutions that can be implemented in communities across the country. It's time to start living the green life!

Artist: Stanley Tigerman,
assisted by Cate Noble, Laura
Skelton, Melany Telleen
Sponsor: J.B. & M.K. PUTZKER
FAMILY FOUNDATION



Peace on Cool Globe

It's hard not to be a little bit under the weather when it comes to the state of the world. Hydropower is a clean, renewable source of energy that can help to reduce the carbon footprint of our planet. It's a win-win situation for the environment and the economy.

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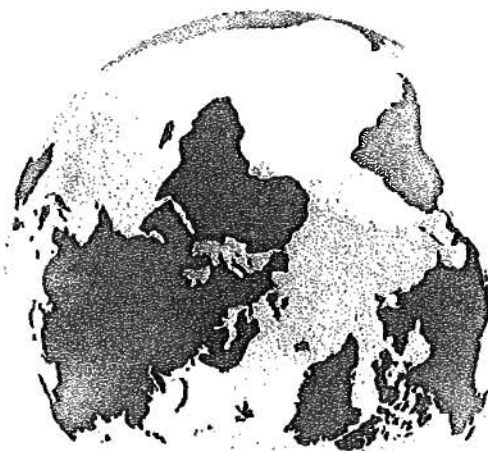
HYDROPOWER

Artist: Aesop Krim
Sponsor: Skip, Meg, and Katy
Herman



IT'S A MATTER OF DEGREES.

It may seem a bit unusual for a coffee company to sponsor a public art project about climate change, but frankly, it's a subject we all need to consider. The earth is getting warmer, and continued warming will affect the livelihoods of coffee farmers; it is already changing global weather patterns, agriculture, energy costs, and the environment of the planet as a whole. In the last 30 years, the earth has experienced twice as much drought; plants and animals are going extinct; and Greenland's ice sheets are melting at twice the normal rate, jeopardizing the world's coastlines. It may seem like three separate occurrences, but they are linked, each a consequence of climate change. Starbucks is committed to doing something about this dire threat to the world we live in, which is why we're proud to support Cool Globes. We invite you to join us in taking action on this very critical issue.



By purchasing renewable wind energy for 50% of our company-owned stores in North America, we are reducing our contribution to climate change. What can you do? VISIT US AT WWW.COOLGLOBES.ORG

INDOOR ART

Indoor Art

1. Lenticular vitrines with fossil casts in hotel lobbies, Snowmass Club, Ticketing Center, Airport, Elk Camp
Jaap Hoogstraten
Potential lobbies – 7 medium, 3 large
2. Floor casts of leaves of fossil plants (Denver Airport) – Jaap Hoogstraten
Concentration of images and text, geology and climate
3. Video of mammoths. Screen saver in hotel rooms with television or projected in hotel lobbies-
Jaap Hoogstraten
4. Limited edition Mastodon and Mammoth bronze sculptures – coffee table size.
Others. Groups. Private residences and hotel lobbies. Collaboration with
Method of financing life size sculptures
5. Reprinting of *Digging Snowmastodon* and DVD for sale or gift in condos/hotels
6. iPad app on ice age – game (crowded market). New film?

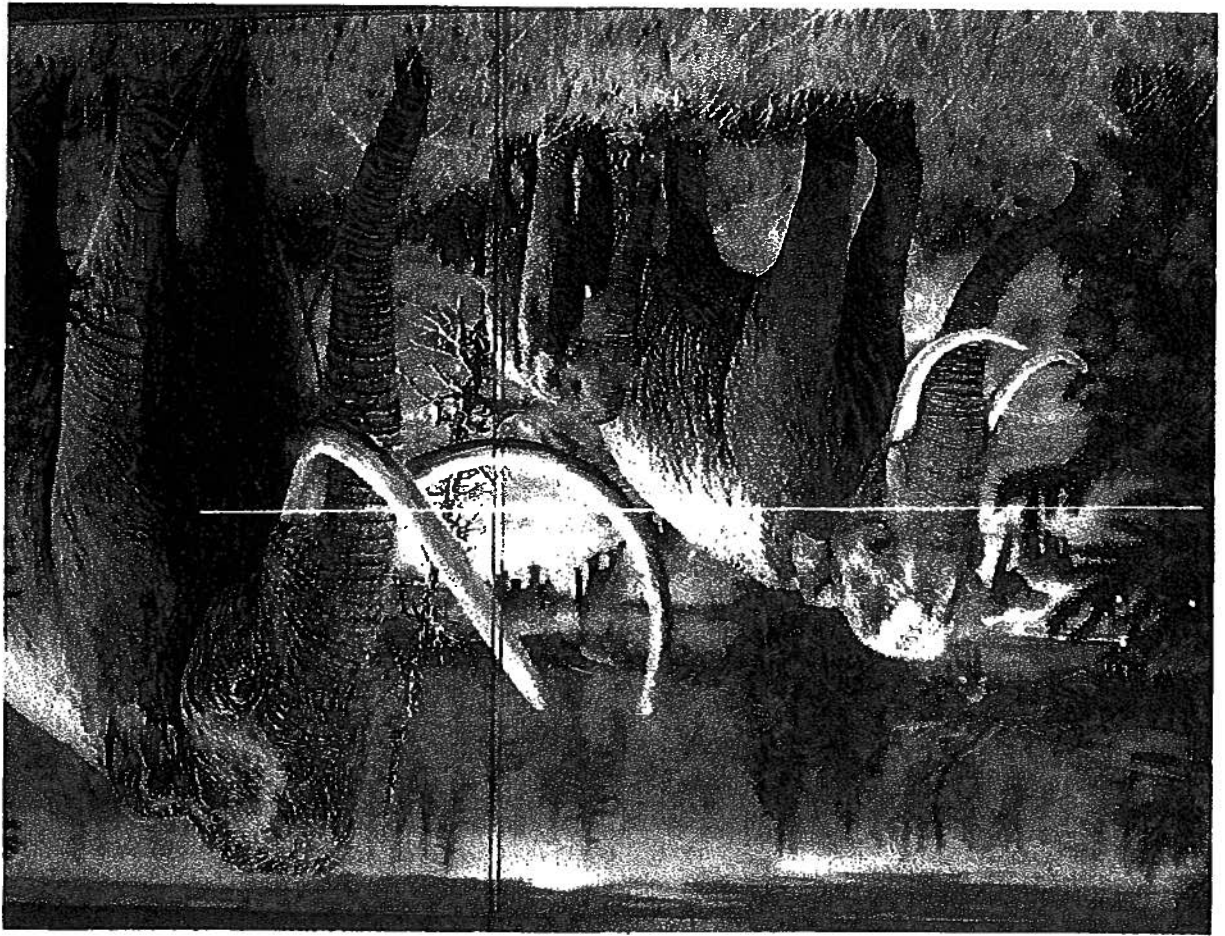
Purpose: Target visitors in residential accommodations, leisure time, evenings, apres ski, revenue source, reach beyond more narrowly focused science education

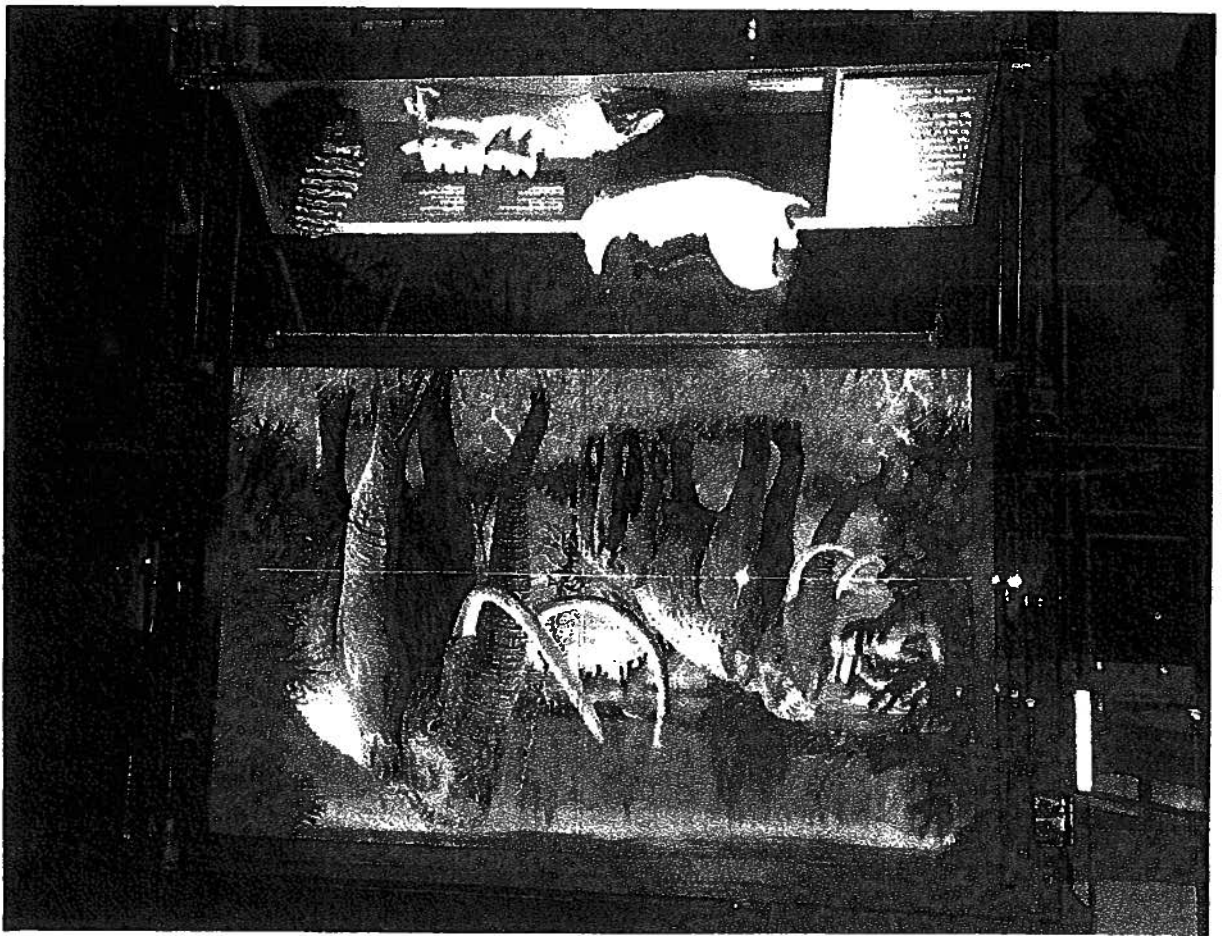
Lenticular Vitrines

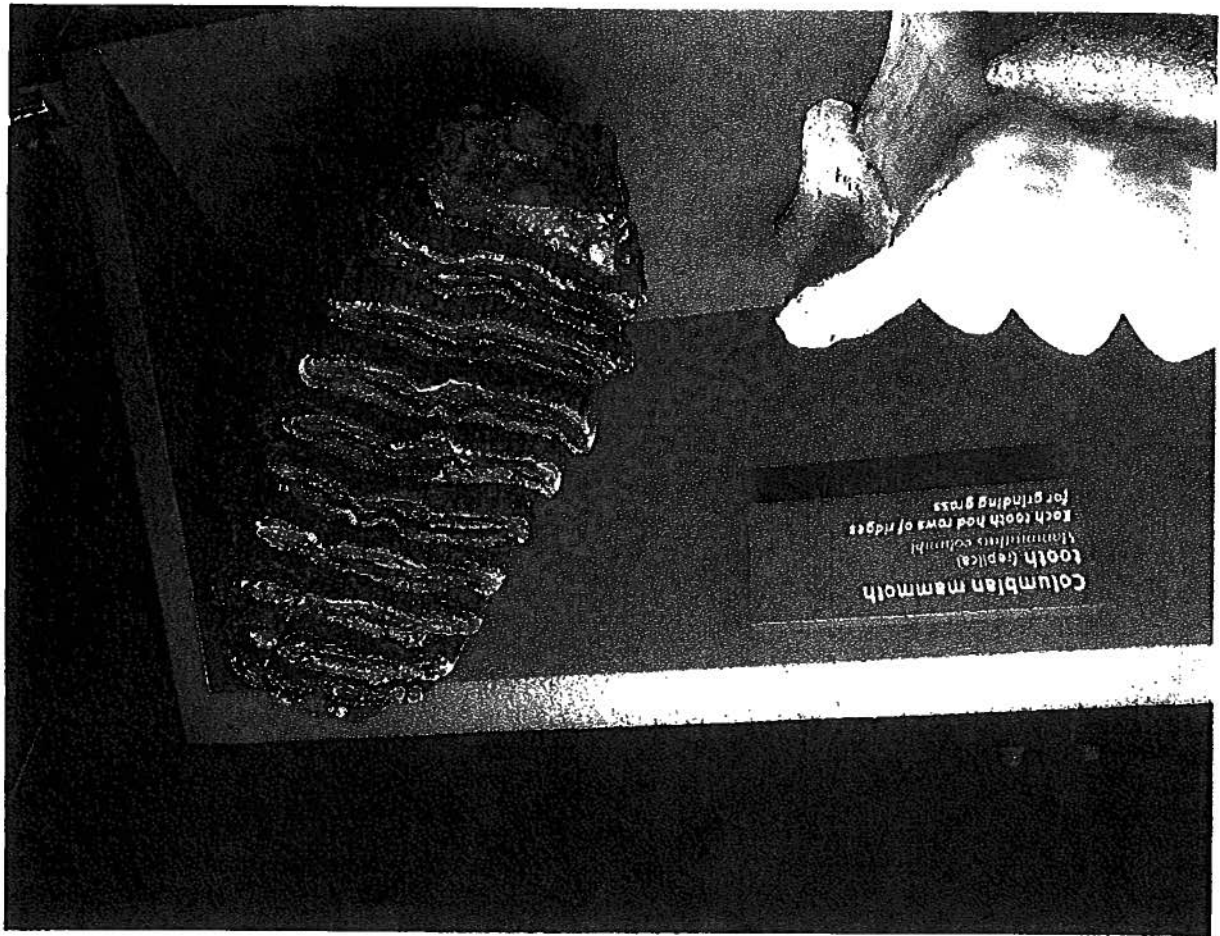
The lenticular lens "is an array of magnifying lenses... an illusion of depth... images appear to move." Relatively inexpensive, lenticular vitrines of mammoths or mastodons could be installed in many locations – hotel lobbies, for example. Installed under the vitrines, casts of teeth or bones can convey the "real" objects uncovered in the dig and short written text can explain the scene and objects.

Installation of two vitrines initially – at Aspen Airport and at Elk Camp on Snowmass Mountain in 2013, would enable testing the effectiveness and provide a "betatest" for organizations who could install subsequently. While final numbers need to be defined, a preliminary cost estimate of a 48 x 96" backlit lenticular light box is approximately \$3,200. Allowing for the cost of DMNS adding fossil casts in an accompanying case and descriptive text, each of these could be done for \$5,000 to \$7,000.

The company is Big 3 \$.com Worldwide – George Sosnowski (773/636-4635)







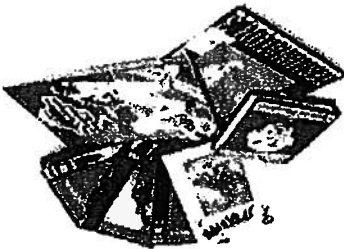
**Imagine
mammoth on
Michigan Avenue...**

12,000 years ago, on this spot, you
could have come face to face with
a mammoth. Not quite face to face:
a Columbian mammoth was 13 feet
tall, so you'd barely reach its thigh!
An inch of fat beneath its skin
helped the mammoth handle Ice
Age Illinois' cooler climate.

Latest Pleistocene (PLY-stuh-seen) Epoch
2.6 million to 12,000 years ago

Giant Short-Face
Lower Jawbone
Artiodonts
Near R. Shasta
Largest predator
The Ice Age

Lenticular lenses design & interlacing prepress & printing finishing glossary of terms

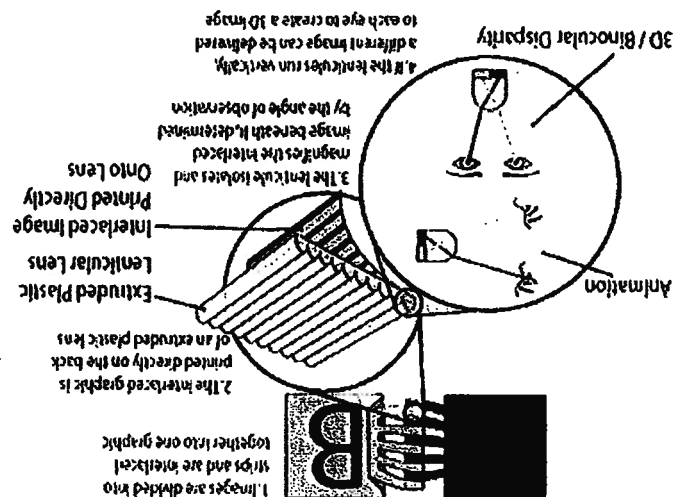


Lenticular print can easily be described as specially prepared graphics that are designed to work together with a lenticular lens to allow the viewer to see different images depending on the angle at which they view it.

The use of both imagery and lens material are inseparable when it comes to making the desired effect come to life in a lenticular print. The image itself is a composite of two or more graphics that are interlaced together. The lens is a unique plastic that is made up of individual lenticles that must be perfectly aligned with the interlaced image underneath it in order for the effect to work. Based on the angle of the viewer, each lenticle acts as a magnifying glass to enlarge and display the portion of the image below. Many lenticles working in harmony form the entire lenticular image. In this way, lenticular print can appear to show motion or even three-dimensions because each eye is viewing the lenticular print from its own angle.

Within this section, we'll show you the details of the lenticular lens itself, how the image is prepared and printed, and we've even got a glossary of lenticular terms to help get you started.

Learn more about
flexo lenticular
fletched lenticular



*The lenticular samples shown above include those from businesses that are not sponsors of, or associated with, this website. The inclusion of a picture of a business' product or lenticular application does not constitute an endorsement of this website or of any business associated with this website.

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Lenticular lens

From Wikipedia, the free encyclopedia

A **lenticular lens** is an array of magnifying lenses, designed so that when viewed from slightly different angles, different images are magnified.^[1] The most common example is the lenses used in lenticular printing, where the technology is used to give an illusion of depth, or to make images that appear to change or move as the image is viewed from different angles.

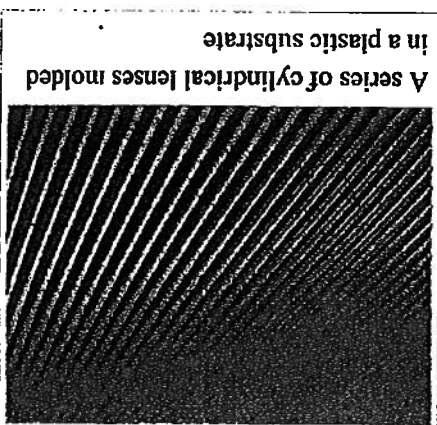
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Lenticular printing

Main article: Lenticular printing

Lenticular printing is a multi-step process consisting of creating a lenticular image from at least two existing images, and combining it with a lenticular lens. This process can be used to create various



A series of cylindrical lenses molded in a plastic substrate

Floor Casts

Many public spaces, notably the Denver Airport, have installed objects in floors. While lacking the impact of sculpture, these images could be used to enhance the Snowmass story of the smaller animals unearthed in the dig. Supplemented by explanatory text, this is one more method of telling the story at modest expense.



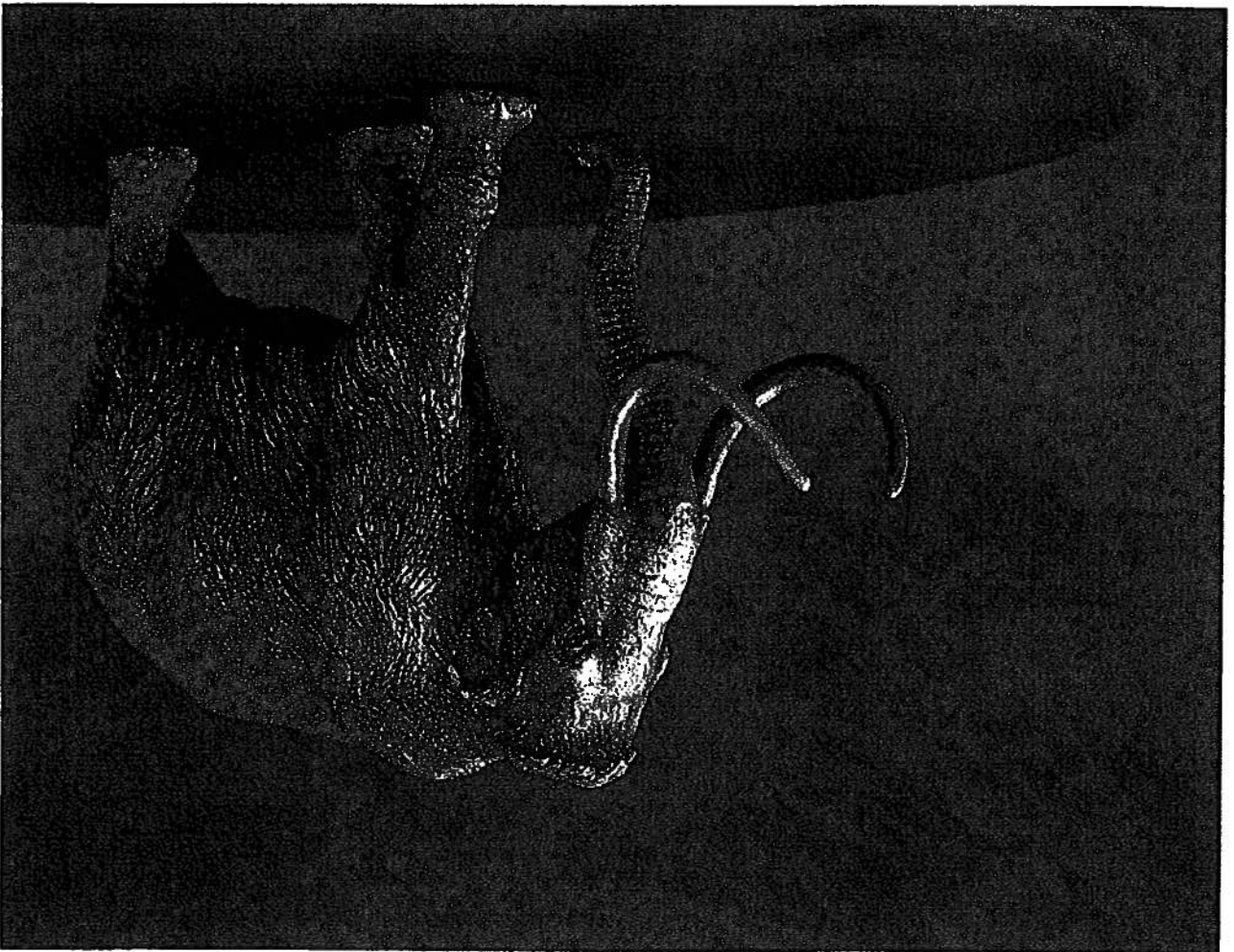


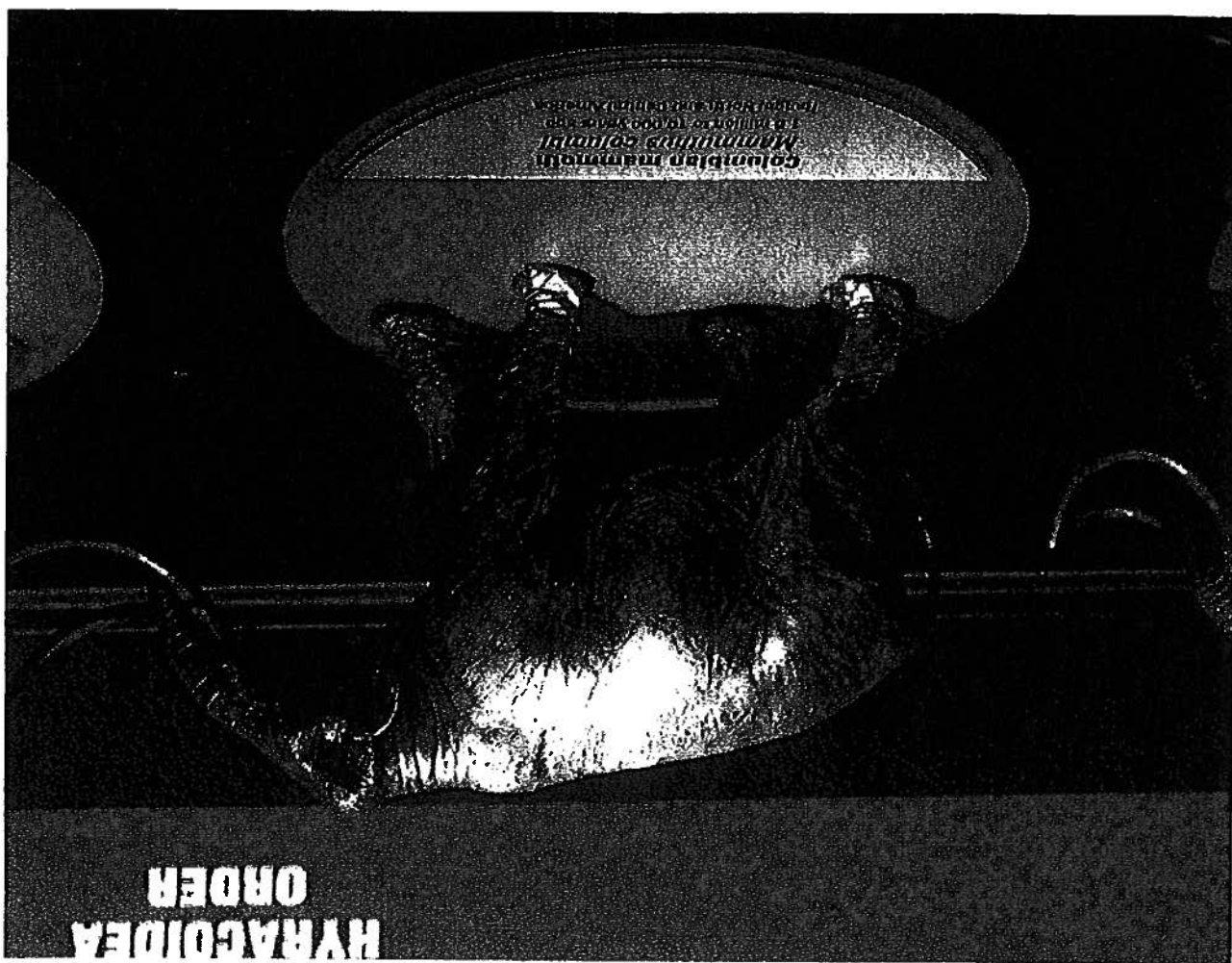
Limited Edition Bronzes

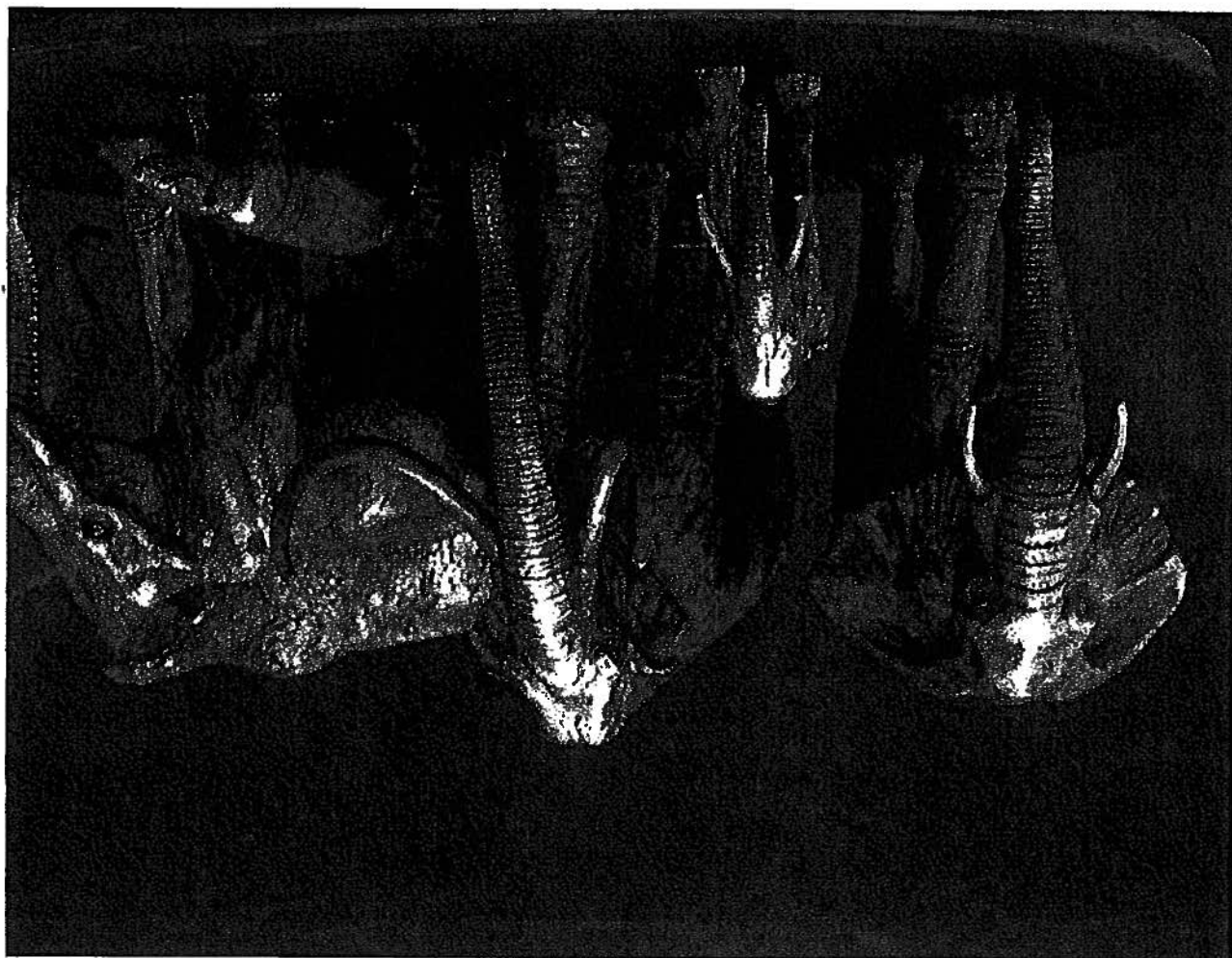
One of the challenges now that the dig has been completed is the reengagement of the Snowmass residential community. Another challenge is to pay for the outdoor sculptures. One way to address both of these challenges is to cast limited edition bronzes of a size that would fit in living/great rooms of private residences in Snowmass and Aspen. Smaller lobbies are also prospective locations.

Clearly, research into practicalities, tax treatment, receptivity of interior designers and number of candidate residences would need to be done. Also the question of pricing, cost and whether adequate margins would be achievable to contribute to the cost of outdoor art. Recognition of funders on the private interior sculpture as well as on the life-size sculpture would need to be addressed. Perhaps a quiet discussion with a small group of homeowners could test the receptivity of this idea.

Two sources of small sculpture follow.







John McCarter <jmccarter@fieldmuseum.org>

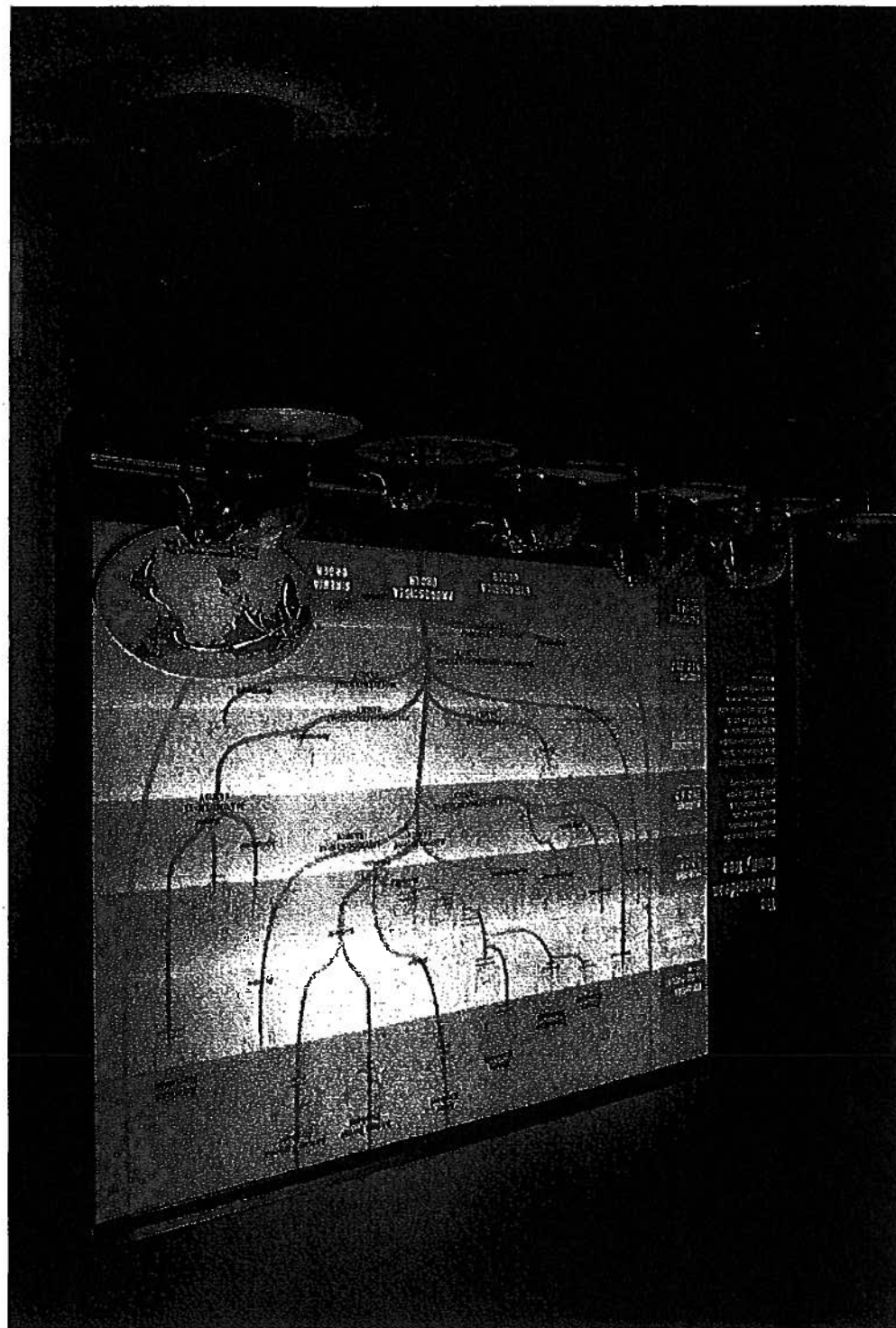
The Field
Museum

bronzes in place

1 message

Timothy Quady <tquady@fieldmuseum.org>
To: jmccarter@fieldmuseum.org

Attached are shots I took at the show.





blue rhino
studio

PROPOSAL

PROJECT: SNOWMASS BRONZE MASTODON TABLETOP SCULPTURES

BRS CONTACT:

TIM QUADY

DESCRIPTION:

ORIGINAL SCALE SCULPTURE OF MASTODON
ORIGINAL CLAY SCULPTURE OF MASTODON ON ROCK
OUTCROPPING TO BE SCULPTED AS A FULL-ROUND, DYNAMIC,
AND ICONIC ORIGINAL SCULPTURE.
SCULPTURE TO HAVE MASTODON AT 1" SCALE AND BE USED
NOT ONLY AS ORIGINAL ARTWORK FOR BRONZE CASTINGS,
BUT ALSO AS SCALE MAQUETTE FOR EVENTUAL FULL-SIZE
SCULPTURE.
SITE VISIT TO SNOWMASS TO LOCATE POTENTIAL FINAL
LOCATIONS FOR FULL-SIZE SCULPTURE INCLUDED IN TOTAL.
\$7,500

MOLD OF ORIGINAL SCALE SCULPTURE
MULTI-PIECE MOLD OF ORIGINAL CLAY SCULPTURE TO BE
FABRICATED TO USE FOR CASTING MULTIPLE BRONZES.
\$1,100

BRONZE CASTINGS
INDIVIDUAL BRONZES OF ORIGINAL CLAY SCULPTURE TO BE
CAST, CLEANED UP, AND PATINAED.
LIMITED EDITION OF 20 TOTAL SUGGESTED.
\$80,000 (\$4,000 EACH X 20 TOTAL)

DATE:

1-3-13

PRICE:

\$88,600 (\$4,430 EACH) GRAND TOTAL FOR TWENTY BRONZES

TERMS:

TBD

NOTE:

TAXES NOT INCLUDED IF APPLICABLE
PRICES DO NOT INCLUDE CRATING OR SHIPPING

PROPOSAL:

6167

PAYABLE TO:

BLUE RHINO STUDIO
3277 SUN DRIVE
EAGAN, MN 55121
PHONE: (651) 287-0900
FAX: (651) 287-0901

From: Gary Staab <gary@staabstudios.com>
To: "jmcarter@fieldmuseum.org" <jmcarter@fieldmuseum.org>
Subject: Bronze Images

John,

Thanks so much for the call yesterday.

I have attached a few images- one of the finished Bison latitrons bronze. (The one you saw in George Sparks office) The other image is a rough unfinished bronze cast of the Bison (without horns attached) next to a rough sense of scale and the general pose. As I mentioned I am also producing a sloth, as of yet it is still on paper. Since these are speculative projects I have been working on them only as time allows. If you would like to proceed we of course could step up the production pace.

Finished bronze prices

Bison latitrons

24" long X 25" to top of back X App 30" to top of horn

with walnut base

\$6,800

Mastodon

42" long X 27" top of head x 37" to top of tusks

\$14,700

Sloth - Megalonyx jeffersoni

Estimated cost \$5,700

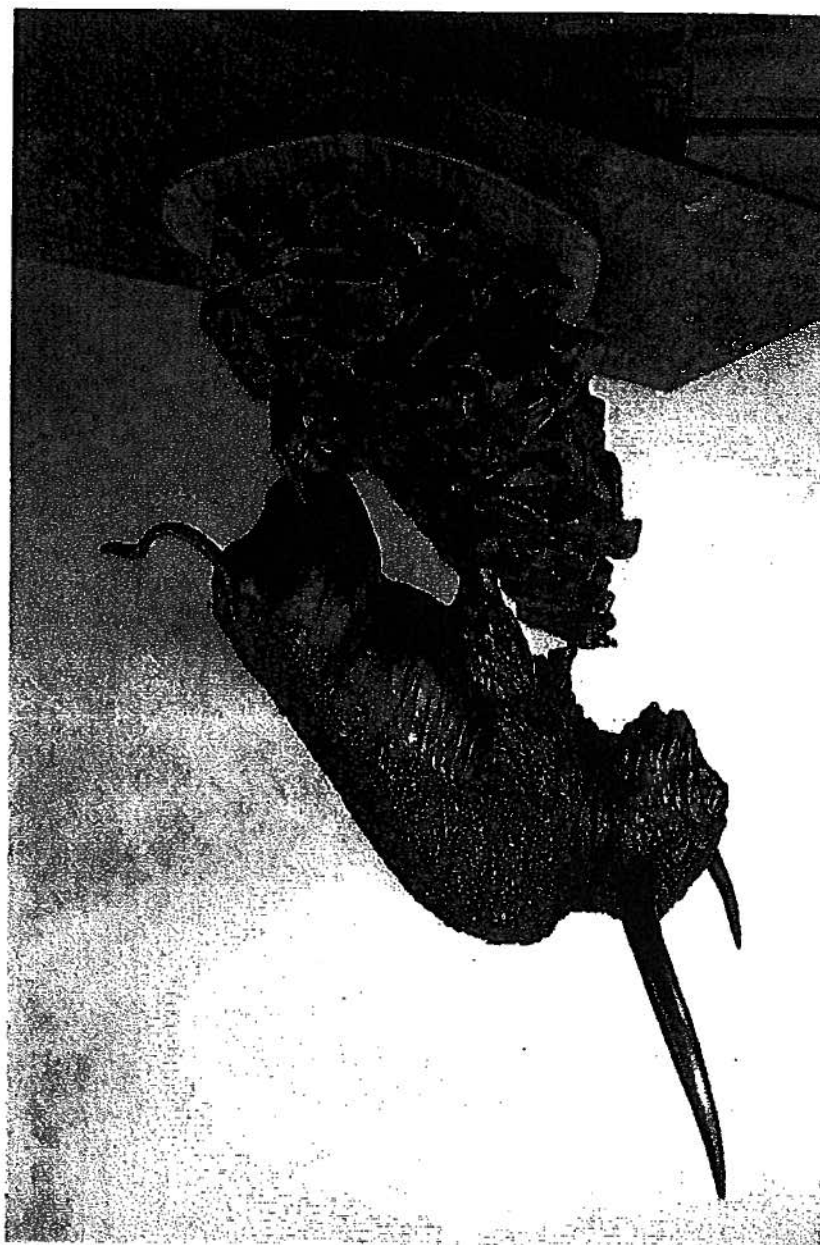
Please let me know if this is something you might be interested in pursuing, and we can talk more in detail about edition numbers, delivery, etc.

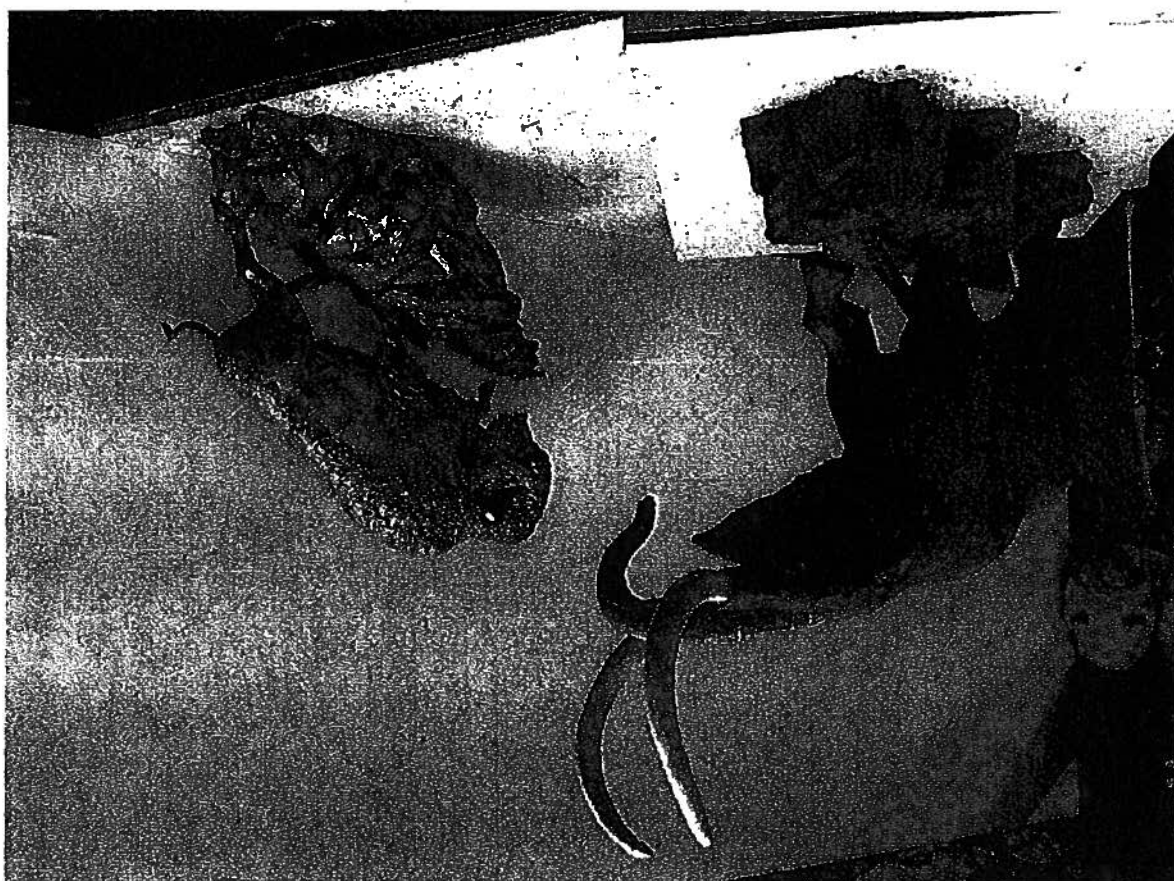
Thanks so much for your consideration.

Gary Staab

Studio# 816-635-3530

For images of my work visit staabstudios.com





SCIENCE EDUCATION

Science Education

1. Four week summer experience – international high school juniors and seniors focus, to experience field work – tents. Teen Science Scholars
 - . Geology of Rockies
 - . Paleontology
 - . Early human presence – four cornersA combination of instruction and field experience. Scholarship opportunity. One week in Denver. Three weeks based in Snowmass. Other pattern – all Snowmass based.
2. Fossil preparation laboratory in temporary or permanent seasonal structure—removal of fossils from matrix and specimens from Snowmass or other DMNS expeditions or other museums or universities
3. Dig pit to extract fossil casts – younger children, supervision
4. Film School - Scientific and environmental themes
5. Illustrated signs on chair lift towers and radio signals on towers
6. Trails with interpretative stations
7. Observatory, telescopes, astronomy - partnerships
8. Collaboration with Denver Museum of Nature and Science, Colorado Mountain College and others

Purpose: Summer experience with increased national focus on STEM (Science, Technology, Engineering, Math) US Department of Education support? Smithsonian?

Four Week Summer Experience

Partnership with Denver Museum of Nature and Science, Colorado Mountain College and others.

Target audience – international families with or without connection to Snowmass. Significant tuition to cover costs and enable scholarships.

The area is rich in nearby stories of natural science and anthropology. Living in tents will be a new experience. The natural attention from “No Child Left Inside” is the framework for this experience – too much time in front of screens indoors, childhood obesity, fear of the outdoors.

Two examples follow: One from Steve Nash of DMNS and one from Lance Grande of the Field Museum in the Green River Formation of Wyoming.

DMNS – Magic Bus Itinerary

Steve Nash, Chair, Anthropology Department, DMNS

Day 1:

Denver to Alamosa

Castle Rock Rain Forest

Manitou Cliff Dwellings, Colorado Springs

Triceratops skeleton, Canon City

Rosemount Museum, Pueblo

Great Sand Dunes National Park video of bus

Volcanic dykes south of Walsenburg

Blanca Peak

San Luis Valley, Alamosa, Demography and Health

Inn on the Rio Grande, Alamosa

Great Sand Dunes National Park

Day 2:

Alamosa to Aspen

Monte Vista National Wildlife Refuge: bird migrations

Alligator Farm tour

UFO Farm/San Luis Valley weirdness

San Luis Valley Potato growers video on bus

Oil and gas industry in San Luis Valley

Four miles south of Villa Grove – Holen's mammoth, plus ??species with fractured bone

Mt. Antero, Ruby Mountain

Leadville Mining Museum video on bus

Leadville Mining Museum, local mine

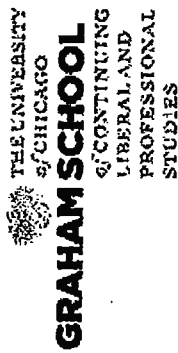
Bark Beetles

Aspen -- hotel

Stargazing

Day 3:

Ice Age Discovery Center
Snowmastodon Site
Roadside geology of I-70
Henderson Mine
Magic Mountain, LoDaiska Site
Dinosaur Ridge
Return to Denver



THE UNIVERSITY OF CHICAGO SUMMER SESSION '12

High School

Stones and Bones: A Practicum in Paleontology

Summer Programs for High School Students

Orientation: June 16-17 in Chicago.

Classes meet in Chicago June 18 - June 24 and July 7 - July 13

Field school in Wyoming takes place June 25 - July 6.

Prerequisites: This program is open to high school students, 14 and older, who will be sophomores, juniors, or seniors during the 2012-2013 academic year.

Housing: Students in this program must live on campus when not in Wyoming.

Join Field Museum Vice President of Research and Collections Lance Grande for a four-week intensive practicum in paleontology. Go into the field and behind the scenes at the Field Museum to learn how fossils are collected, analyzed, and conserved, as you work alongside museum scientists in the lab and in the field.

Video: Students share their experiences

In Chicago, Grande and other Field Museum scientists will take you into the labs and galleries where they work and study as they introduce you to important concepts in geology, paleontological method, stratigraphy, and earth history. You will also learn about basic techniques for the study of evolutionary biology including comparative skeletal anatomy of fishes and other freshwater animals. You will also examine methodological concepts such as fossil preparation, illustration, and description. In this way, you will acquire the fundamental scientific background needed to discover and understand the significance of fossils in the field.

Then, experience what life in the field is all about when you join the ongoing Field Museum expedition in the Green River Formation. This site is one of the world's productive fossil sites and contains an entire 52-million-year-old community of extinct organisms. Previous expeditions to the Green River Formation have led Dr. Grande and his team to uncover thousands of fossils, including plants, insects, mammals, crocodiles, birds, lizards, turtles, and fishes, many of which are currently on display at the museum. Spend your mornings and late afternoon prospecting for fossils from the Cenozoic Period and interpret them in a way that allows you to incorporate fossils into studies of living animals and plants. In the early afternoon and evenings, you can go into town for provisions, help prepare meals for your fellow diggers, and sit around the campfire with the museum's researchers and their families. When you return to Chicago, you will conserve, catalog, and analyze your new discoveries in the museum's preparation labs, using the same techniques and equipment that the museum's own staff uses.



Video: Lance Grande discusses the program

Please note that participants in this course will encounter strenuous field conditions in Wyoming, including camping in tents, traversing rugged terrain, and excavating in extreme heat during the day as well as sleeping in colder temperatures at night.

The Field Museum is considered one of the finest natural history museums in the world, with top-notch collections as well as a strong research team. The museum exhibits a wide range of prehistoric life, from dinosaurs like the famous T.rex., "Sue," to early mammals, birds, and fish. It is one of the few museums in the world to maintain regular fossil-hunting expeditions in search of prehistoric remains. Learn more about the Field Museum's expedition site in the Green River Formation by visiting www.fnmh.org/expeditions/lance/about.html, where you can click on interactive maps to experience a virtual tour of the excavation and the prehistoric fossils that you are likely to discover. Stones and Bones gives you a unique opportunity to participate in the paleontological study carried out by the museum.



- [Read Comments from Past Participants](#)
- [Read an article about Stones and Bones](#)

Application Deadlines*:

To apply for this program, click on the shopping cart icon to begin the application.

- **April 13, 2012:** for international students needing a student visa
- **May 4, 2012:** for all other students

* *Applications are currently being accepted for this program. Admissions decisions are made on a rolling basis; the program can fill before the deadline. This program does not consider late applications. All application materials, including letters and transcripts, must be in our office by the deadline date.*

Lance Grande, Vice President and Head of Collections and Research, The Field Museum; Lecturer and Member, Committee on Evolutionary Biology, The University of Chicago

Program Costs

Tuition (double credit): \$6,150

Housing and Transportation (includes room and board in Chicago and Wyoming, transportation to and from Wyoming, equipment, and supplies): \$2,995

Residential Program Fee: \$280**

Student Life Fee (required for all students): \$310 (estimate; actual cost may vary)***

Student Health Insurance (optional): \$822 (estimate; actual cost may vary)

A limited number of need-based scholarships are available - please see the scholarships section of the Program Overview page for details.

**The Residential Program Fee supports the on-site, 24/7 staffing of the Summer Programs for High School Students Residential Program and its organized activities and events.

***The Student Life Fee supports various aspects of the student life experience: 1) health and wellness services; 2) campus-wide student activities and programs; and 3) special academic resources including laboratories and libraries. This is a fee levied by the University for all registered students.

Included: Tuition for two courses; room and board; roundtrip transportation between Chicago and Wyoming; full-time, on-site support while in the field; on-site project-related equipment and supplies (except for those mentioned on the packing list).

- [Stones and Bones Packing List](#)

Fossil Preparation Laboratory

Themes - People like to watch people work. Kids need exposure to real science.

Timing/urgency -- This can be set up this spring for the summer.

What is it - When fossils are removed from the found, they are protected by surrounding matrix and plaster "field jackets". Bones are often fragmented from dispersal, time and pressure. These

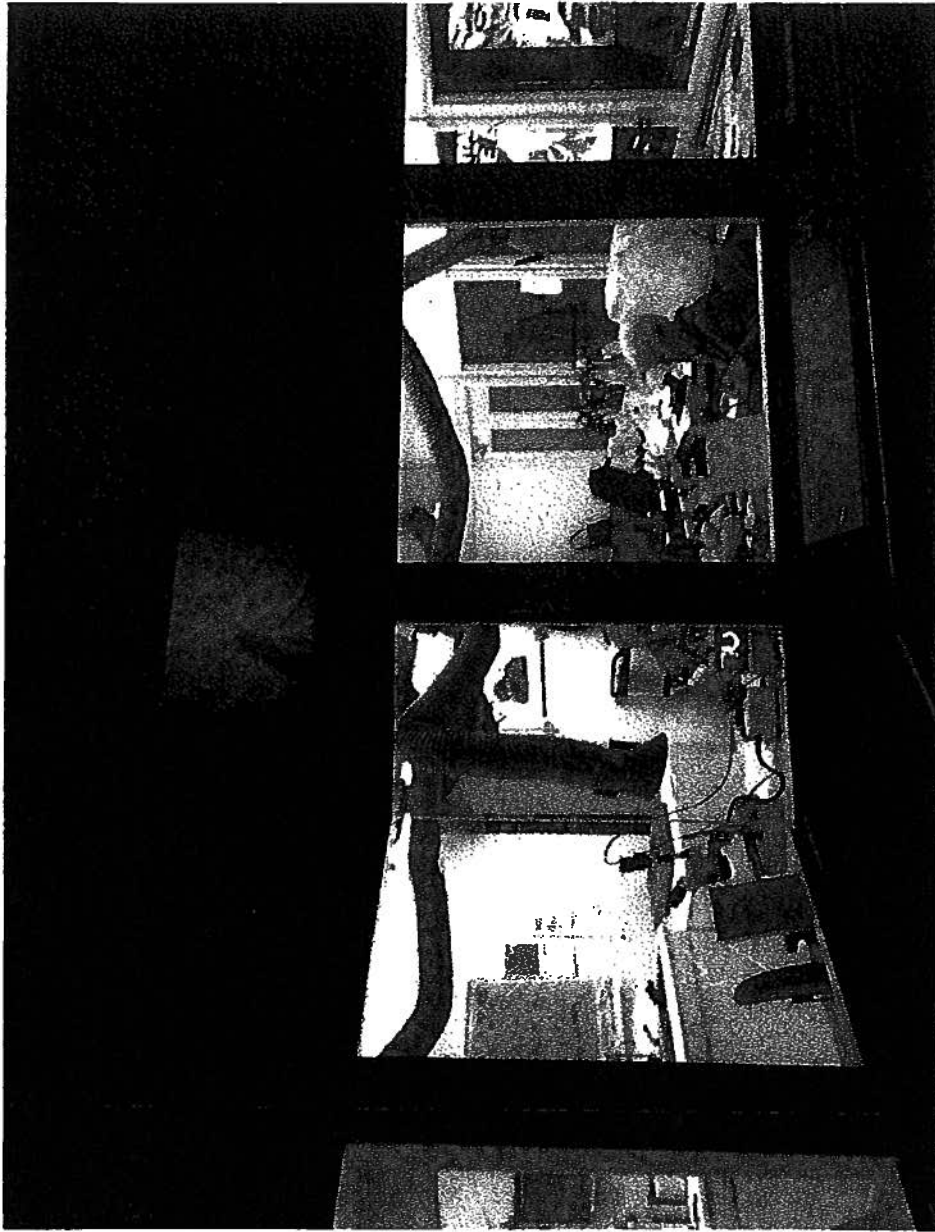
"fossil packages" are transported to museums (DMNS) for preparation, reconstruction and analysis. We would bring some of the fossils back from Denver for preparation in Snowmass. While in a temporary or seasonal facility such as the Ticketing Pavilion this summer, eventually a permanent facility could be constructed.

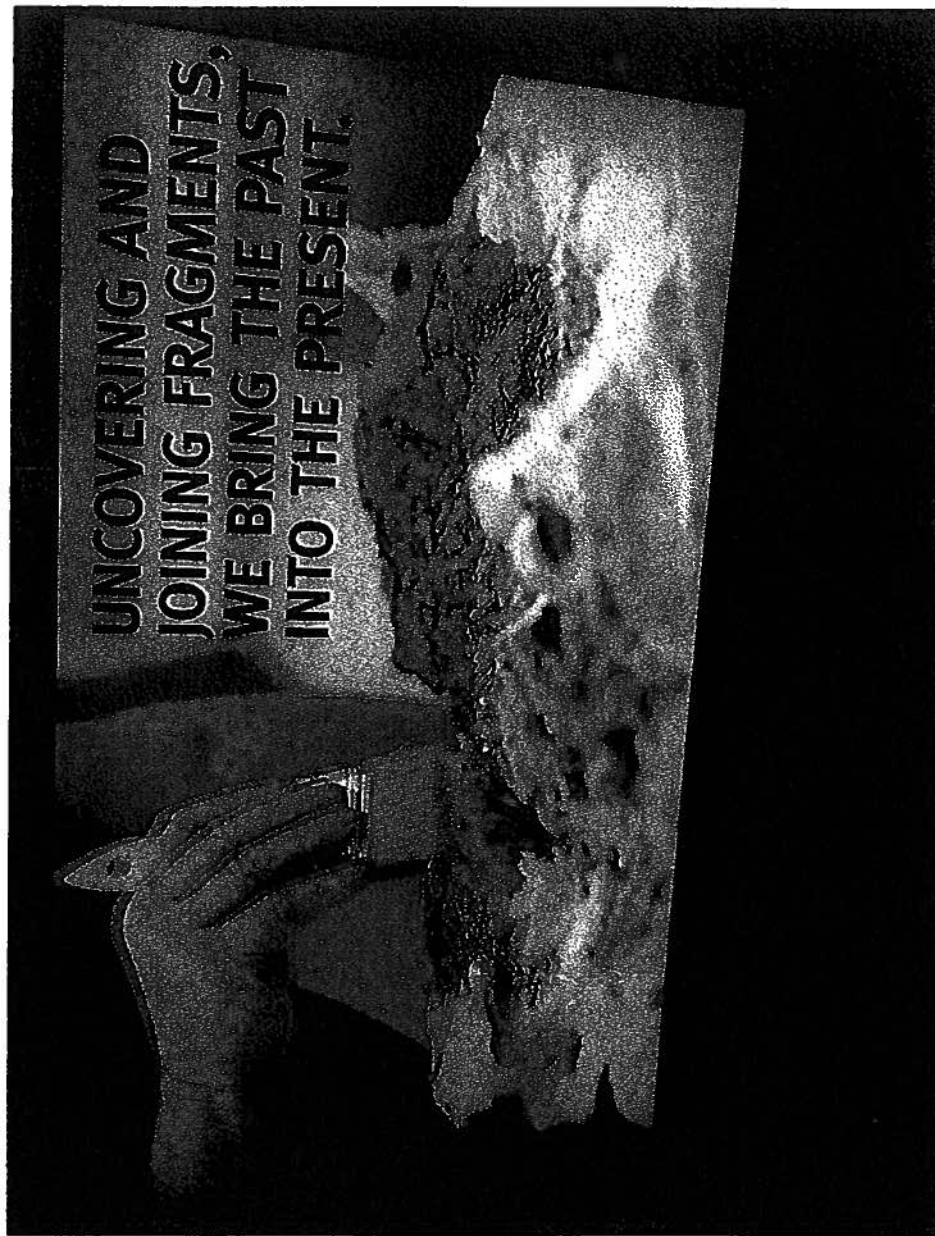
The work and equipment -- Preparation of large bones, sifting and identification of small fossils. Air compressor to operate drilling tools, venting exhaust dust collectors, screens, industrial sink, microscopes, television cameras attached to microscopes and projected overhead.

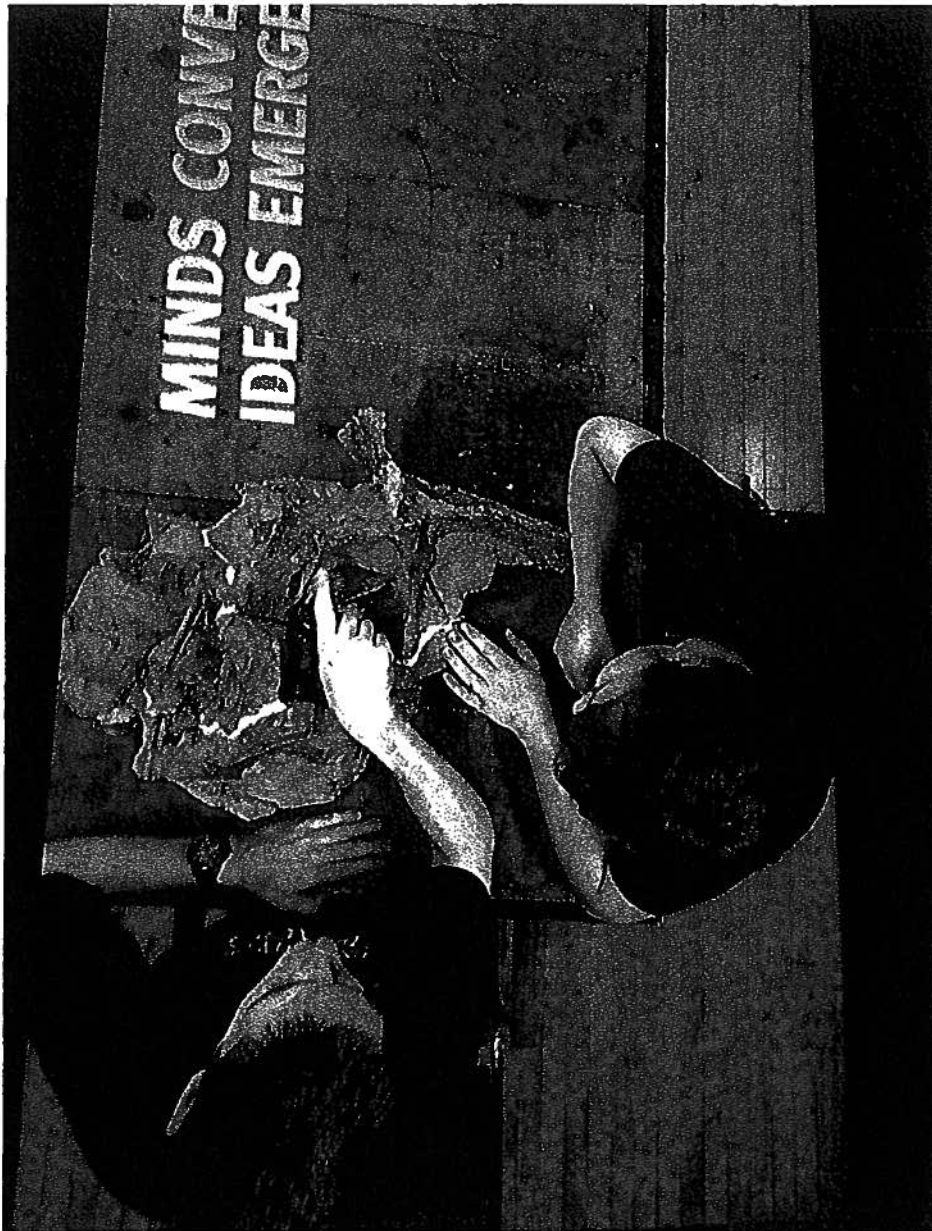
Staffing -- One or two professional fossil preparators and four winter lift operators trained for a week in Denver. Site manager and interpreters to explain process. Opportunity to reengage volunteers.

Target Market -- Families with children five and up. Opportunity to sift.

Trail Head for nature hikes, visits to Discovery Center, other Snowmass activities -- rafting, balloon, etc.



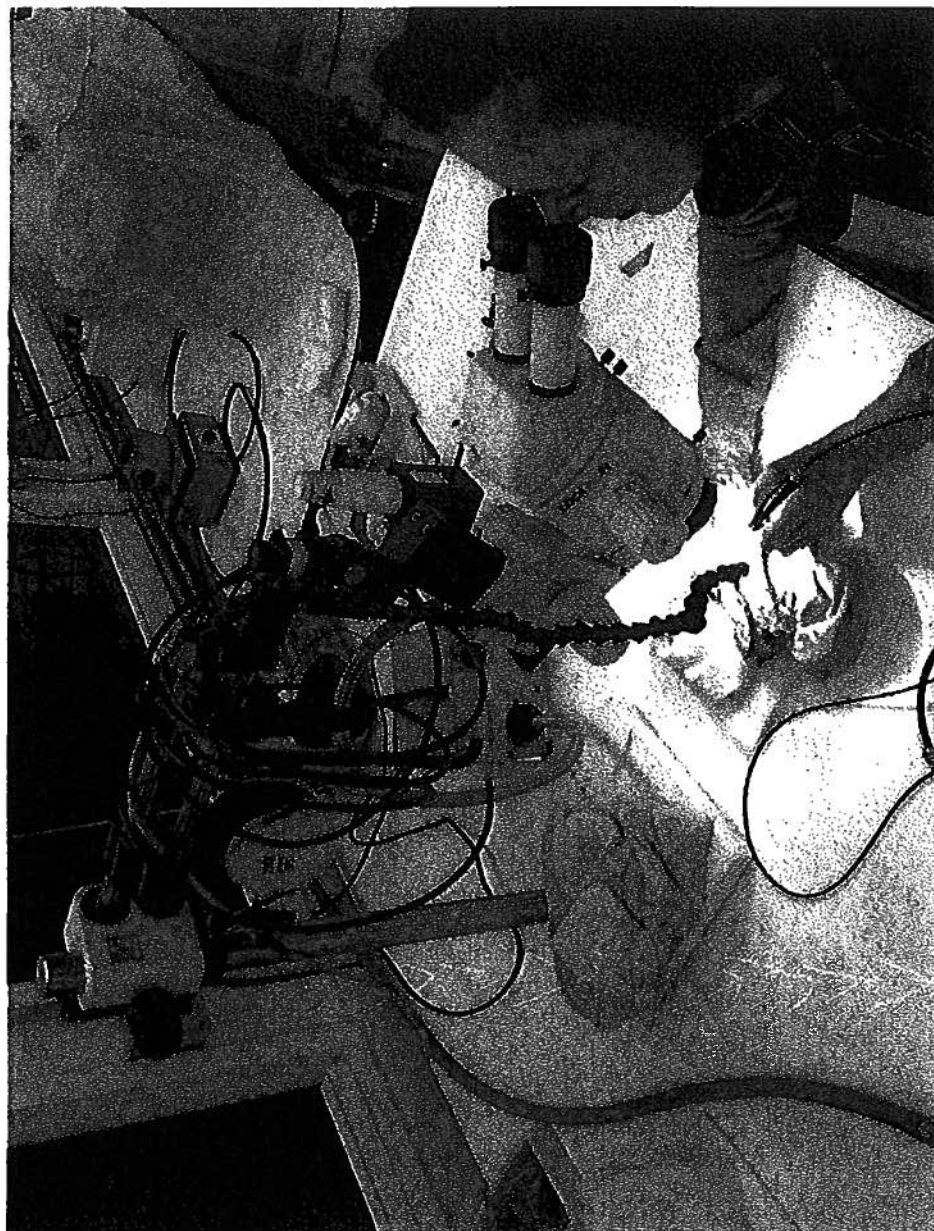


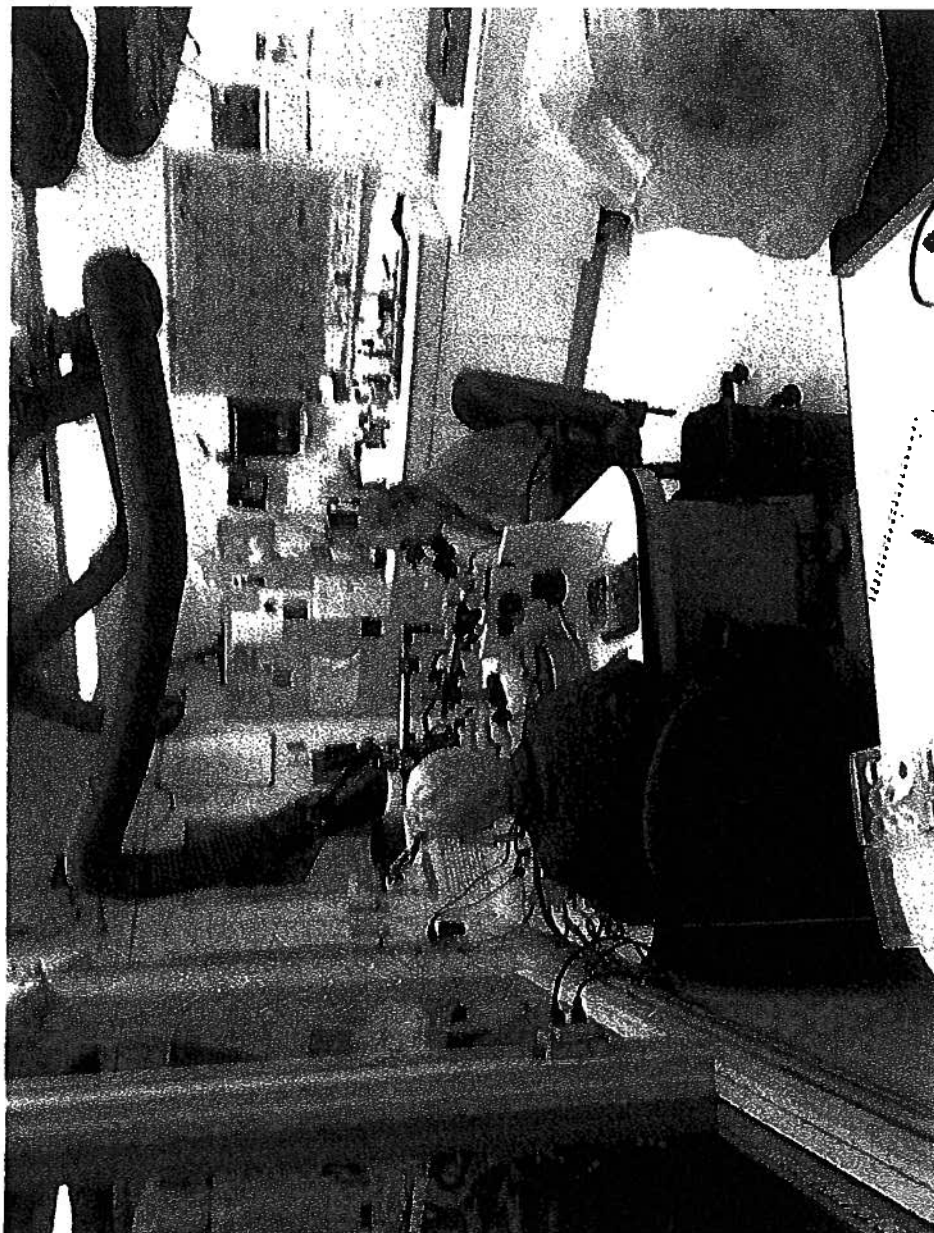


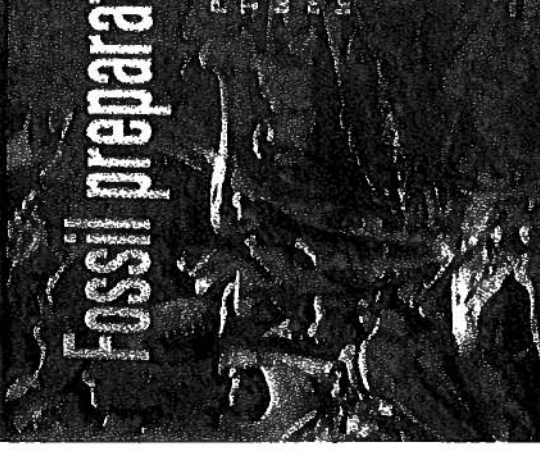












Fossil preparators have to be puzzle experts

Preparators must remove layers of matrix from each fossil bone. They also glue loose and broken pieces back together. They have to be patient and skilled with their hands. Imagine a puzzle that requires you to find and reconstruct each piece before you put it together!

© 1999 The American Museum of Natural History

DIG PIT

Two feet deep, 30' by 40' sand box with cover.

Target involvement -- children up to eight to dig and discover plaster casts of bones that can be turned in for other casts.

Adjacent to fossil preparation laboratory -- excitement of discovery -- autographed bone to take away or just turning in. Photo op, excitement. Supervision essential. Kids can do this for hours. Teaching. Early childhood development.

... and telescopes and eventually an observatory

Rounding out the day after dinner looking at the night sky on the ski slope or roof of the Ticketing

Pavillion --

A full day of science and without the capital cost of a structure.

Film School

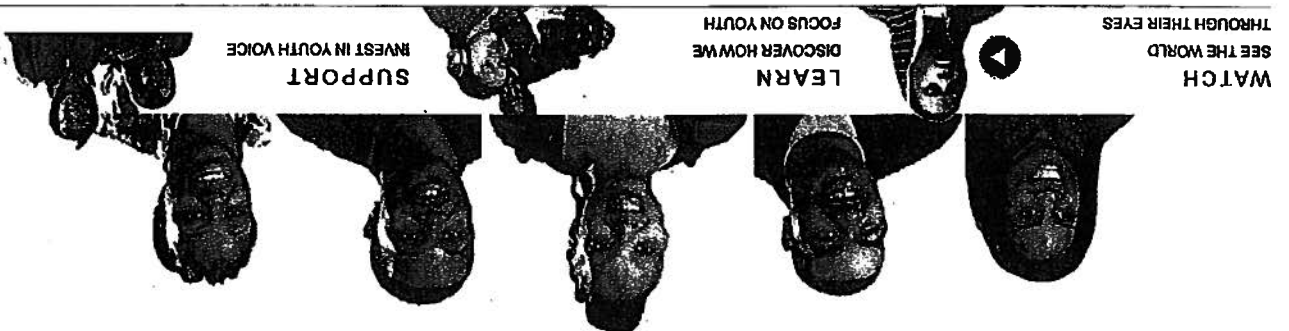
Film is a growing part of young peoples' lives – e.g. U Tube. The success of the University of Southern California Film School has produced extraordinary directors and film makers.

The establishment of the Walter Isaacson Film Program at the Colorado Mountain College provides an alliance opportunity for young film makers to focus on environmental films. For example, the reopening of the dig would provide multiple stories. Programs like those at Jackson Hole of Teton Gravity Research on extreme film making can provide a model.

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NEWS: First Fan: 'I see so much of myself in all of you young people ... If... Full Story >

focused on our youth

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SCIENTIFIC CONFERENCES

Scientific Conferences

1. Utilization of May- September shoulder seasons
2. Society of Vertebrate Paleontology
3. Comer Science Meetings on Abrupt Climate Change
4. American Geophysical Union
5. Others

Purpose: Establish Snowmass as the place for convening while using lower price point affordable to academics.

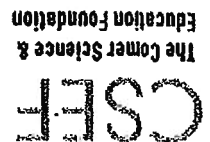
Snowmass had had success with medical professional conferences, e.g. cardiologists are in their forty-fourth year with a week long meeting at the Conference Center.

If "Sustainable Snowmass" could establish itself as the international center on issues of climate, it could recruit other scientific groups, especially for the May and September shoulder seasons.

As an example, the world's leading climatologists and glaciologists hold an annual meeting at the Gary Comer farm in Wisconsin. If Snowmass could bring them here, there would be an extraordinary opportunity for "Dateline Snowmass" stories on climate change, Greenland, Antarctica.

Other groups of academics could be drawn to the location for their meetings—Society for Vertebrate paleontology, American Geophysical Union .

Aspen International Mountain Foundation, Mountain Protection Network, Rebecca Wallace, Aspen Hydropower, Rocky Mountain Institute, Aspen Center for Environmental Studies, Holy Cross Energy – the intensity of local initiatives is extraordinary but who is the convenor? Who is telling the cumulative impact? How can a "Sustainable Snowmass" story be told?



Investing in Children & Communities

Climate Change Initiatives

Gary Comer Abrupt Climate Change Fellowship

In 2001, Gary Comer and the crew of his yacht *Turnoil* successfully sailed the Northwest Passage, the sea route through the Arctic Ocean connecting the Atlantic and Pacific Oceans. Historically, the passage was a treacherous ice-ridden journey that once turned back early explorers, but *Turnoil* made it through with relative ease.

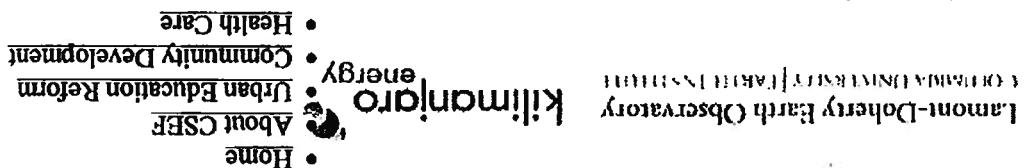
Upon his return, Comer became interested in climate change and in 2004, established the Gary Comer Abrupt Climate Change Fellowship. The Fellowship supports leading scientists studying the causes and consequences of abrupt changes in climate by funding post-docs, graduate students and technicians. The program also seeds special abrupt climate change field work and projects requiring fast-track funding. In addition, CS-EF hosts an annual conference for leaders in abrupt climate change research.

The Gary C. Comer Geochemistry Building

The Gary C. Comer Geochemistry Building at Lamont-Doherty Earth Observatory, Columbia University, opened in 2004. The 63,000-square-foot structure was awarded LBD Silver Status in 2010. The state-of-the-art laboratories are home to world-class scientists whose research focuses on the Earth and its environment.

Kilimanjaro Energy

CS-EF supports Kilimanjaro Energy, a company dedicated to the development of advanced technologies to efficiently and economically capture atmospheric carbon dioxide for beneficial use. The advantage of direct air capture is that it transforms the vast resource of atmospheric CO₂ into a valuable product stream.



- Climate Change
- Press
- Contact Us

Society of Vertebrate Paleontology

From Wikipedia, the free encyclopedia

The Society of Vertebrate Paleontology (SVP) was founded in 1940 for individuals with an interest in vertebrate paleontology. SVP (as it is known to its members) now has almost 2,000 members. The society's website states that SVP "is organized exclusively for educational and scientific purposes. The object of the Society is to advance the science of vertebrate paleontology and to serve the common interests and facilitate the cooperation of all persons concerned with the history, evolution, comparative anatomy, and taxonomy of vertebrate animals, as well as field occurrence, collection, and study of fossil vertebrates and the stratigraphy of the beds in which they are found." SVP is also concerned with the conservation and preservation of fossil sites. SVP publications include *The Journal of Vertebrate Paleontology*, *The SVP Memoir Series*, *The News Bulletin*, *The Bibliography of Fossil Vertebrates* and most recently *Palaentologia Electronica*.

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■ 1 Public policies
■ 2 Publications
■ 3 Annual meetings
■ 4 Awards and prizes
■ 5 References
■ 6 External links

Public policies

SVP believes that, "Vertebrate Fossils are significant nonrenewable paleontological resources that are afforded protection by Federal, state and local environmental laws and guidelines". SVP believes that scientifically important fossils, especially those found on public land, should be held in the public trust, preferably in a museum or research institution, where they can benefit the scientific community as a whole. Paleontological Resources Preservation Act, S. 546 and H. R. 2416 were introduced in the US Congress with SVP's full support. Many amateur fossil collectors and dealers believe that such policies are a breach of their rights. The argument has also been put forth that there are too few professional paleontologists to collect and preserve fossils currently exposed to the elements, and that it is therefore essential that private citizens be allowed to collect them for the sake of their preservation.

According to the ethics by-law of SVP, "The barter, sale, or purchase of scientifically significant vertebrate fossils is not condoned, unless it brings them into or keeps them within a public trust."^{[1][2]} SVP feels that "The fossil record of vertebrates unequivocally supports the hypothesis that vertebrates have evolved through time" and that evolution is "the central organizing principle of biology, understood as descent with modification" and is important to geology as well. The Society believes only scientifically supported evolutionary theory should be taught in school and also believe that creationism and intelligent design have no place in scientific curriculum. To this end, SVP has set up programs to

train educators in teaching evolution and to support teachers who oppose those who desire to bring intelligent design into the classroom.

Publications

- *The Journal of Vertebrate Paleontology* (JVP) is the society's flagship publication. JVP was founded in 1980 at the University of Oklahoma and continued in 1984 by SVP. JVP contains original contributions on all aspects of the vertebrate paleontology, including vertebrate origins, evolution, functional morphology, taxonomy, biostratigraphy, paleoecology, paleobiogeography, and paleoanthropology.
- The *SVP Memoir Series* publishes monographic papers that are longer than JVP articles.
- The *News Bulletin* has been published for SVP since its founding. *The News Bulletin* contains minutes of annual business meetings, news from members around the world, address changes, new members, job advertisements, and obituaries.
- *The Bibliography of Fossil Vertebrates* is an index for publications on all subjects related to vertebrate paleontology.
- *Palaentologia Electronica* is the world's first electronic journal of paleontology and is sponsored in part by SVP.

Annual meetings

- 66th meeting, October 18–21, 2006, Ottawa, Ontario, Canada
- 67th meeting, October 17–20, 2007, Austin, Texas, USA
- 68th meeting, October 15–18, 2008, Cleveland, Ohio, USA
- 69th meeting, September 23–26, 2009, Bristol, UK
- 70th meeting, October 13–16, 2010, Pittsburgh, Pennsylvania, USA
- 71st meeting, November 2–5, 2011, Las Vegas, Nevada, USA
- 72nd meeting, October 17–20, 2012, Raleigh, North Carolina, USA

The next meeting will be held as follows:

- 73rd meeting, October 30–November 2, 2013 Los Angeles, California, USA

Awards and prizes

The SVP issues the following awards, grants and prizes:^[3]

- Colbert Prize (previously known as the Student Poster Prize)
- Estes Memorial Grant
- Gregory Award (after Joseph T. Gregory)
- Honorary Membership Award
- Institutional Membership: A Program for Institutions of Developing Nations
- Lanzaendorf PaleoArt Prize (after John Lanzaendorf)
- Patterson Memorial Grant
- Predoctoral Fellowship Grant

REOPENING THE RESERVOIR

Reopening the Reservoir

1. Timed to follow publication of papers from prior excavation – 2018- 2020
2. International focus and publicity led by Denver Museum of Nature and Science
3. Complexity of drainage, alternative water sources
4. Building a permanent site

Purpose: Refocus on excavation, creating a “What more is there? What really happened?” anticipation.
Emphasize climate.

These comments are based substantially on interviews with Ian Miller, Kirk Johnson, Kit Hamby and Tom Cardamon.

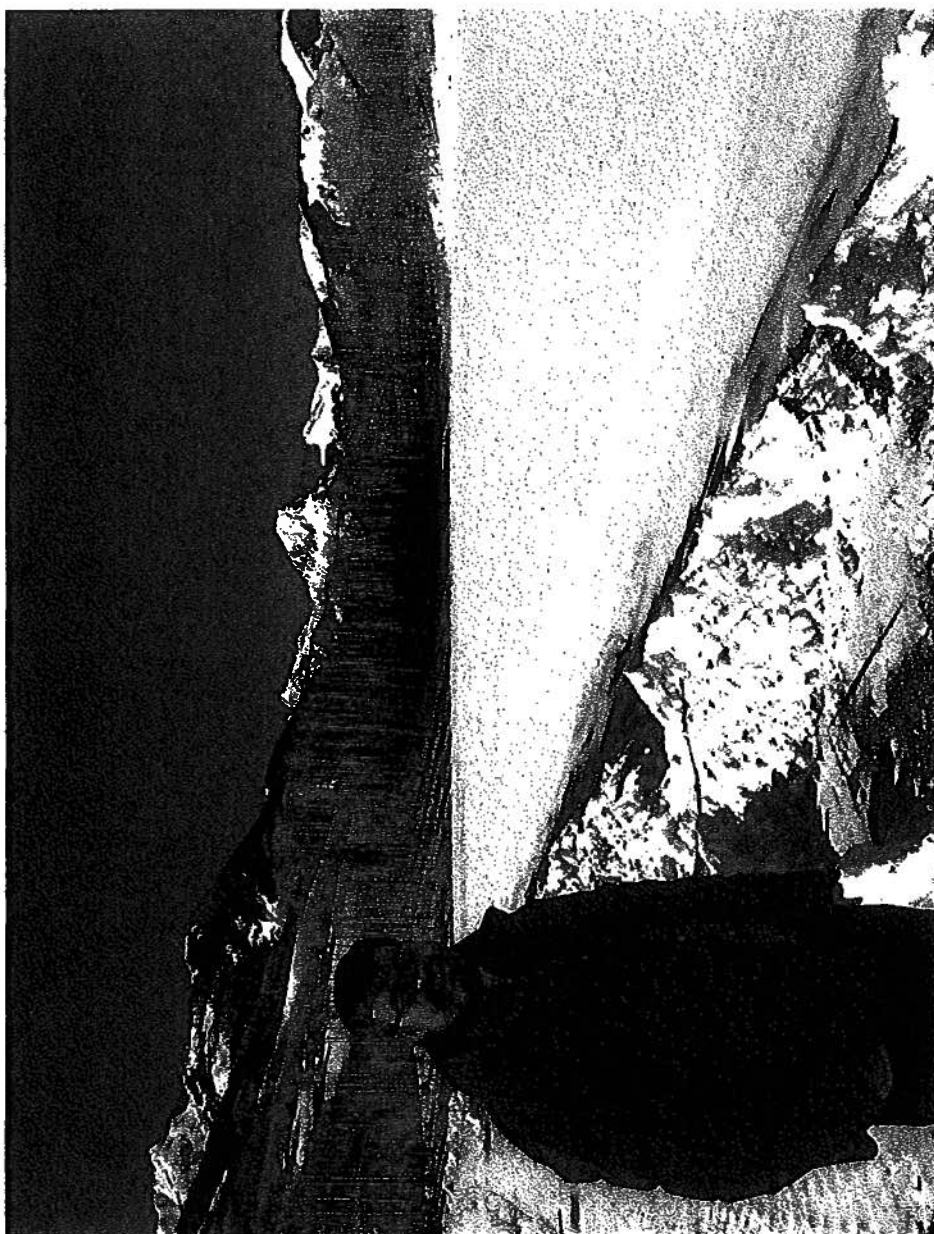
First, any reopening would require the support and permission of the Ziegler family. Clearly, their early involvement is essential. The opportunity for opening as part of a broader environmental initiative is important.

From the scientific side, Ian estimates that only 5% of the reservoir was excavated in the first two digs revealing over 5,000 bones from forty species. Periodic reopenings, in Ian's estimation, would be equally productive with perhaps 50,000 more bones. The first two digs can be classified as "rescue" with work conducted on a rapid basis under tight schedules. If the reservoir could be reopened with a more structured methodology from the end of May through Labor Day, tighter integration of fossils and strata and environmental change could be established. The initial digs generated world-wide publicity and a proliferation of signups from scientists and volunteers. With notice, world-wide excitement and a flood of young scientists would apply for positions. This could be done every 3 - 5 years, multiple times.

From the engineering and hydrologic perspective, reopening is feasible with a season from mid-May to Labor Day. A road has been constructed and a mound in the lake bed has been built, enabling earlier drying as the water recedes. The stratigraphy of layers of clay, silt and peat will require skilled excavation but that has been done t ice already. Land for the excavated ground will be needed until it is refilled. Issues of snowfall, melt and runoff will need to be managed. By early February it will be possible to rule out water shortages and digging could commence in May providing time for publicity and recruitment. Delay to a following year, if necessary, is possible as well. However, complexity of excavation near a dam, water rights issues, permitting, cameo calls should not be underestimated.

Only one and one quarter acre of the 13 acre reservoir has been excavated. Test borings suggest that deeper digging can be productive. While the focus has been on fossils and paleontology, issues of glaciation and warming enhance the opportunity to render great service to the worldwide scientific community and deepen our understanding of climate change.

An observation structure - prior to or in conjunction with the reopening - would provide an oversight view of the lake-reservoir and then the excavation process.



FACILITY - in which to tell stories

Facility - in which to tell stories

1. Build to accommodate multiple activities – flexibility
2. Film – Mammoths and Mastadons, Dinosaurs, Nova Film on the dig, commercial films, 3-D projection capability – 300 seats – dining in theatre
3. Film Festival – Banff, Jackson Hole/ Denver- environmental – contrast with Telluride and Sundance. Road show or initiation
4. Immersion experience – into the dig, new technologies, holograms
5. Replication of Denver new exhibit - highlights
6. Space for travelling exhibits
7. Nature of Related commitment – Building Seven or other. Architectural statement, LEED.

Purpose: With appropriate economics, a permanent addition. Stories are critical.

The danger of facilities is technological obsolescence and inadequate programming to ensure repeat visits. That said, a flexible space could be a significant addition.

The NorskBreMuseum in Norway is focused on glaciers and climate change. An overview follows and is worth considering as a base to start.

A theatre of 300 seats with films focused on the Ice Age and Climate would provide for multiple audiences – scientific and educational as well as children's programming. 3D will be at a new state of technical attractiveness in several years but there are excellent films playing in Museums now. A concept paper on a film theatre is attached.

Banff, Jackson Hole and Telluride have had great success with film festivals. The market may be too crowded for yet another but, at a minimum, a theatre could provide a venue for the Banff touring films or Jackson Hole which now includes the Denver Museum on its tour.

Immersion experiences now available and the new technologies in the future could provide non-static, engaging experiences.

Telling the Snowmass Aspen environmental stories would be an opportunity to share significant accomplishments, e.g. LEED construction, geothermal, microhydro.



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Glaciers and climate - to know and to reflect

The Norwegian Glacier Museum is a non-profit foundation established by the International Glaciological Society, the Norwegian Trekking Association, Norwegian Water Resources and Energy Directorate, Norwegian Polar Institute, Sogn og Fjordane University College, The University of Bergen and The University of Oslo.

The aim of the Norwegian Glacier Museum is to collect, create and disseminate knowledge about glaciers and climate. The exhibitions cover topics within both natural and cultural history. The interplay within the natural environment and between mankind and nature, is highlighted through film, interactive models and individual experiments with real glacier ice. The Norwegian Glacier Museum - a museum for curious people.

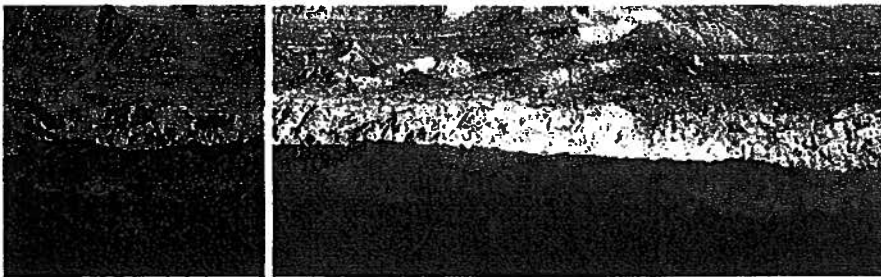
The exhibition deals with 24 themes in four main categories. It is shown among others how glaciers build up, how they form the landscape, and why they play an important role in the search for knowledge about past and future climate. The Ullveit-Hoe Climate Centre is part of the museum and takes you on a journey through time, from the creation of the earth, through the last ice age and finally to the year 2100. The Norwegian Glacier Museum is an authorized national park centre, with special information about Jostedalshøen National Park. The museum is designed by the architect Sverre Fehn, who has won international awards for his works. From the roof you have a spectacular view of the glaciers and the surrounding landscape.

Arrange your seminar in Fjærland! Our school building contains a meeting room for 50 persons.

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Climate change

Glaciers are reacting on climate change
The monitoring of glaciers gives important information to climate research. From the ice shields of Greenland and Antarctica researchers obtain several kilometers long ice cores that contain data about the climate of the past, 800,000 years back in time.

Can we be sure that our emissions of greenhouse gases have changed the climate?
Figure 1 shows temperature (blue line) and the amount of the greenhouse gas carbon dioxide (red line) during the last 800,000 years. It shows that the natural changes in climate occur at more or less regular intervals of approx. 100,000 years, with short and warm interglacials and long glacials or ice ages. These variations are connected to changes in the Earth's orbit, amplified through variations in greenhouse gas concentrations.

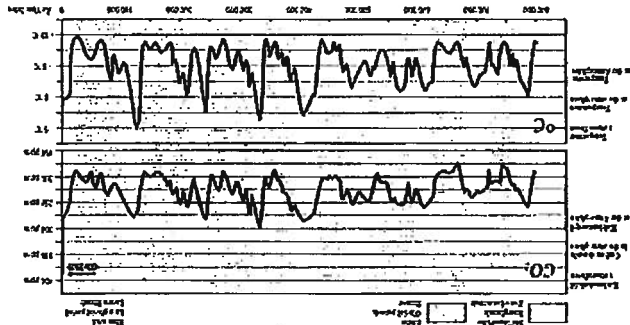


Figure 1
The amount of CO2 and the temperature during the last 800,000 years. The CO2 concentration is measured in ppm (parts per million) and the temperature in degrees Celsius (°C). The graph shows a clear correlation between the two variables, with higher CO2 levels corresponding to warmer temperatures and lower levels corresponding to colder temperatures.

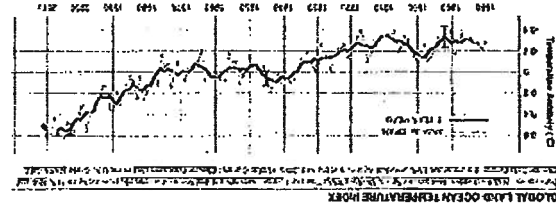


Figure 2

understand the driving forces of the climate, e.g. the coupling between sea and atmosphere and feedback mechanisms, such as those influenced by changes in the Earth's surface, e.g. from ice/snow cover to water.

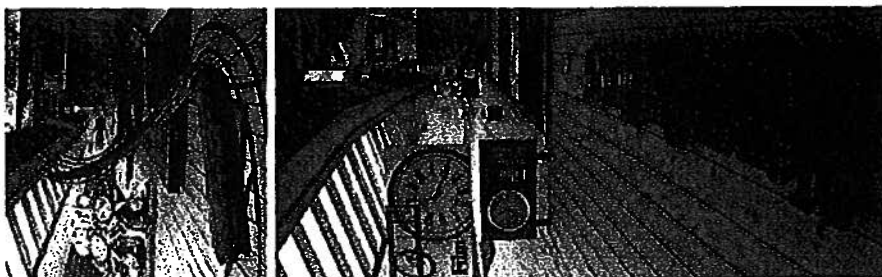
Most of the climate researchers share the opinion today, that within the year 2050 the Earth's climate may reach a state where temperature conditions will be different from everything mankind has experienced so far in history. What life will be like on our planet then, we don't know. Regulations or adjustments might become far more difficult for us than they will be in the next few decades. But possible counter-measures against climate changes must build on knowledge, not on fear.

Figure 2 shows that global temperature has increased fast since 1980. Data from 2006 and 2010 shows that these years have been the warmest in the instrumental record of global surface temperature. The decades since 1980 has been increasingly warmer, with the last decade (2000-2010) as the warmest.

Through burning of coal and petroleum products mankind has increased the amount of carbon dioxide as much as the natural interglacials, which is the equivalent to 8 °C. Hence the additional carbon dioxide can lead to a warmer atmosphere will in average contain more water vapour and lead to increased precipitation.

GLACIERS AND CLIMATE-
to know and to reflect

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Exhibition

1. Sculpture by Bård Breivik, with real glacier ice from the Jostedalsglacier.
2. Making a glacier film. Shows how Ivo Caprino made the film. The film is shown twice an hour, and lasts 18 minutes.
3. Our fragile climate - experience past and future climates. An unusual exhibition about natural and man-made changes in climate. See also Ullveit-Hoe Climate Center.

4. What is a glacier?

5. What is a jokulhlaup? A jokulhlaup is a sudden and rapid draining of a glacier-dammed lake. Experience the volcanic eruption under the glacier Veiðisvatn, Iceland, in 1996 which caused extreme glacier melting and major flood damage.

6. Mammoth. The largest mammal that ever lived in Norway. This mammoth husk from Siberia is 30 000 years old.

7. The weather. What kind of weather allows glaciers to exist?

8. Why is the ice blue? A piece of glacier ice looks white, but at the glacier the ice is blue.

9. Energy from the glacier. Meltwater from the glacier is used in hydroelectric power production. Some of the power plants are built under the glacier.

10. How much energy can you make? Try to make energy by cycling.

11. Glacier hiking. Equipment, photos and description of six various hikes on the Jostedal glacier.

12. The glacier tongue. Experience the underside of a glacier in a safe way by entering an artificial melt water channel. Hear the noise of the moving ice and the meltwater and feel the cold wind.

13. How the fjords were formed. During the last 2-3 million years the glacier carved out the fjords. How does this work? Are the fjords deeper than Grand Canyon in the USA?

14. + 19. The glacier river makes new land. Due to the glacier river Fjarland is increasing its area every year. How? Ice experiments! Erode the bedrock like a glacier does and participate in forming a valley.

15. Why is the fjord green? (experiment) In summer, the water in the fjord is not clear but looks greyish green.

16. Natural climate changes. Changes in the Earth's orbit around the sun, combined with decreased insolation can cause an ice age. Enter the simulator and make your own ice age!

17. The glaciers - our best climate record. Scientists obtain ice cores of several kilometre length from the ice shields in Greenland and Antarctica. These ice cores contain information on past climate.

18. Ice-experiment. Watch ice melting under pressure, and refreezing. Experiment with coloured water running through the ice.

20. Jostedalsglacier National Park was established in 1991. The Glacier Museum is situated at one of the entrances to the park. See how the landscape looks like under the ice cap.

21. Cold news. Changing topics from glacial and climate research.

22. Experiments. Make your own 'soft' ice, try the ice screw in real glacier ice

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and learn why crevasses occur on the glacier.

23. Øst - the man in the ice. The exhibition tells the story about the 5300 year old Iceman Ötzi who was found in a glacier in the European Alps in 1991. Also read about finds in some of the Norwegian glaciers.

24. What is special about glacial rivers? Learn about the differences between glacial rivers and other rivers. See and listen to real time data from weather stations on the glacier (1000 m a.s.l.) and by the glacier river.



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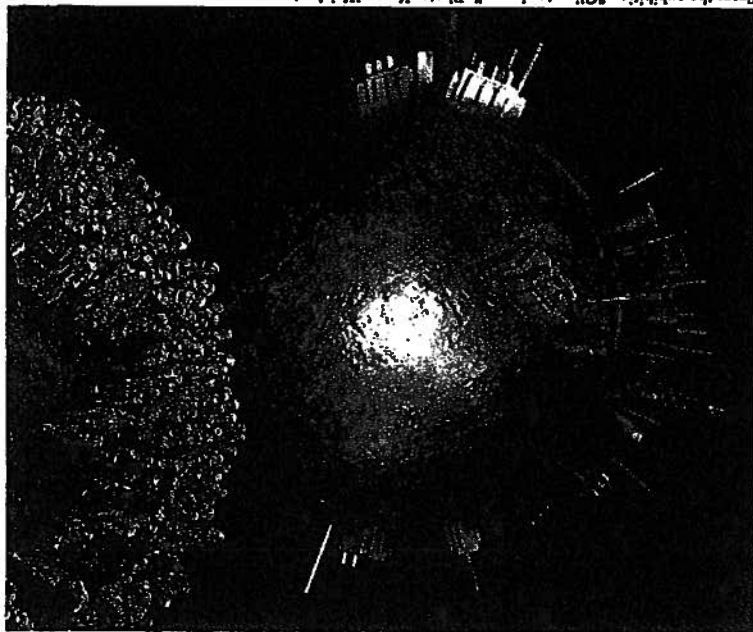
NORSK BREMUSEUM & Universitet-Moe climate centre

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From the exhibition "Climate change" - Photo: Karen Weichert

© 2013 Norsk Bremuseum

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About The Banff Centre



THE BANFF CENTRE —
AT THE INTERSECTION OF ART + IDEAS

New art and ideas are born at The Banff Centre every day.
We support ground-breaking artists.
We inspire visionary leaders.
We convene trailblazing researchers.

The Banff Centre is the largest arts and creativity incubator on the planet. Our mission is inspiring creativity. Over 8,000* artists, leaders, and researchers from across Canada and around the world participate in programs at The Banff Centre every year. Through its multidisciplinary programming, The Banff Centre provides them with the support they need to create, to develop solutions, and to make the impossible possible.

Made in Banff. Shared with the World.

The Banff Centre adds to Canada's and the world's cultural repertoire by commissioning, supporting, and producing new creative works. We develop multidimensional artists for the international stage in an artistically rich learning environment. Our leadership programs equip people who want to change the world with the skills to do so. Moving forward, the Centre will disseminate the art and ideas developed in Banff using new initiatives in digital, web, radio, and broadcast media.

Arts programs are at the core of The Banff Centre. Programming supports the commissioning and creation of new work by individual artists and arts collectives, and provides resources for collaboration and applied research. Training and professional development is offered at the post-graduate level in more than a dozen art forms including, music, dance, opera, indigenous arts, literature, ceramics, printmaking, painting, papermaking, photography, sculpture, audio engineering, digital film and video, and new media. Work is showcased in public performance, events, and exhibitions throughout the year, culminating in the annual Banff Summer Arts Festival; and is disseminated beyond Banff through Banff Centre LIVE. The Centre also partners with national and international arts institutions to bring art incubated in Banff to stages and concert halls around the world.

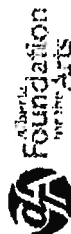
Leadership Development programs equip people who want to change the world with the skills to do so. More than ever, the world needs high-performing, creative leaders who are ready to face increasing complexity and change, while keeping their organizations ahead of the curve. At The Banff Centre, we inspire leaders to make a meaningful difference for their organizations, their communities – and themselves. Leaders developed in Banff are equipped with the skills to manage people and projects

under conditions of uncertainty. Leaders developed in Banff are innovators and creative entrepreneurs who identify untapped opportunities and potential. Leaders developed in Banff experience transformational growth to provide the new perspectives needed for their organization's toughest challenges.

Conferences at The Banff Centre provides delegates from Alberta, Canada, and around the world with exceptional meeting facilities in an environment that fosters inspirational learning. Net revenue from the Centre's conference operations supports arts programming.

The Banff Centre is supported by funding from the Government of Alberta through Alberta Enterprise and Advanced Education, Alberta Infrastructure, and the Alberta Foundation for the Arts. Arts programs are supported by funding from the Government of Canada through the Canada Council for the Arts, and the Department of Canadian Heritage through the Canada Arts Training Fund. The Banff Centre experience is also enriched through generous support from individuals, corporations, and foundations.

**Government
of Alberta**



Canada Council
for the Arts



Canadian
Heritage

Canada

Banff Mountain Film Festival

From Wikipedia, the free encyclopedia

The **Banff Mountain Film Festival** is an international film competition and an annual presentation of short films and documentaries about mountain culture, sports, and environment. It was launched in 1976 as *The Banff Festival of Mountain Films* by The Banff Centre and is held every fall in Banff, Alberta. Held concurrently is the Banff Mountain Book Festival (<http://www.banffcentre.ca/mountainfestival/>) which brings the spirit of mountain literature to Banff, and features guest speakers, readings, seminars, and an international book competition.

Immediately after the festival in November, a selection of the best films entered in the festival goes on tour. The host organization in each tour location chooses a program that reflects the interests of their community. Each community creates a unique celebration of local adventure and adventurers. The World Tour (<http://www.banffcentre.ca/tour/>) visits approximately 305 cities annually in 20 countries,^[1] reaching over 220,000 audience members.^[2]

Banff Mountain Film Festival is also one of the member of International Alliance for Mountain Film (IAMF).^[3]

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Film selection

Approximately 300 films are entered into the film festival annually, and top 60 films (approximately) are selected by a pre-screening committee to be shown at the festival. During the festival, the international film festival jury chooses the best films and presents awards in various categories.

Every year the Banff World Tour team chooses about 25 films that feature a range of styles and themes, including climbing, skiing, kayaking, biking, adventure, culture, and the environment. The hosts try to choose the films that are best suited for their local audience and event. Most

World Tour screenings include a range of different themes (adventure sports, environment, mountain culture, heritage, etc.) and styles (action-filled shorts; longer, more comprehensive films; amateur and professional productions; etc.). The Radical Reels Tour presentations incorporate all these elements, but the focus is on dynamic, high-adrenaline films featuring sports such as skiing, climbing, kayaking, BASE jumping, snowboarding and mountain biking, and new sports such as snow-kiting and speedriding. These activities continue to be included on the World Tour, but the Radical Reels Tour is for audiences who prefer screenings with a focus on action films.

Mi Chacra, directed and produced by Jason Burlage, was the top film at the 2010 Banff Mountain Film Festival, receiving the Grand Prize.^[1]

Finding Farley was the top film at the 2009 Banff Mountain Film Festival, receiving both the Grand Prize and People's Choice awards.^[4]

Music of Banff

The music was composed by Jacques Blackstone. He was commissioned in the late 1990s from the Banff Centre to write a theme for the festival. The "voice" for the intro is provided by Richard Armstrong, a New York-based teacher and performer who conducts International Voice Workshops at the Banff Centre. The film clips come from the films that are entered in each year's festival^[1] (http://www.banffcentre.ca/mountainculture/tour/faq/intro_video.asp)

See also

- Banff Mountain Book Festival
- Festivals in Alberta
- Mountain film

References

- ↑ ^{*a*} ^{*b*} <http://www.chestnutproductions.com/banff/banffhome.htm>
- ↑ The World Tour visits North American (<http://www.banffmountainfestivals.ca/tour/>) and other international (<http://www.banffmountainfestivals.ca/tour/international/>) destinations
- ↑ "International Alliance for Mountain Film" (<http://www.mountainfilmalliance.org/>) . <http://www.mountainfilmalliance.org/>.
- ↑ Oke, Chris (7 April 2010). "Banff film fest coming to Whitehorse" (<http://www.yukon-news.com/arts/17531/>) . *Yukon News*. <http://www.yukon-news.com/arts/17531/>. Retrieved 24 August 2010.

External links



DIGITAL 3D THEATER POTENTIAL—SNOWMASS VILLAGE, CO

Over the past several years, I have worked extensively with John McCarter on the addition of a digital 3D theater to the Field Museum in Chicago as well as the production of two exhibit companion films for that venue, *Waking the T. Rex: the Story of Sue* and *Titans of the Ice Age*. John recently asked me to put together some initial thoughts on the possibility of opening a digital 3D theater in Snowmass Village, Colorado and the potential to leverage the recent historic Ice Age discovery there, among other things. I told John that I would be delighted to do this.

My Background

I have been involved in the museum film and theater business for the better part of two decades. This started with my formation of Giant Screen Films (GSF) in 1997. GSF specializes in the production and distribution of giant screen/IMAX format documentary short films (20-40 minutes) for museum and other destination venues around the world. This winter, we will be launching *Titans of the Ice Age*, which we expect to be one of our most successful films.

About five years ago, one of our giant screen movies, *Mummies: Secrets of the Pharaohs*, was named the official companion film of the highly successful King Tut/ankhamen exhibit. Hundreds of thousands of people would see *Mummies* whenever it played alongside of King Tut. However, there was a problem: only about half of the museums that were scheduled to host the Tut exhibit had giant screen venues capable of showing our film. But recent advances in digital 3D projection technologies enabled us to put in place either permanent or temporary digital 3D theaters at these venues in time for Tut's arrival. Out of this emerged D3D Cinema, a company I started in 2009 which specializes in the design and integration of digital 3D theaters at museum venues around the world.

I also know Snowmass Village and the Aspen/Snowmass reasonably well. I have regularly visited Snowmass over the past 40 years, from my first trip as a first-grader where we stayed at the newly constructed Tamarrack Condominiums to my many trips there as an adult, where I stayed at our family place at the Snowmass Club. I also taught history for two years out of college at Aspen Country Day School and was a part time ski instructor during the holidays at Snowmass.

The Importance of the Museum Venue Base and the Theater Capture Model

Probably the most important factor in the success of a non-traditional theater focused entirely or in part on educational documentary content is the attendance/foot traffic at the venue where it is located. We operate in what we call a "capture business", where at a museum or highly trafficked area a certain percentage of the general visitors pay an upcharge for a movie ticket. If the attendance at the museum or destination venue is respectable, and that venue is effectively positioning and promoting its theater and the films on the schedule, a film will likely succeed. Typically capture rates at a museum vary in the 20-40% range, with 25% being about the average. However, if the theater/movie is the most prominent aspect of the overall experience, which can especially be the case at smaller venues, then a capture of 50% or even higher is possible. Also, if the film at the theater nicely ties into what the museum is showcasing or the overall theme of the area, such as *Mummies* running alongside the Tut exhibit or *Sue*

running at the Field Museum, the odds of success also go significantly up.

Potential Snowmass Village Digital 3D Theater

My first reaction to the potential of a Snowmass Village 3D theater was concern over the town's small population base and a resulting inability to generate substantial ongoing traffic to a museum/theater venue. However, upon reflection and analysis, there are several factors that might make a Snowmass theater venue worth pursuing. These include:

- 1) Core orientation around the peak tourist seasons and sizable populations during these time periods

The extent to which businesses in Snowmass Village and the surrounding Aspen area are geared around the peak tourist seasons means that the "real" population of Snowmass Village is actually quite large. An analysis should be done around this. Obviously it is a plus to have a town crowded with tourists looking for exciting and different things to do during the day (if not skiing) as well as in the evening. I could envision a state-of-the-art theater featuring films on topics relevant to the area, and perhaps accompanied by a museum that profiles these relevant themes, doing quite well.

One thing I would look at, though, is the extent to which people who are there primarily to ski would be interested in a movie experience relative to other more traditional ski vacation options. I do believe that the skiers during ski season would be most interested in seeing a skiing and/or mountain-themed 3D film. I also believe that this would need to be marketed pretty extensively at the beginning to get word of mouth going strong and building the momentum necessary to cut through the clutter of all of the things going on in town. I would recommend conducting an extensive survey of current visitors.

- 2) Ability of the Snowmass Village 3D theater to play a diversified array of content

The initial thought behind a digital 3D theater in our museum-based industry is that it should focus first and foremost on documentaries topics related to the area. With this in mind, a film on the Ice Age topic could work pretty well, especially during the summer months. In addition, a really well made 3D ski-themed film Warren Miller style could be a popular selection during the ski season. Or both could show year round, and the theater would vary the schedule for each based on demand, which I would expect to be seasonally based.

In addition to this, the theater could show blockbuster Hollywood content later in the evenings year round and during the daytime on weekends during the off-season. This would require a DCI-compliant theater projection system. DCI is the digital standard that commercial theaters and theater projection manufacturers adhere to, though there are cheaper non-DCI options available for those theaters not interested in showing Hollywood content. For smaller museum venues interested only in showing documentaries, non-DCI is an option; for this venue, keeping the flexibility to show Hollywood films seems to me a must.

Animated Hollywood films for younger children, as well as shorter television-based programs projected in 2D, might be an option for the younger kids, possibly during the early daytime hours piggybacked with the ski school (Snow Cubes, Big Burn Bears).

Finally, the theater could also be used by the ski school for instructional purposes, especially if it is located in a ski-accessible area. And of course there are private party and corporate event rental options.

3) Potential to attract and host film festivals and other events

John mentioned to me the possibility of a film festival taking place in Snowmass Village; my initial reaction is that this does have potential. For the past several years, I have attended the highly successful Jackson Hole Wildlife Film Festival—it rotates every other year between Jackson, Wyoming and Denver, Colorado. Snowmass has the benefit of a nearby airport and a solid hotel base, with Snowmass actually being much closer to the Aspen airport as the Jackson Lake Lodge is to the Jackson airport and with more lodging options and amenities. In addition, the existing success of the Aspen Institute, and the potential to leverage its resources and personnel, creates a precedent and opportunities for collaboration and partnership. Obviously bringing several hundred people into town has benefits apart from just the theater. And there is often a nice prestige factor associated with these film festivals that the community can benefit from. Take the Telluride Film Festival, which I have never attended but which I heard is great.

The feasibility of either adding a new festival or joining forces with an existing festival ought to be investigated. My experience does not tell me one way or the other whether either should be considered viable.

4) Potential for signature films to play at the digital 3D theater

I have already mentioned above the likely popularity of a well-marketed 3D ski film. Similarly, a film featuring the Ice Age, particularly during the summer months, would nicely tie in to recently publicized developments in the area and the historic nature of these paleontological discoveries.

There are few options around the Ice Age film. One would be to show a general film on the subject, such as our film *Titans of the Ice Age*. Another would be to produce a complete custom film on the discoveries in the area. Another would be a hybrid of the two, where a section of say, *Titans of the Ice Age*, could focus on the Snowmass discovery and then blend it into the overall film. Showing the existing film would just involve a royalty, typically around 35%. A complete custom film would probably cost half a million dollars, and the hybrid model could probably be completed for a few hundred thousand dollars. The beauty of the digital format is that films can be updated for a relatively affordable amount over time as new developments occur and time passes.

These films are typically in the 20-40 minute range. Often in a museum setting the shorter run times of 20-25 minutes allow visitors to take in a movie and the 3D experience without it consuming an excessive percentage of the median dwell time. However, with the theater in Snowmass Village perhaps a more

central component of the overall experience than an accompanying museum/exhibit collection, 40-45 minute running times might be the better route. Market research should be done to determine what the typical Snowmass Village visitor would prefer.

5) Digital 3D technologies are becoming increasingly affordable

The costs to build a digital 3D theater are becoming very manageable as the costs of the digital projectors continue to go down. The construction costs associated with building a theater can obviously vary greatly—and in Snowmass at a venue such as this I would expect them to be on the higher side. But whatever choice is made on the construction side, one can acquire all of the equipment necessary for a state-of-the-art theater for a few hundred thousand dollars or even less. An estimate in the \$150,000-\$250,000 range (which includes 3D projector and server, sound system, screen, seats, etc.) is quite safe, and there are options available for under \$150,000 as well.

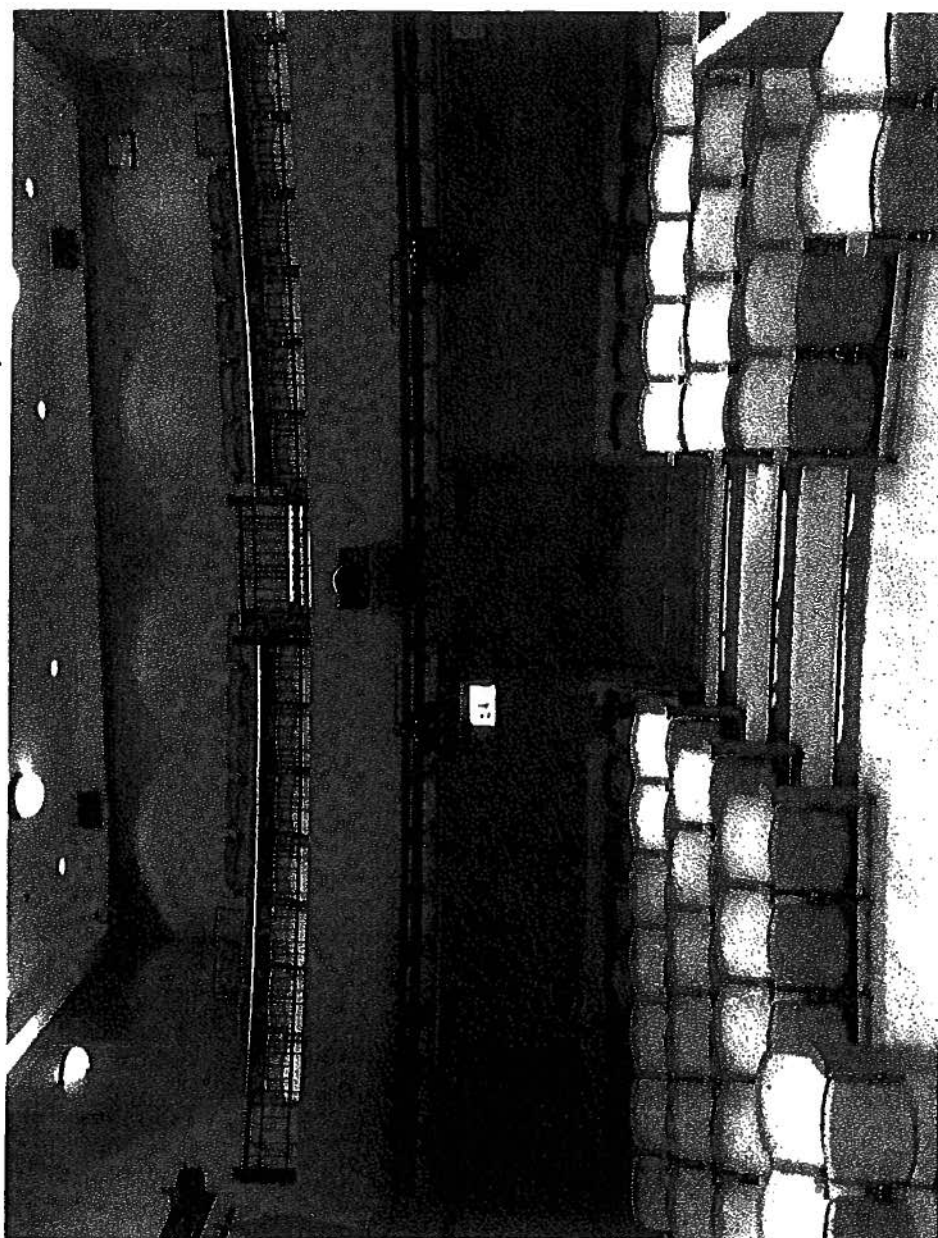
Some Other Thoughts

--As far as pricing is concerned, audiences at museums are willing to pay an upcharge in the \$5-10 range for a good 3D experience. And this is an upcharge, not a standalone fee. I would think that in a setting like Snowmass Village, an \$8-10 charge for a 20-25 minute film would not meet with much price resistance. This would enable the theater to turn on the half hour if demand warrants. Once again, though, market research should be conducted.

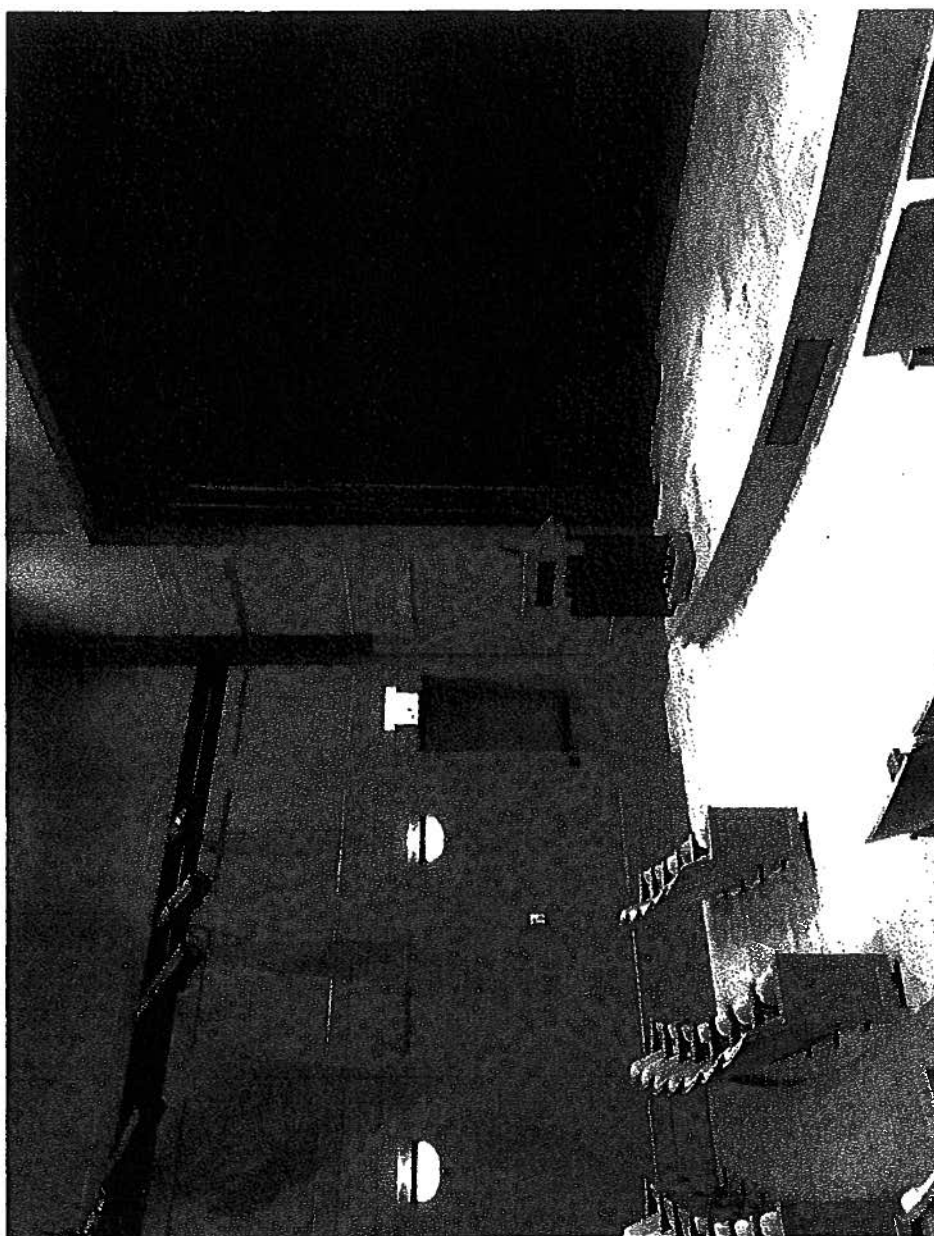
--If you decide to build a theater, there is no need for it to be a giant screen, but its size should not be too small either. I would recommend a screen that is at least as large as a typical multiplex theater, if not larger. A screen height in the 20 to 30 foot range would be a plus. If it could be marketed as the largest screen in the area, that would be a plus too of course. Research should be done to determine what that threshold is. My experience with the theaters in Aspen and down valley is that this could be accomplished fairly easily. All of this being said, we have had success with theaters that are on the smaller side; the Field Museum theater, for example, has a screen about 14 feet in height.

--While I do not believe that a full-on museum is necessary or even advisable, it would be good if a reasonably decent exhibit area accompanied the theater. And I would think that this would provide a unique and exciting look at the Snowmass area and notable achievements/landmark events that have taken place in the town's history, including the 40 plus years of skiing and the recent Ice Age discovery and associated research and findings that have come from it.

I am happy to serve as a resource to the team there as it continues to explore the possibility of opening a digital 3D theater.







PARIS — In a 1789 painting of the Bastille, the French artist Hubert Robert portrayed that Paris fortress as a huge, seemingly impregnable structure and the Parisian revolutionaries who razed it as small, vulnerable human beings. More than two centuries later, thanks to 3-D modeling software, a different picture of the Bastille emerges. In the recreated setting it is the Bastille that seems small, even vulnerable. The dimensions of the Bastille are still known, but even an ex-

part on the city's history was taken by Robert's hyperbole — un- which shows the Basille nestled among surrounding buildings rather than towering over them. Now he sees the fortress, and the painting, in a different light.

of Parts through the ages. The scale of the business is one of many revelations that emerge from "Parts 3D," an ambitious project by Dassault Systèmes, a French software company, in partnership with the Carnaudval, 3-D, virtual reality representation of Parts through the ages.

You can take a virtual dip in the Thermes de Cluny, the Gallo-Roman baths whose remains are now part of a museum in the Last Quarter, or soar over medieval manor houses and castles in the Loire Valley.

in 1910. And you can breach the Bastille and enter its cells, where seven prisoners were held on the eve of the revolution.

At the company's headquarters in a Paris suburb a more elaborate installation with giant screens lets visitors don headsets

The Battle around the time of Paris 3D, a virtual-reality tour o

claves like "Rome Reborn," a 3-D model of ancient Rome developed by a professor of art history and classics at the University of Virginia, and "Giza 3D," a virtual version of the pyramids at Giza created by Dassault Systèmes with Harvard University and the

based on years of research was unvelled last spring. "We're not trying to say, just go to Giza on the computer, and you'll never have to go to Egypt again," Peter Der Manuelian, a professor of Egyptology at Harvard,

know that a masterpiece was found there. In many ways you can study it more effectively" with the new tools, he said.

The perspectives provided by 3-D have given even experts like Mr. Manuelli and Mr. Let some eureka moments.

In the simulated Glaze, Mr.

Mr. Mannelian said he had never noticed how light seemed to focus on similar niches in many

the French Revolution, from the city through the ages.

chialists from the Carnaval and consulted old maps, archaeologists and other records. A few disputes arose — over the color of the paint in the Cluny baths, for instance, in such cases a scientific panel had the final word. Occasionally, as with the dedication of birds during Neolithic

The project steers clear of some controversial subjects, like the German occupation of World War II. The goal was to show the physical development of the city, not its political history — even if, as with the Bagatelle, the two can-

ies or periods, of the kinds in theme parks and video games. The primary purpose, after all, is education, not entertainment. Still, there are some counter-chal spinoffs, like the Paris book and DVD. And Mr. Mannuel said there were other possibilities, like travel applications.

"It develops into size, the Game that teaches you all about Egyptian burial practices or so-called structures or architecture," he said. "Then 'Game' doesn't

At Sundance, Park City Is Pop-Up City

BY MARSHALL HEYMAN

WHEN THE MOVIE "Happy Texas" premiered at the Sundance Film Festival in 1999, the cast and crew celebrated at an afterparty with a cash bar. Today, thanks to the infiltration of sponsors as varied as the city of Miami, Rolfe-Royce and a line of gluten-free foods, most attending VIPs will never open their wallets to buy a drink.

This Monday night, New York restaurateur the Mulberry Project will cater a 20-person dinner for the cast and crew of "Very Good Girls," which is making its debut the next day. The T-shirt company Michael Stars and the scented-candle company Illume are also sponsors. (The film stars Dakota Fanning, Demi Moore and Elizabeth Olsen, and is directed by Jake Gyllenhaal's mother, Naomi Foner.)

After the movie debuts, about 150 media people, potential buyers and friends of the film will retire to a space on Park City's Main Street for a cocktail party underwritten by Belvedere Vodka. The following afternoon, the cosmetics line Fresh will sponsor a brunch in honor of the film—particularly in honor of Ms. Fanning and Ms. Olsen, industry veterans whom the brand considers two of the "fresh faces of Sundance."

Marketers and A-list stars have long erased any bohemian vestiges from Sundance, but the Utah festival keeps becoming ever more of a branding bonanza. Some companies attend Sundance to entertain corporate clients; others introduce products to the influencers who come to Sundance, as B&G Foods did last year with a new chocolate-flavored Cream of Wheat.

These "activations," the term brand-marketers use to refer to an experience created for media and other consumers, could cost \$150,000. Taking over a restaurant for several days to a week could cost between \$500,000 and \$800,000, said one person who investigated doing a project for a fast-food company. That's well over the budgets of many Sundance films. Building out a nightclub might easily cost \$1 million. Some of that cost can

be offset by adding sponsors. It costs in the mid-six figures or more to be a high-level sponsor of the festival.

"We understand that companies see Sundance as a great marketing opportunity to generate excitement," said Ken Putnam, executive director of the Sundance Institute. "But we rely on sponsor support to do what we do, so we prefer when they sponsor us."

It's not just premium-vodka makers (Grey Goose) and luxury-car makers (Acura) that hope to capture some of the Sundance cool. This year, Oakley is flying in multiple X Games athletes by private jet to teach VIPs how to snowboard; Keratin Complex, a shampoo line, is setting up a dry bar for touch-ups and blowouts. Sears is building an outdoor setup featuring its Kardashian line of clothing as well as a "recharge lounge for media." A McDonald's pop-up coffee shop will pass out free java.

Udi's Gluten Free, which specializes in baked goods and cereals, is setting up a cafe on Main Street for several days, at a cost of 5% of its annual consumer marketing budget.

Last year, the company served wheat-free hors d'oeuvres at one of the many gifting suites that crop up around town to build relationships with those tastemakers," said Denise Sirovacka, the company's vice president of marketing. This year Udi's has joined with a local chef to run a gluten-free restaurant for three days, serving to invited guests at no charge. Udi's is hoping Allison Jahney will stop by.

Companies vie to dress Sundance as well as feed it. Toronto-based Canada Goose is supplying 300 of its new Burt's coats, in white with a black hood, to VIPs and filmmakers. (Others can buy them at retail, says the 2013 crest, for



Main Street in Park City as the city prepares for an onslaught of fabulousness.

international circuit are transforming existing Park City spots into invitation-only pop-up nightclubs for the first, more-popular weekend. The drinks are nearly always free—as long as you're on the list.

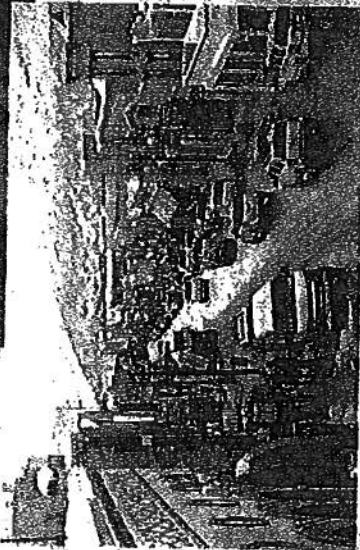
Hyde, a lounge on Los Angeles's Sunset Strip that has expanded to Las Vegas and Miami, will be open for two nights, one of which will feature musical performances selected by "Entourage" star Adrien Grenier. The Westway, a former strip club in New York that's popular with hipsters, promises that its Sundance outpost will use glassware instead of plastic cups.

A pop-up Nikit Beach, known mostly for its main spot in St. Tropez, France, will also be open for lunch and dinner with its chicken satay and coconut shrimp, "bringing something tropical to Park City," said Dee Ve-Dal, the company's Miami-based

global marketing director.

While most of Park City has last called at 1:45 a.m., Noah Tepperberg and his partners in Las Vegas nightclub Tao discovered three years ago that if they turned a parking garage two levels below ground into a club, they could stay open far later. Mr. Tepperberg said, "It's a good way to showcase our product to a very hard-to-reach group of people," he said. "The people who buy bottles at our other clubs are the same people who finance movies."

And if those people also love cats, Sundance's marketers have a place for them, too. This year, cat-litter-company Fresh Step is launching Catdance, a film festival within the festival, featuring a collection of narrative shorts about cats. Cats, like Sundance, said a company spokesman, "are quirky and independent."



SNOWMASS AS ENVIRONMENTAL CONVENING CENTER

Snowmass as Environmental Convening Center

1. Highlight Aspen/ Snowmass adaptation -- carbon credits, methane LEED certification
2. As climate change issues become more front and center
3. Differentiation from other resorts
4. Tell the ice age story
5. Models -- TED, Davos, Chicago Humanities Festival, Business Innovation Factory, Aspen Ideas Festival, Aspen Physics Institute
6. Importance of who we are in the summer—shorter winters?

Purpose: A bold statement as scientific consensus reaches the public, corporations continue to adjust to reality and public follows

How glaciers grow

A state-of-the-art numerical model shows that the advance of glaciers in a cooling climate depends strongly on the pre-existing landscape, and that glacial erosion paves the way for greater glacial extent in the future. See LETTER P.206

Glaciations in response to climate variations preconditioned by evolving topography

From patterns to predictions

Truly generic signals warning of tipping points are unlikely to exist, warn Carl Boettiger and Alan Hastings, so researchers should study transitions specific to real systems.

MOVING MOUNTAINS

Glaciation primes an alpine landscape for dramatic response to climate change

PAGES 173 & 206

Europe's untamed carbon

Funding and politics hobble CCS technology, seen as the best hope for cleaning up coal.

CLIMATE

The Belchatow power station in Poland is Europe's largest coal-burning plant, but plans to capture carbon dioxide from it are in limbo.

AND WORSE

Rare catastrophes that could be the end of us

A WORLD?

Small change to application form is a game changer

OF MOUNTAIN

How cutting-edge research inspired Melville's epic

2006

IN THE MOUNTAINS OF THE FUTURE

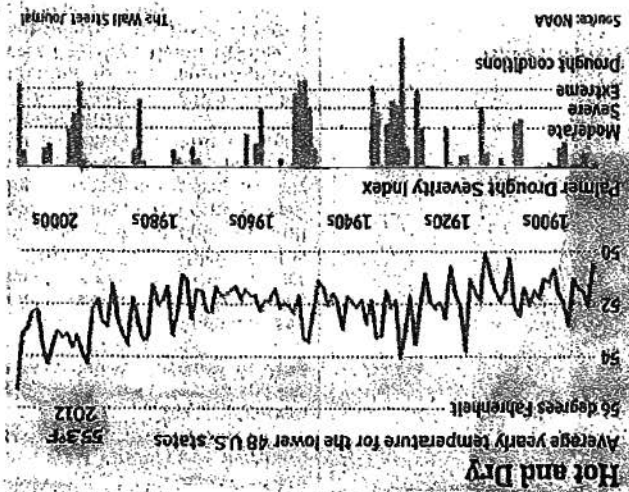
Last Year Was the Warmest

By Ryan Tracy

The lower 48 U.S. states experienced the warmest year on record in 2012, shattering the previous mark set in 1998 by one degree Fahrenheit, government scientists said Tuesday.

The U.S.'s temperature records for the states excluding Hawaii and Alaska go back to 1895. In all the earlier years, average temperatures had varied within a band of about four degrees, the National Oceanic and Atmospheric Administration said, making the jump in 2012 particularly stark.

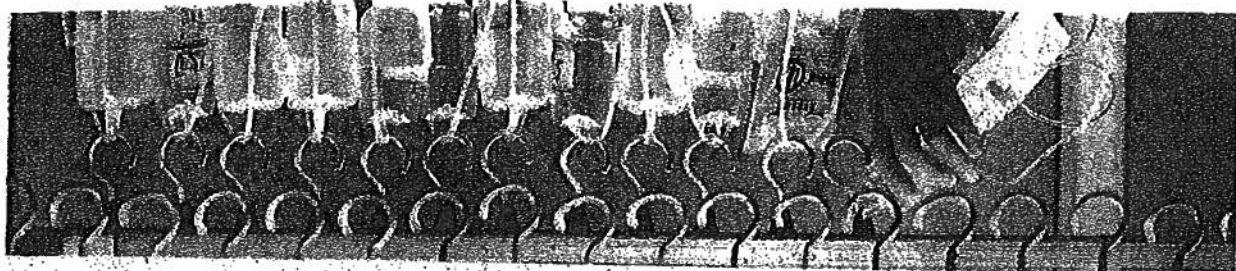
Deke Arndt, chief of the agency's climate-monitoring branch, said the latest annual measurement "by itself doesn't



Older Cars Clog Air in No. 1 Market

SHANGHAI—A spike in air pollution in Beijing and other Chinese cities has brought concern over auto sales to the fore in the world's largest car market by vehicles sold, but analysts say trucks and older cars—rather than new passenger vehicles—lie at the heart of China's current pollution woes.

Beijing Haze Prompts State Media to Shift Ton



THE BUREAU OF THE UNITED STATES DEPARTMENT OF THE INTERIOR, BUREAU OF LAND MANAGEMENT, has announced that the problem has been identified by the state-run media, an official said, and that the problem has been identified by the state-run media, an official said, and that the problem has been identified by the state-run media, an official said.

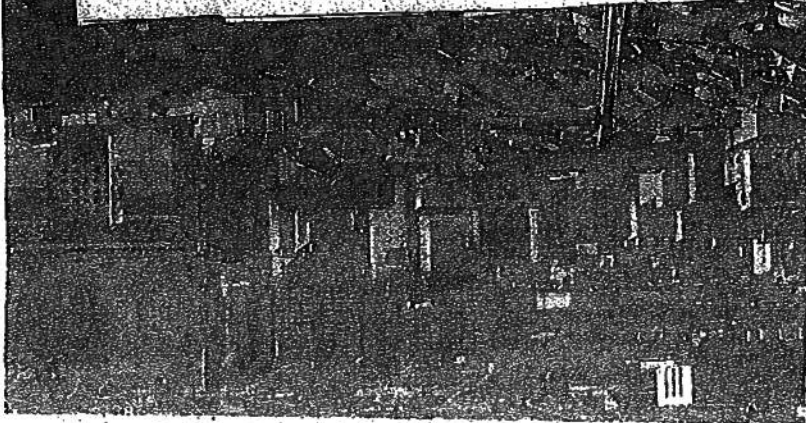
Mongolia Afflicted by Modern Malaise

As the Country Reaps Mining Riches, It Faces Pollution, Traffic and Other Ills

swelled and the economy heated up. A United Nations official visiting Mongolia in early December said the mining boom has "left behind" the poorest sectors of society. Politicians seeking to block a Chinese company from buying a Mongolian coal mine passed a controversial foreign-investment law in April. Then the government in October sought to renegotiate the terms of a

UJIAN BATOR, Mongolia—the world's coldest capital is being the downside of its modernity. The air in Ujian Bator is choked with smoke from fires at now-settled nomads burn their homes to stay warm in minus-30-degree Fahrenheit weather. Traffic is so bad from the new car owners, it is a minute walk than to drive out distances.

Burning Fuel Particles Do More Damage To Climate Than Thought, Study Says





John McCarter <jmccarter@fieldmuseum.org>

January 2013 City of Chicago Sustainability Programs & Events

City of Chicago <sustainability@cityofchicago.org>
Reply-To: sustainability@cityofchicago.org
To: jmccarter@fieldmuseum.org

Having trouble viewing this email? Click here

Thank you for your interest in Chicago's sustainability programs and events.
You may unsubscribe if you no longer wish to receive our emails.



January 2013



CITY OF CHICAGO SUSTAINABILITY NEWS



Rahm Emanuel
Mayor

A Year of Sustainability Progress in Chicago

Since the September launch of Sustainable Chicago 2015, the City of Chicago's 3-year action agenda for the environment, Chicago has made strong progress. Sustainable Chicago 2015 focuses on 24 goals across 7 areas. In the past three months progress has been made in all areas, with announcements or milestones in 21 of the 24 goals. The seven areas of focus are: 1) Economic Development and Job Creation, 2) Energy Efficiency and Clean Energy, 3) Transportation Options, 4) Water and Wastewater, 5) Parks, Open Space, and Healthy Food, 6) Waste and Recycling, and 7) Climate Change.

Here are a few accomplishments of 2012:

- Chicago announced the nation's leading program to convert private and public fleets to electric vehicles. In addition the City is purchasing 20 EVs for its own fleet (light, medium and heavy duty) and Smith Electric Vehicles announced plans to open a manufacturing facility in Chicago.
- Chicago's first two-way bike lanes opened on Dearborn

West Chicago Prairie Restoration Workday
1/19, 9am - 12pm
Meet at the WCP parking lot located on the east side of Industrial Drive between Western and Downs.

Take action in your community by volunteering. Learn more at www.chicagocconservationcorps.org

VOLUNTEER

- Create Chicago's Bike Share Program
 - Sustainable Urban Infrastructure Guidelines
 - Xmas Lights Recycling
- John Green Office Challenge Round 3

- A Year of Sustainability Progress
- CCGT Goes Double LEED Platinum
- Chicago named 2012 Clean Fuels Champion

IN THIS ISSUE

John McCarter <jmccarter@fieldmuseum.org>

The Field Museum

Some great news and thanks from WRRI

Fri, Jan 18, 2013 at 4:27 PM

Andrew Steer <andrew.president@wri.org>

Reply-To: andrew.president@wri.org

To: John McCarter <jmccarter@fieldmuseum.org>

 [DONATE](#)

Dear John,

I'm so pleased to share with you that the World Resources Institute (WRI) has been selected as a top global think tank. We were notified yesterday that the annual Global GoTo Think Tanks Report ranked WRI first in the Energy and Resource Policy Think Tank and the Environmental Think Tank categories. In no small measure, this honor is because of you and the critical support you provide to WRI. Thank you!

We value this recognition. WRI works hard every day to provide the best data and analysis on global environment and economic development challenges, and to deliver innovative solutions to address them. This week is no exception.

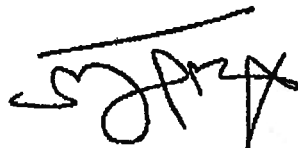
On Tuesday, we launched our Stories to Watch in 2013 at the National Press Club. Keep your eye on these big environmental and development stories that we expect to shape the sustainability agenda in 2013. (You can read a post I wrote for Bloomberg News, here).

This morning, I joined Mayor Michael Bloomberg and World Bank President Dr. Jim Yong Kim at Transforming Transportation – an international symposium WRI co-organizes with the World Bank annually to illuminate solutions to improve mobility and livelihoods around the world.

Later this month, WRI will be launching Aqueduct 2.0 – the most granular and up-to-date water risk mapping tool in the world. In early February, we will release a widely anticipated updated version of WRI's analysis "Reducing Greenhouse Gas Emissions in the United States Using Existing Federal Authorities and State Actions." Stay tuned.

Thanks again for your support of our work.

Warm regards,



Andrew Steer
President and CEO

Recent Articles

"Polar Express - A journey through the melting arctic with sixty-odd thousand tons of iron ore", New Yorker, December 24, 2012.

"Oil Boom," Wall Street Journal, December 28, 2012.

"Imagine there's no fracking" - advertisement. New York Times, December 28, 2012.

"Time to Confront Climate Change," New York Times, Editorial, December 29, 2012.

"In Ireland, Carbon Taxes Pay Off on Deficit and Lower Emissions," New York Times, December 28, 2012.

"Guardian of Gotham—Climate Adaption... more resilient to natural disasters," Nature, December 20-27, 2012.

"Fruity with a hint of drought—changing climate-disruption-wine world," Nature, December 20-27, 2012.

"WRI - Greenhouse Gas Protocol to measure GHG Emissions. World wide water mapping tool. Global Forest Watch. Helping World's Poor Prepare for Climate Change. Agriculture's Looming Challenge. 12/27/2012.

"A New Dimension to Biogeography: Global Warming Flattens Tropical Forest," Seminar Field Museum, January 2, 2013.

"Awash in Carbon," Nature, November 29, 2012.

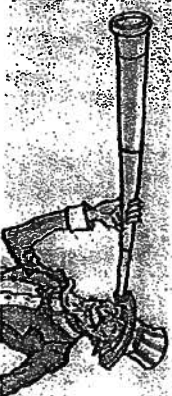
"Cap and Trade Finds New Energy," Nature, November 29, 2012.

The Foreign Policy Uses of an Energy Bounty

By Robert Johnson
and Leslie Green

The United States is poised to become a global gas superpower. Thanks to innovation and investment in shale gas

2020. That's the equivalent of about 8% of current U.S. gas production or 15% of global E&E production. Globally that would place America just behind the world's largest current LNG exporters, Australia and Qatar. Liquefied natural gas (along with the shale gas



production hub in Louisiana) where prices reflect supply and demand. In the rest of the world, however, most gas sales until now have been contracted at a price calculated as a certain percentage of the oil price. As a result, buyers are currently

ORGANIZATION

Organization

1. Fulfilling either vision is ambitious
2. Implementation will require full-time staff, close coordination with Denver (a full plate of priorities) and management of multiple interested local parties
3. Timetable
4. Consumer/ market research

Purpose: Establish single point responsibility, well-funded, an attractive opportunity for Science/public policy person to add to staff

In conclusion, I would like to thank Jim Crown who recognized the opportunity for me to help out and for the support of the Crown Family Foundation. My thanks to Ian Miller, my scientific mentor, to John Rigney for design of my schedule and recruitment of so many who visited with me, to Brenda O'Connor who did the scheduling and logistics, and to Judy McCarter and Kate McCarter who edited, formatted and produced this report.

Thank you to everyone who so willingly shared their experience, time and ideas.

Do not let this great opportunity slip away.

John McCarter
January 2013