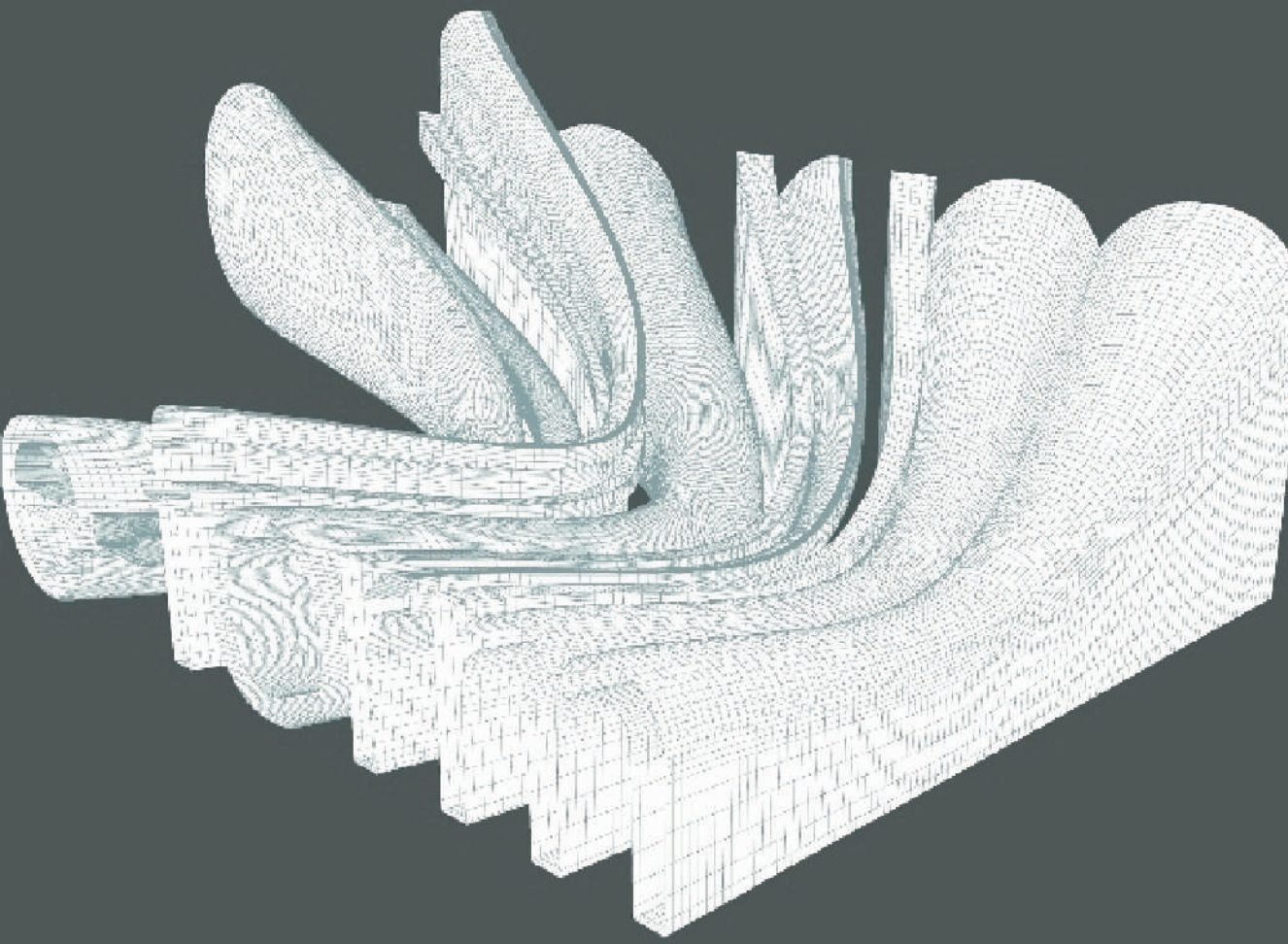
e-Form

Beijing, Shanghai and Chongqing

2008



exhibition of sculpture

e-Form

curated by
Bruce Beasley, Robert Michael Smith, and Tang Yao

Beijing Today Art Museum, Beijing, China October 4 - October 28, 2008
Duolon Museum of Art, Shanghai, China November 4 - November 28, 2008
Chongqing – Jinse Gallery – December 2008 through January 2009

with an essay by William Ganis
notes by Robert Smith

Contents

Digital Sculpture: Ars Ex Machina

by William V. Ganis

In the mid-19th century, Oliver Wendell Holmes hailed the photographic, dual-image "stereograph," a term he coined, as mankind's greatest achievement because its three-dimensional illusion allowed "form henceforth divorced from matter."1 Since that time, form has repeatedly asserted its independence from matter in myriad photographic and cinematic inventions. Today, however, the substance of the "stereo" is returned from the illusionistic, virtual world. In a truly transcendent moment, many sculptors are using new technologies (including some dubbed "stereolithography") to realize forms created in computer environments.

Today's stereolithography is an ontological breakthrough—until recently, the virtual world has remained separated from actual space by the computer monitor's proscenium arch. Digital sculptors use virtual space as a creative locus but realize their works in physical space. These sculptors accomplish their pieces through 3D modeling software, rapid prototyping (RP), and other machines that are becoming standard equipment in engineering and industrial design laboratories. The RP machine is a three-dimensional "printer" that allows an object that exists only in the virtual realm to become physical. This ontological shift is profound, since these RP objects of resin, polyester, or other materials are crossovers from another plane of existence—they are paradoxes of a virtuality that, up until this point, has been a one-way looking glass.

RP allows new forms to be modeled in virtual environments, including intricate works such as Kenneth Snelson's Atom I (2003) or Keith Brown's Shoal (2003), which are reminiscent of the visually complex 17th-century ivories and contrefaitkugel that demonstrated their carvers' virtuosity. These contemporary works are impossible to sculpt with the human hand and show the new sculptural possibilities brought by digital technology. In addition to new forms, RP may redefine the function and reception of sculpture in arts institutions. Digital sculptors work in a medium of repetition with, arguably, no original object and infinite reproducibility. In their raw states, RP sculptures seem to deny the sculpted material's aura of authenticity (as posited by Walter Benjamin), especially as the electronic data used to make these works can be shared instantly across the globe and, theoretically, reproduced by anyone. These works suggest a "conceptual" primacy that resides in their digital coding. They may subvert the normal arts infrastructure, since they are not subject to shipping costs or customs duties, transcend international boundaries, and (in small-scale machines) cost only a few dollars worth of material.

International RP exhibitions are symptomatic of technological globalization and the sincere desire of technology-oriented arts organizations to share information, techniques, and ultimately, artworks. Groups such as Manchester-based Fine Art Sculptors and Technology-UK (Fast-uk), the U.S.-based Computers and Sculpture Forum (CSF), and the French Ars Mathématica have international scope and have been responsible for major RP exhibitions. Recent shows, including the "Intersculpt" biennials and the "International Rapid Prototyping Exhibition" (2003), exemplify RP's transcendent aspects. More than just webcasting and videoconferencing, these exhibitions have been physically realized and presented in multiple and simultaneous yet independent venues. The "telemanufacturing" phenomenon allows disseminated electronic code to be realized in RP machines anywhere in the world.

"Intersculpt" started as a single-venue exhibition organized by Ars Mathématica in 1993. Since then, it has been developed through the cooperation of many curator/artists including Keith Brown, Dan Collins, Christian Lavigne, and Michael Rees. In the latest of these simultaneous biennial exhibitions, telemanufactured works were shared by artists located across the globe and realized by RP machines in 10 international venues as diverse as Auckland, Dakar, Hong Kong, Manchester, New Orleans, New York, and Paris. The recent "International Rapid Prototyping Exhibition," curated by RP artists Mary Hale Visser and Robert Michael Smith, was originally shown at Southwestern

University in Texas and has since been re-exhibited with sculptures newly printed at each venue, including New York Institute of Technology (NYIT); Pennsylvania State University; University of Houston; Yeditepe University, Istanbul; and Manchester Metropolitan University.

Though born from and developed within the engineering discipline, RP was almost immediately recognized as an artistic tool as developers, including Pierre Bezier, made aesthetically pleasing sculpted forms with their new machines. Since this time, much "engineer art," including physical expressions of mathematical formulas, complex polyhedrons, and imagery derived from ultrasound or other technologies, has been created through RP. While these works are sometimes intricate and visually compelling, they are usually trite systemic expressions symptomatic of RP used in engineering or medical imaging laboratories. Artists first started using these technologies in such "scientific" settings, and only recently have universities and colleges incorporated de dicated RP facilities into studio arts and design programs. These institutions include the Sarofim School of Fine Arts at Southwestern University; the Partnership for Research in Spatial Modeling (PRISM) Laboratory at Arizona State University's (ASU) School of Art; Manchester Institute for Research and Innovation in Art and Design (MIRIAD) at Manchester Metropolitan University; the École nationale supérieure des beaux-arts, Paris; and the Fine Arts department at NYIT, which boasts more digital sculptors on its faculty than any other school.

The inclusion of RP in established programs indicates institutional recognition of this technology as a robust and expressive medium reflective not only of faculty interests but of student demands to learn and adopt the newest tools. NYIT and ASU among others now incorporate this training in graduate programs. Digital sculpture classes and programs connote a "maturity" for the technologies. Most of today's digital sculptors were pioneers—first trained to sculpt with physical materials, they discovered virtual modeling, RP, and its freedoms (and limitations) later in their careers. These same sculptors now instruct protégés whose first modeling experiences may be realized through digital media—a primacy that will undoubtedly yield new concepts, attitudes, and forms.

Today, modeling and animation software, including Maya, 3D Studio Max, Cinema 4D, and Rhino, are vast improvements over industrial CAD packages in terms of features, usability, and affordability. Some, such as Wings 3D are even available as shareware. However, in order to facilitate use for digital sculpture, to rescue RP from an engineering-based interface, and to enhance creative potential, artists have been working on new, intuitive interfaces. In conjunction with Chris Burnett and Donald Guarnieri, Michael Rees has developed open-source modeling software. Sculptural User Interface (SUI) is free to download and a simple-to-learn yet endlessly dynamic virtual tool.2 Works developed with such free or inexpensive software may be sent by e-mail or FTP to public service bureaus that will, for a fee, realize those files in RP machines.

While access is constantly improving, ownership of RP machines is presently quite exclusive. Limited to businesses, educational institutions, and a few individuals, even the least expensive RP machines cost approximately $20,000, require constant upkeep, and use proprietary materials. Some project, however, that these technologies will become less expensive and more accessible, perhaps as ubiquitous as the once exclusive color copier—before long, RP at Kinko's and Sir Speedy may be a reality.

The challenge for digital sculpture artists, however, is to work with this new electronic medium without relying on it for content or presence. The virtual realm translated to the physical world, sculpture files traveling around the world, infinite dissemination and reproducibility, and properties of new materials are all compelling, but they do not automatically add up to quality artistic forms and concepts.

The forms straight from RP machines may exhibit a Modernist truth to materials, expressions of the artist's unadulterated concepts, or virtual "hands," but they are usually rendered in unappealing

resins or fibers. The off-white, egg-shell-like finish of the raw material lends itself to forms that evoke bones—for instance, Michael Rees's "Spine" series (2001) or the subtle abstract reliefs of Michael Somoroff's Tempus Formare (2003).3 Without suitable subjects, however, these matte white materials read as studies. Limited to sizes smaller than a cubic foot in the most affordable machines, the sizes and plaster textures of the raw works suggest maquettes. Moreover, the term "prototyping" indicates the transient: each RP object seems merely a model for later actualization.

Despite the revolutionary nature of RP, which allows for low cost and infinite reproduction, and dissemination, the most high-profile artists using these technologies have conformed to accepted practices that commodify the multiple—namely, the principle of creating limited editions and objects realized in unique finishes or materials. This limitation seems to be the cost of institutional participation, especially in an art world that forces commodification through scarcity and measures success through fiscal performance.

To date, institutionally successful works have been "transubstantiated," as many artists have their forms painted or cast in bronze or other metals in order to make works that are "finished" and attractive. RP pieces become more acceptable when, through application of finish and fetish, they offer an alluring materiality. Despite the RP sculptor's subversion of traditional media, materiality is re-established in singular or rare objects when they are finished in bronze, paint, or other substances or offered in limited editions. For instance, Michael Rees finished his recent Putto8 2.2.2.2 sculptures (2003) in metallic or automotive paints. The arguably best-known piece created from an RP process is Robert Lazzarini's payphone (2002), featured at the 2002 Whitney Biennial. While Lazzarini uses RP to model his compound planar or wave distortions, his pieces are finished though painstaking material fabrication processes. He incorporates the same substances as in the original objects: thus, anodized aluminum, stainless steel, Plexiglas, and silk-screen for payphone; gilt porcelain and stainless steel for teacup (2003); and wood, paper, fabric, pigment, and other materials for table, notebook and pencil (2004).

One solution allowing the execution of digital sculpture in traditional media is computer numerical control (CNC) milling. While these machines with the capability to carve wood, stone, glass, and other materials are becoming more common in industry, the Digital Stone Project in central New Jersey offers the world's only comprehensive facility for digital sculptors. It is a newly formed not-for-profit organization that serves digital sculptors and promotes the development of new technologies. Robert Michael Smith expressed his biomorphic universal forms such as Amaranthe (2003) and Ephesiancybergin (2003) in marble at this facility. Through the CNC process, Smith was able to infuse his digitally generated work with marble's substance and surface quality, including veins, impurities, and color modulations. Many RP artists experiment with scaling their forms and realizing them in different materials and processes. For instance, in addition to the marble and smaller RP resin versions, Smith brought Amaranthe to fruition through another CNC process, yielding a large form made from polyurethane-coated foam.

CNC milling is often used in conjunction with laser scanning to rescale works. For instance, Claes Oldenburg and Coosje van Bruggen's monumental Inverted Collar and Tie (1994) was realized from a scanned maquette. William Kreysler and Associates, a CNC pioneer, used the process not only to enlarge the form, but also to analyze the work's structure and realize it with more appropriate and less expensive materials than originally planned.4

As the product of a new technology, RP sculpture today seems parallel to nascent photography in showing an unfolding potential. RP art will likely later seem much as we now perceive Niépce's heliographs, Talbot's prints, or Daguerre's plates. In early examples, we recognize technology's promise—ghostly images that will yield robust pigmentation; grainy calotypic multiples that anticipate gelatin-silver negatives; even stereoscopic prints that portend extraction of the "real" from the "virtual."

Artists using digital sculpture technologies point the way to the sculptures' potential. "Intersculpt" exhibitions show that the infrastructure for increased accessibility is already in place. Like photographers hand-tinting their work in the 19th century, artists who today transform materials in their RP works disclose capabilities they desire. As the technology becomes more sophisticated, these machines will enable incorporation of color, illusionistic material expression, moving parts, and even controlled application of different materials. Combined with nanotechnologies, these machines may be able to express different materials through "printing" molecular changes. RP artist Peter Voci has described today's machines as primitive versions of Star Trek's "replicators." From our position of hindsight, we observe that it took photography nearly 150 years to shed its marginalization as a documentary tool and gain "complete" acceptance as a fine-arts medium. Though technologies have become adopted with ever-increasing expediency, it may be decades before RP sculpture (or whatever we will call it) loses its industrial character and becomes identified with the fine arts.

William V. Ganis is Assistant Professor of Art History at the New York Institute of Technology. His recent book is Andy Warhol's Serial Photography.

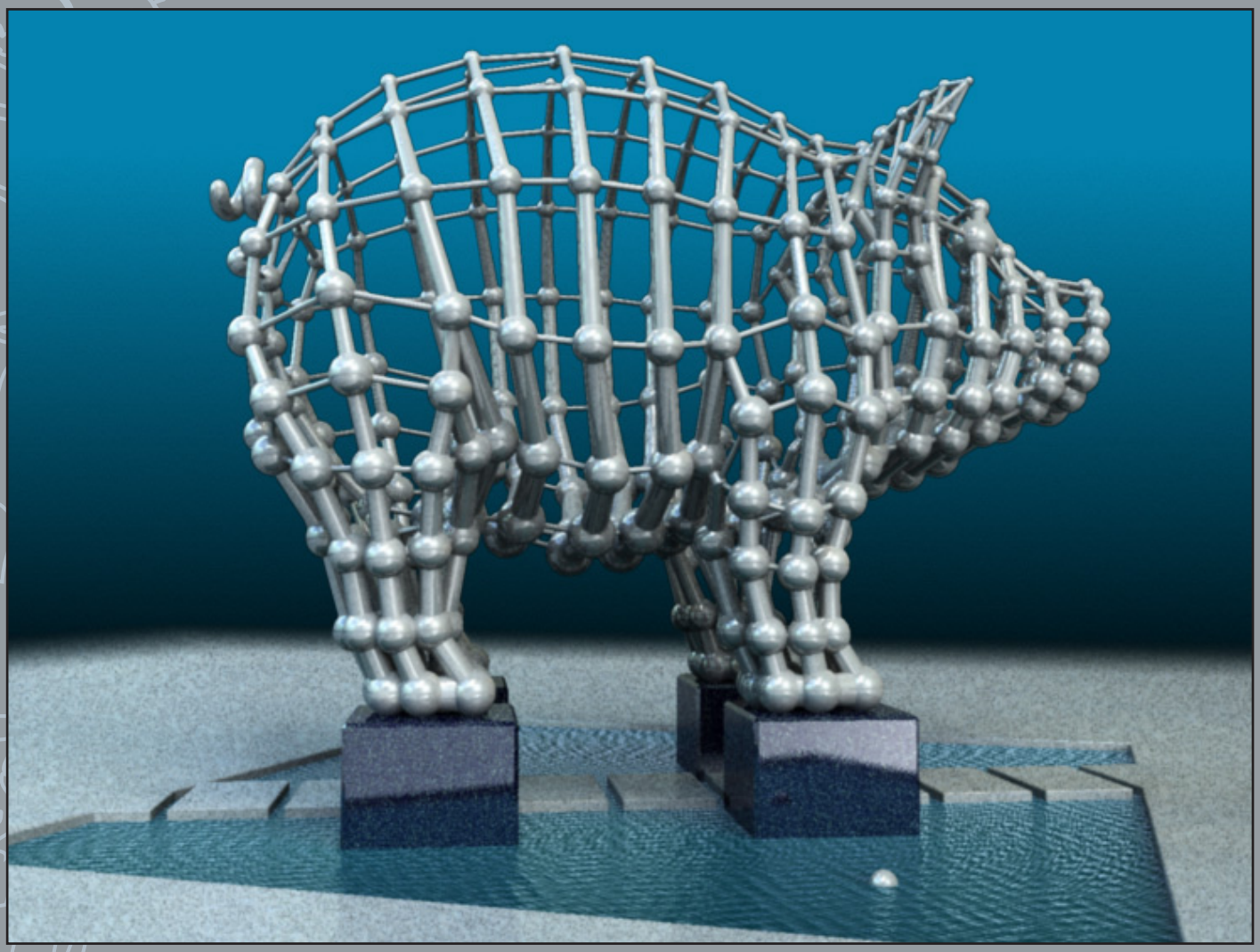
Notes

1 Oliver Wendell Holmes, "The Stereoscope and the Stereograph," in Alan Trachtenberg, ed., Classic Essays on Photography (New Haven: Lette's Island Books, 1980), p. 80.

2 SUI is available at <http://www.michaelrees.com/sui/>.

3 Clear, translucent, and colored materials may be used in some machines.

4 A case study of this process is available at <http://www.kreysler.com/about/press/cda1-art.htm>.



Lawrence Argent

NUK - (stone)
2004 21 x 12 x 8 inches Rosa aurora marble. *Top*

NUK-(Bronze)
2005 Bronze 60 x 32 x 22 inches. *Second from top*

"I see what you mean"
2005
City of Denver, Denver Convention Center Expansion Public Art Project. 40 x 22 x 24 feet. Composite materials and Steel. *Left*

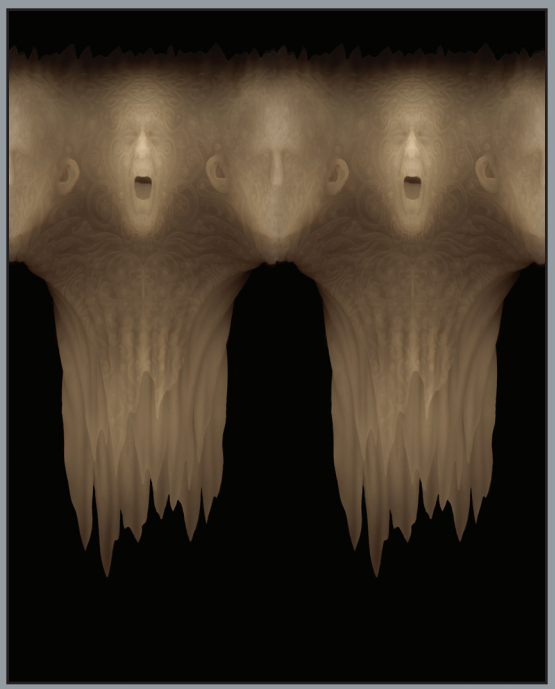
Barry X Ball

Mexican onyx
10-5/32 x 5-3/8 x 6-9/16 in.
2000-2006
Photo: Barry X Ball
Courtesy Galleria Michela Rizzo, Venezia and Salon 94, New York
Top Left

Belge Noir
14-3/16 x 8 x 7-3/4 in.
Belgian Black Marble
2007-2008
Photo: Barry X Ball
Bottom Left

Mexican onyx,
stainless steel, 24K gold, various other metals
stone / shaft assembly: 55 x 5-1/4 x 8 in.
stone figure: 22 x 5-1/4 x 8 in.
2000-2007
Installation view, SITE Santa Fe, Santa Fe, New Mexico, USA
Photo: Eric Swanson
Private collection, USA
Courtesy Zane Bennett Contemporary Art, Santa Fe and Salon 94, New York
Top Right

To be titled
2008
C-print
Dimensions variable
Courtesy Salon 94, New York
Bottom



For ten years I have been working on a series of stone portraits. These sculptures have evolved from hyper-classical, funereally sober representations to attenuated, expressionistic, recklessly-inclusive, layered compendiums and inexplicably distorted homunculi. Each of the portraits takes hundreds of hours of labor to produce. They are realized in a variety of exotic stones via an extensive armamentarium of tools and techniques, ranging from the cutting-edge to the traditional. My work in this exhibition - a tripled "unwrapped" variant on a flayed, elaborately embossed, Janusian portrait of Matthew Barney, becalmed, and me, screaming - is both the first rapid-prototype and the first relief I have made.

Bruce Beasley

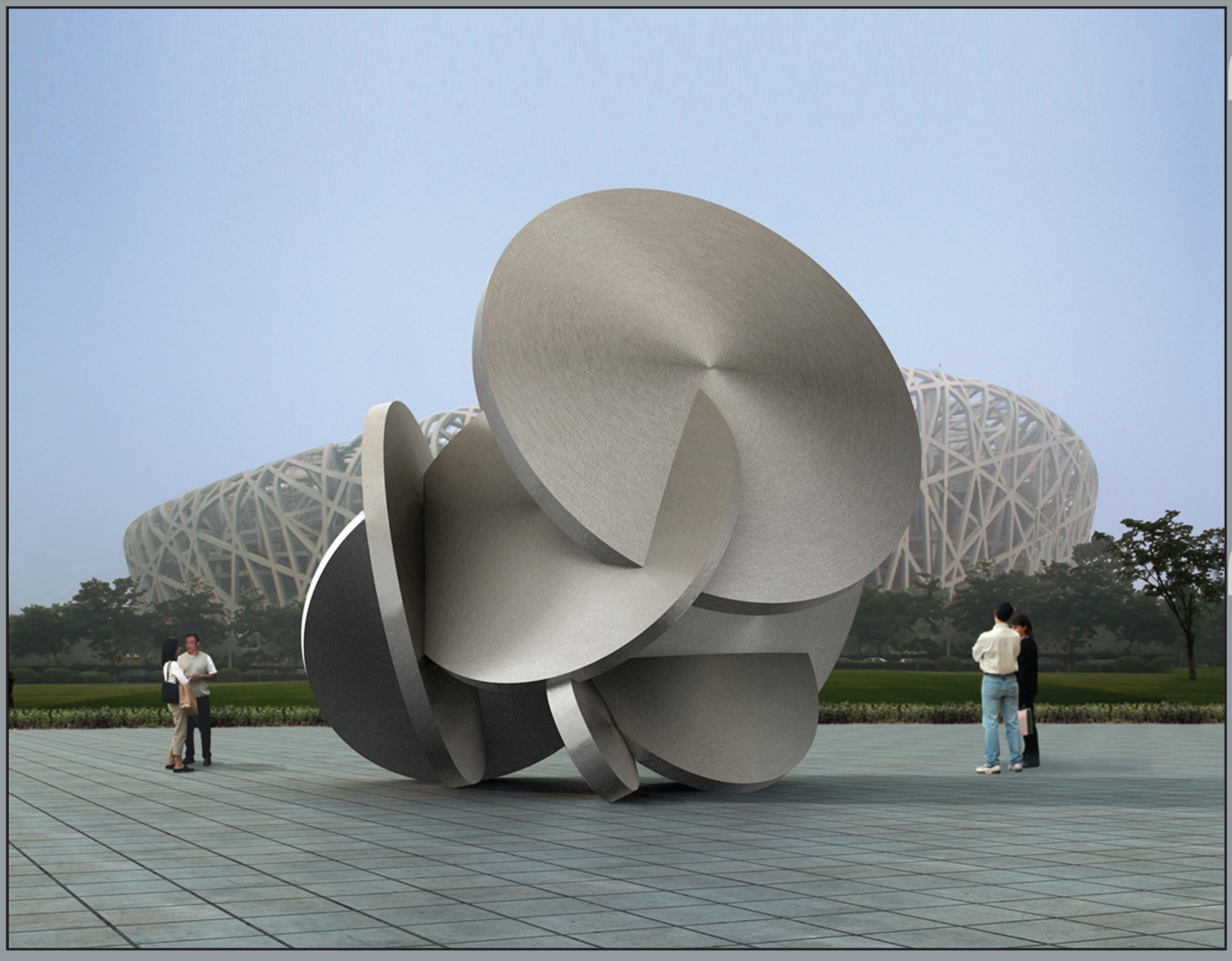
I have been creating all of my sculpture with computer modeling now for thirty years. I am not a sculptor who sees finished pieces in my head. My process involves many trials and errors to arrive at the final piece. Computer modeling allows me great spontaneity and flexibility. I love to make my mistakes with electrons rather than with steel or bronze or granite. Rapid Prototyping has solved the major problem of computer modeling of "how do you get the sculpture out of the computer and into the real world?"

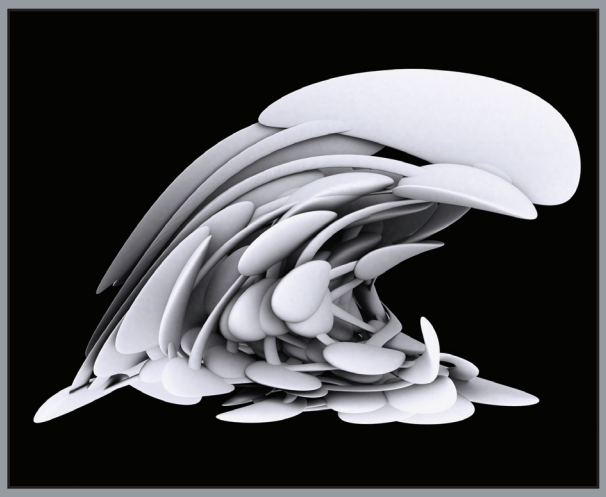
Challenge,
12" high, ABS, 2007
Middle Left

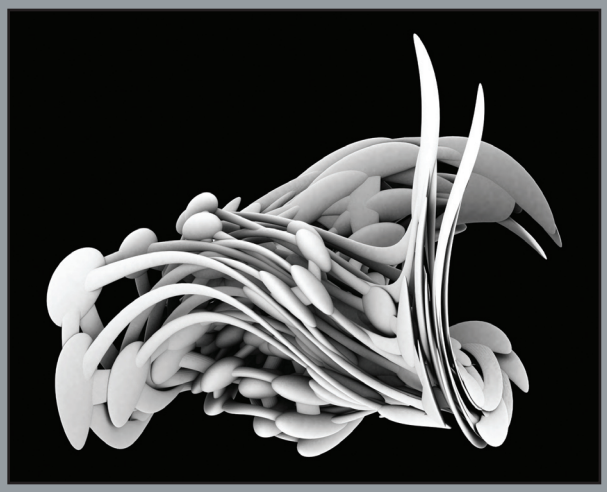
Embrace,
12" high, ABS, 2007
Top Right

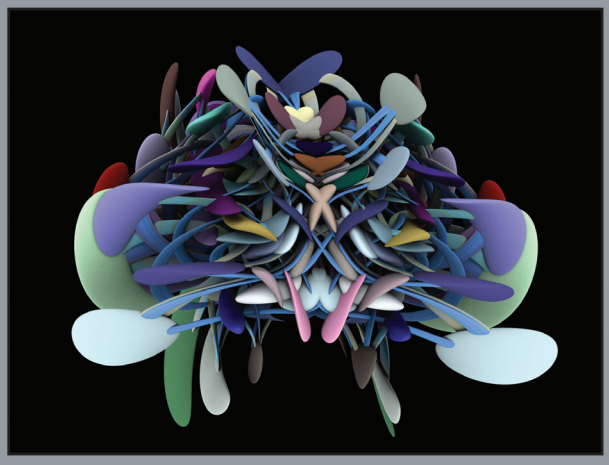
Refuge of the Moon II,
12" high, ABS, 2007
Top Left

Refuge of the Moon I,
12" high, ABS, 2007
Above

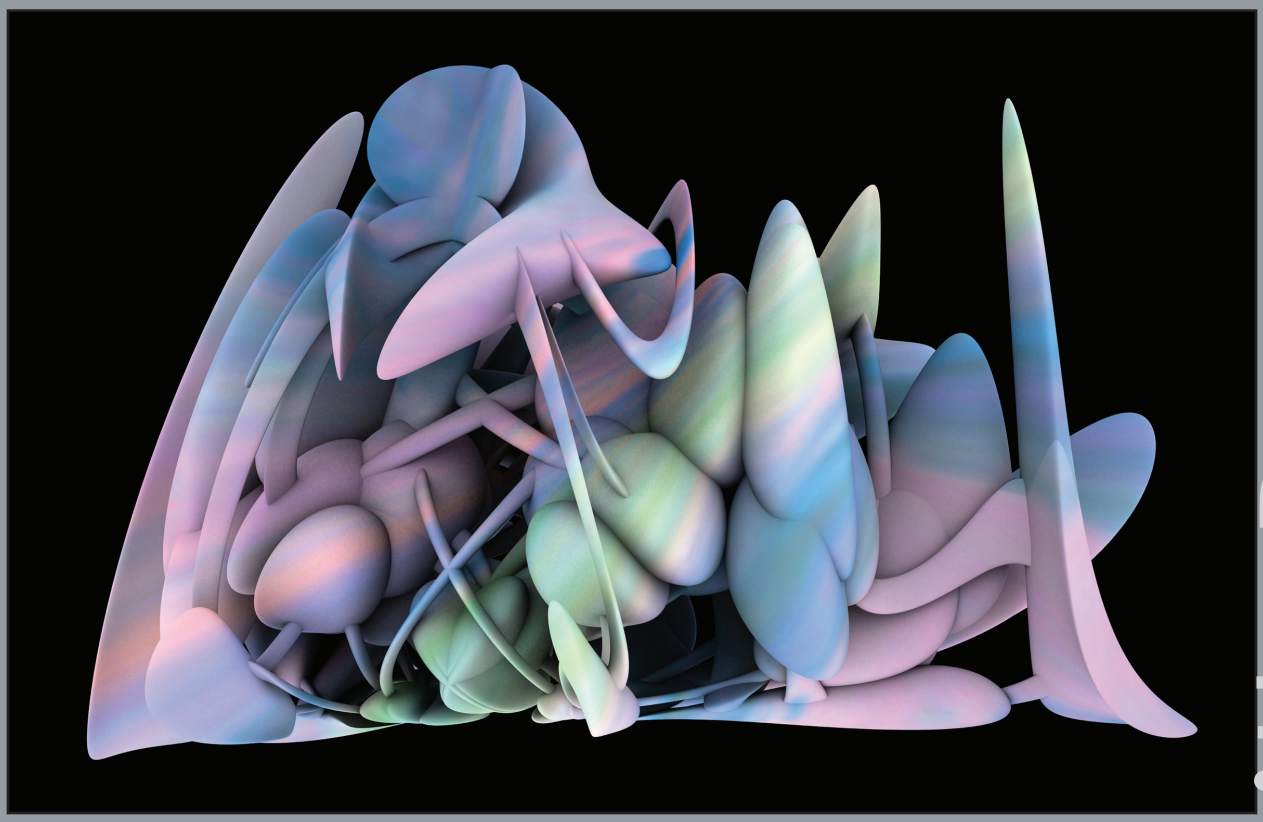








Keith Brown

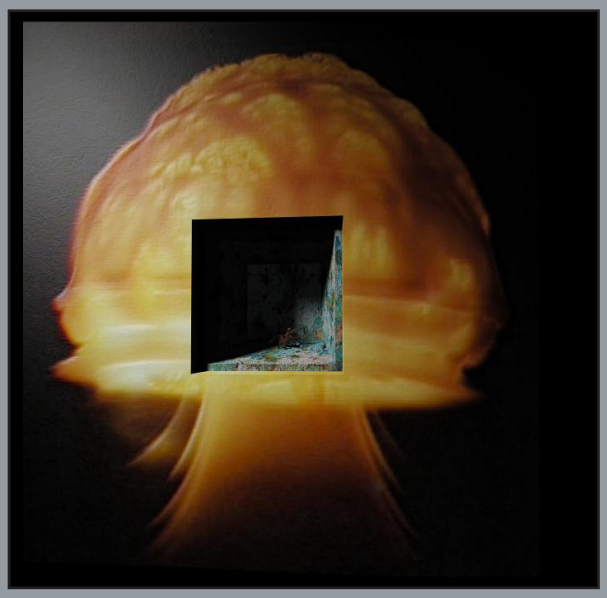


Keith Brown

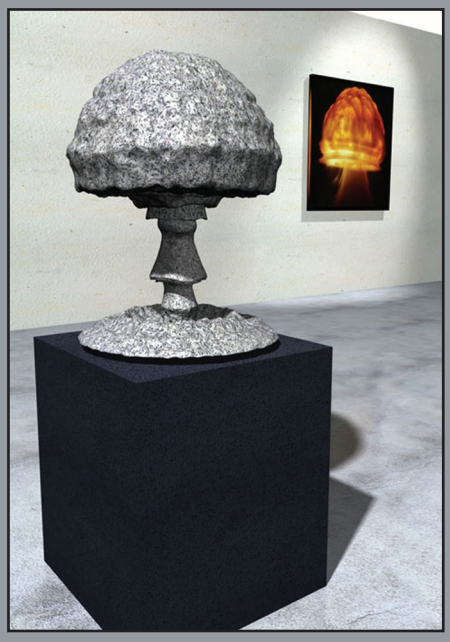
The computer has become an essential aspect of my current working process and is indispensable to the conception, content and quality of my artwork. I am primarily a sculptor whose interest lies mainly with the discovery and realisation of new three-dimensional forms. My main concern is with "Real Virtually" rather than "Virtual Reality", thus reversing the order between the cyber and the real. I don't wish to emulate reality in the virtual environment but alternatively to explore the possibilities made available through computing technologies and to bring them into a form of manifest actuality previously unavailable through traditional means.

Crest_01
Size: (approx) 8" x 8" x 12"
2008
Top Left

Crest_02
Size: (approx) 8" x 8" x 12"
2008
Middle Left



Brit Bunkley



Tonado Poster
Middle Left

Tornado
Above

Mushroom Granite Cocncrete Base
Left

Slide1
Top Left

Dan Collins

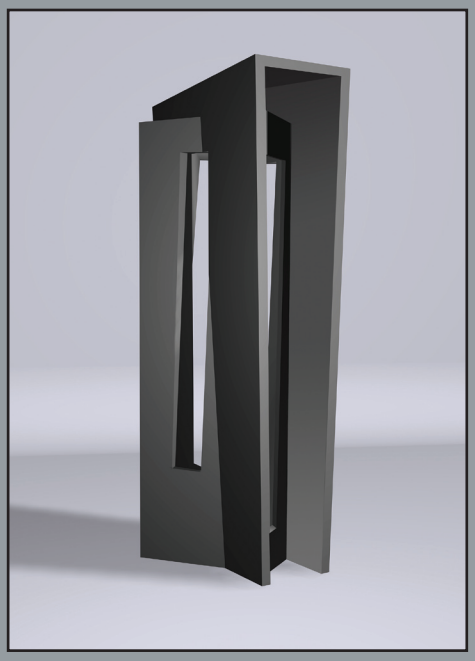
Dan Collins

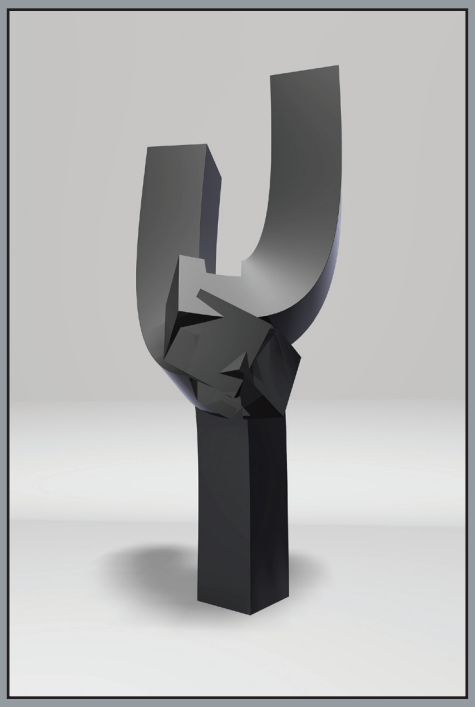
"Of More Than Two Minds"
3.75" x 3.75" x 3"
hydrocal, 1993
Left

"Twister (version 3)"
9" x 2.75" x 2.75"
ABS plastic, 1995 – 2003
Two at the Top

"Flooding Phoenix"
6" x 96" x 96"
video projection,
CNC milled urethane foam with resin coating, 2006,
Above

I draw upon a range of interdisciplinary approaches to art theory and production, including site specific sculpture, performance, interactive computer graphics, 3D visualization and rapid prototyping, and data capture and modeling technologies including laser scanning, satellite imaging, terrain modeling, and Geographic Information Systems (GIS). I situate my work in the gap between the body and technology--between the hand-made and the high-tech. Lately, I have been looking at interactive educational media, ethnographic research methods, game-theory, and participatory "mapping" as vehicles for celebrating subjective responses to "placemaking"--a welcome echo of my early interest in site-specific sculpture.





Albert Dicruttalo

Albert Dicruttalo

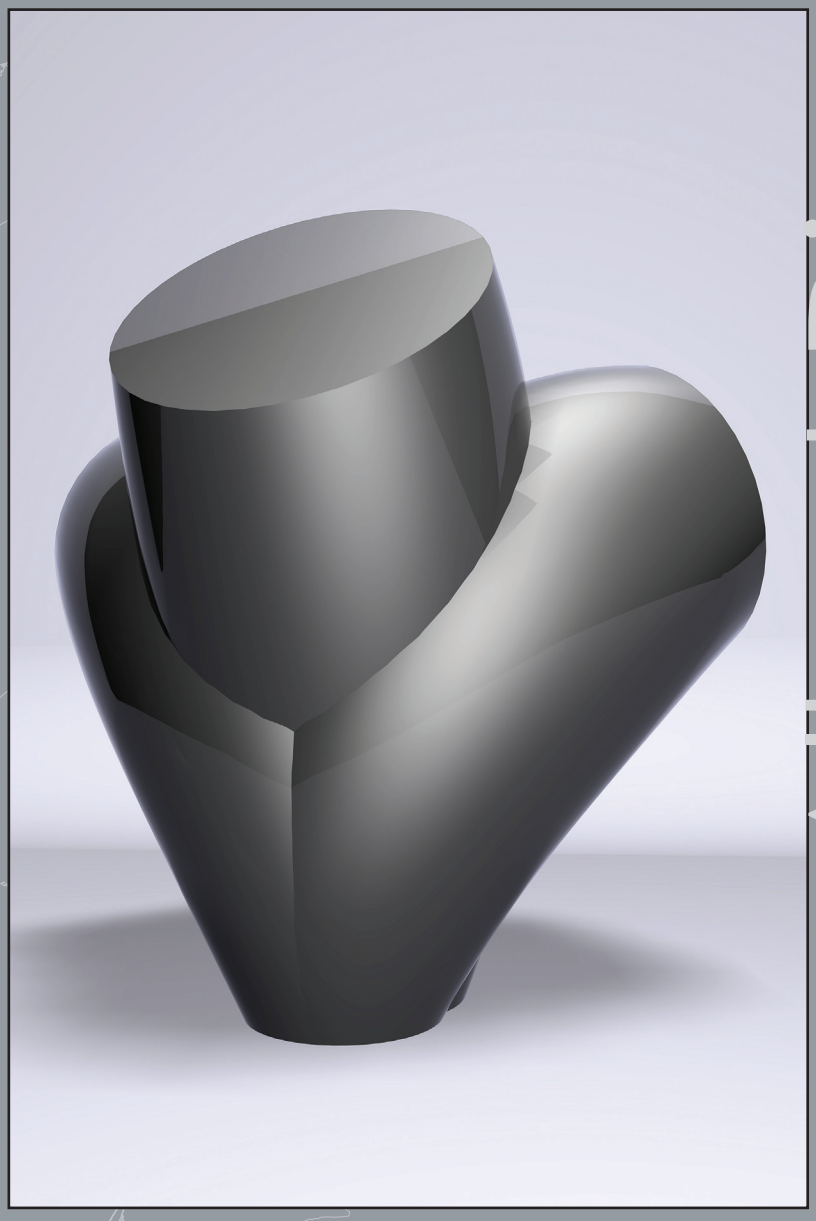
I create bronze and steel sculptures that address themes of freedom, entrapment and identity. I often work without a planned concept of a finished work — an organic process in which a piece evolves as I respond to the forms I manipulate. Heavily influenced by modernism, my work emphasizes formal spatial relationships. The tension created in combining geometric, repeated and organic form summons associations of the strength and vulnerability of the human condition and has been a source of inspiration for the past twenty years.

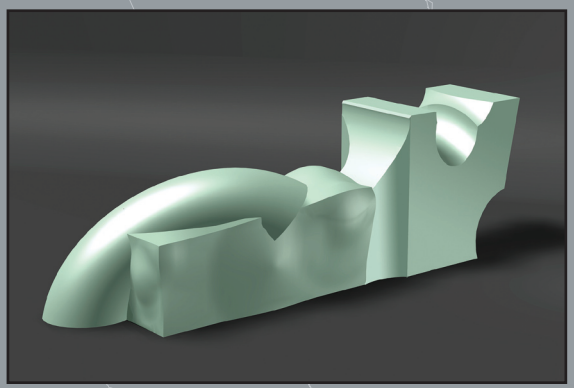
"Good Morning"
10 ft x 8 ft x 8 ft
Stainless steel
2008
Bottom Right

"Intersections"
30 in. x 20 in. x 14 in.
Steel
2008
Top Left

"***Wishbone***"
16 ft x 10 ft x 8 ft
Bronze
2008
Middle left

"Repose"
12 ft x 4 ft x 4 ft
Granite
2008
Below





Sharon Engelstein

Ambiguous Paws
10 x 7 x 8 inches
3D print
2008
Below

Geopool
9 x 8 x 5.125 inches
3D print
2008
Left

Several years ago, I downloaded a free version of a 3D modeling program and found an ideal design process. I began focusing on what I love most--the invention and interplay of bubbly, growing, wandering forms. I have long been trying to achieve a synthesis of organic and mechanical form--a merging of nature and technology. I found this to be an intrinsic quality of computer aided design and manufacturing. With this discovery, and the mysterious language of coded geometry, I was able to expand upon my earliest artistic interest--pure biomorphic abstraction.

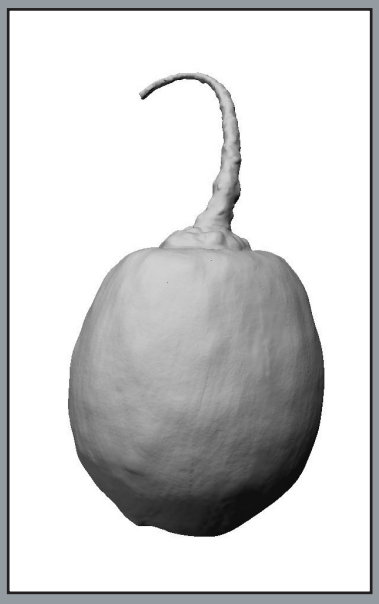
Ming Fay

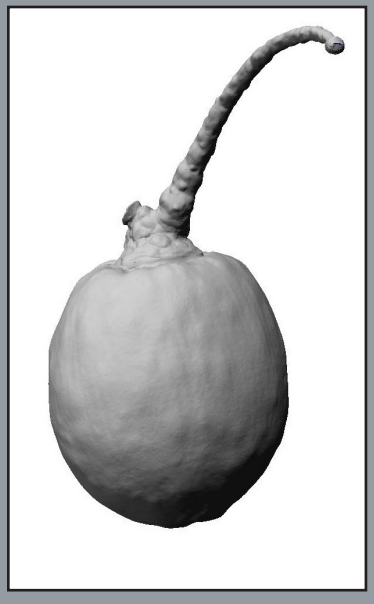
Mina Fay

I create installations of imagined gardens and jungles; they are metaphors that have symbolisms, usage and aesthetic intrigue. The forms I create are hybrids of human and nature ideas.

I use a mixture of wires, foam, paper pulp and paint to create the works. I also scan real objects to digital files and alter the scale, meaning and symbolic functions. From the files they become 3D objects. Which are hybrids of mystery and fantasy; my imagined mindscape pictures.

These combined settings provide the audience a questioning sensibility about the relationship of human and nature, we are present.



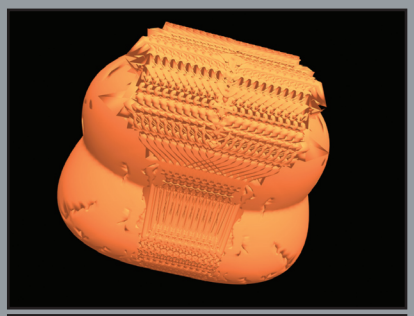


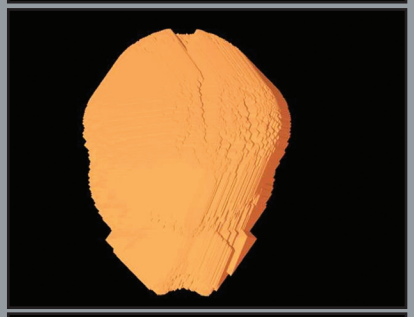
Ginkoberry Gwa
2008
Left

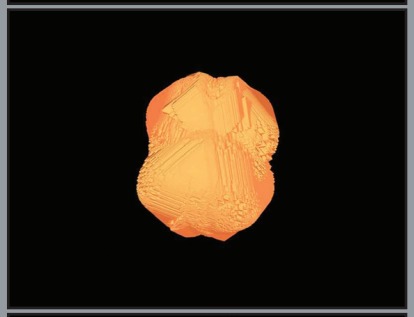
Walla Yauco
2008
Middle Right

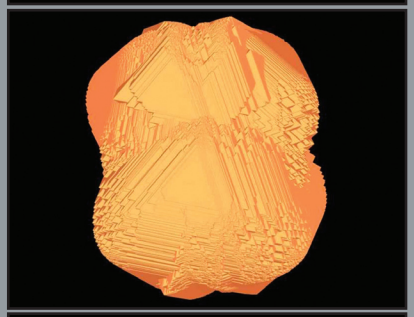
Gingko Nut1
2008
1st to the Bottom Right

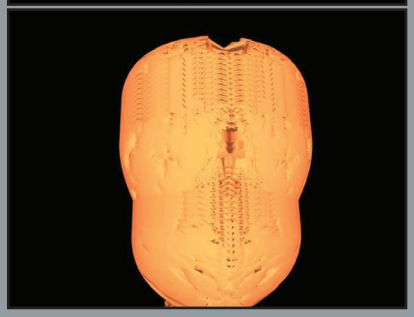
Gingko Nut2
2008
Bottom Right



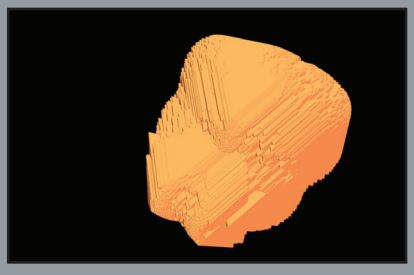


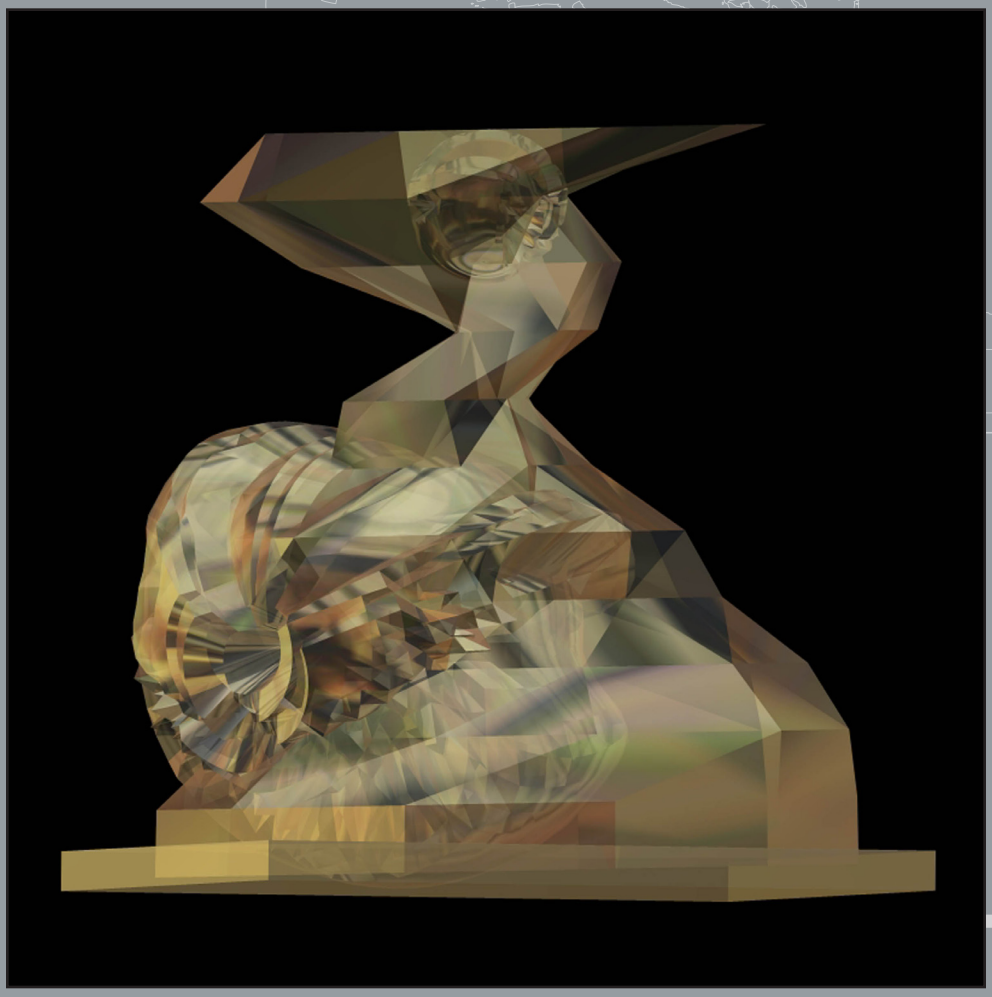






Paul Higham



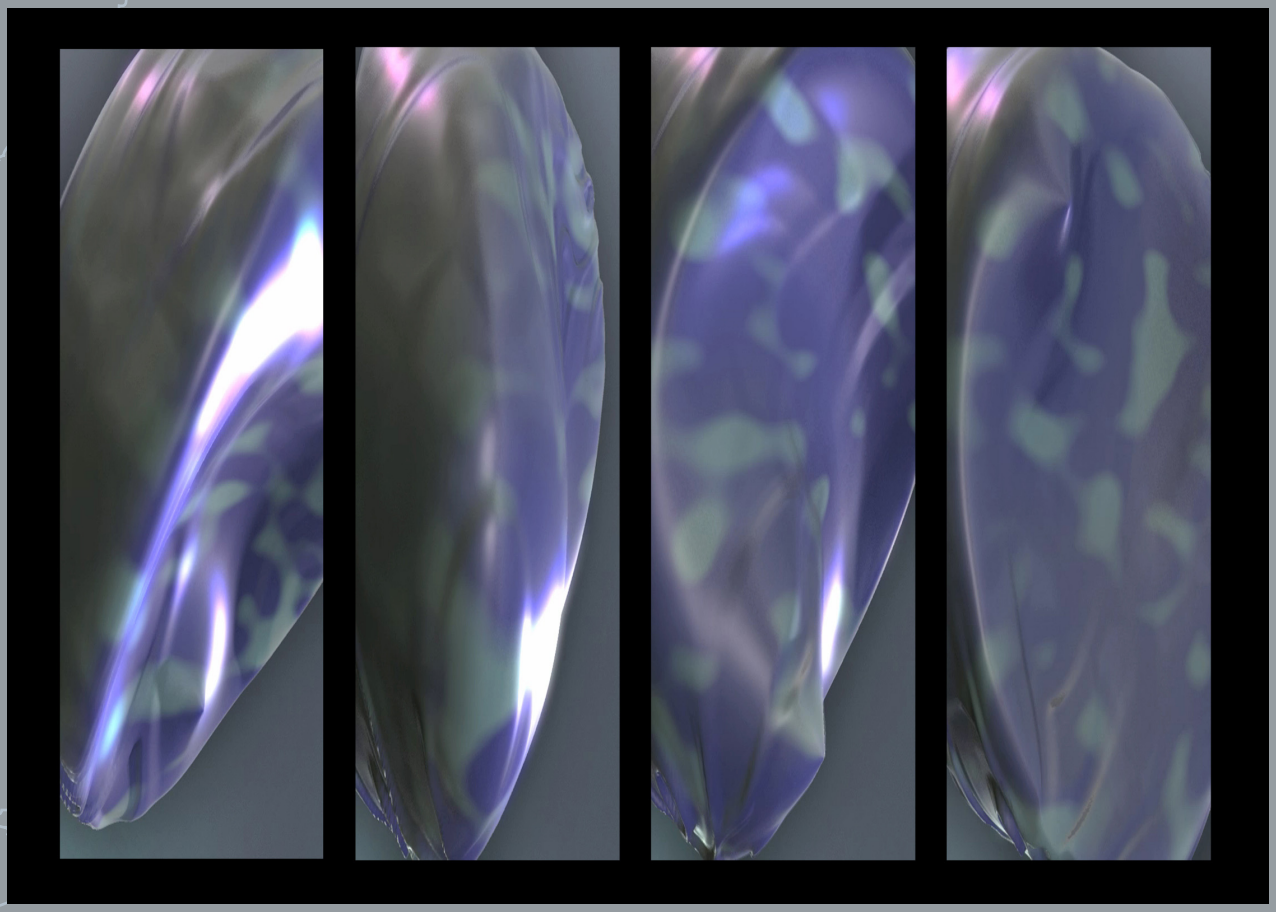


The Heart Surta Tsunami Algorithm
Left - All

'Datasculpture' are computational works that deal with the commodification of information and dynamics of data itself, in this instance they are real time samples of Data streams harvested and mined. These discrete "grains" of data aggregate and self organize, eventually developing into vectoral forms that can have concrete sculptural outcomes such as rapid prototypes or cnc milling.

Preferring to generate work from coding and algorithms my work makes a departure from the traditional retinal / hand / 3d modeling conjunction. I am therefore working with the consequences of direct engagement with complexity in a generative system that affords the emergence of sculptural form using the flux and dynamics of data and societal transformations in real time.

At any stage of their divergent development one may propagate or cull works as "Emergent Proofs" of autonomy hence materials are often listed as "code/cpu/" referencing the computation that parses the symbols into forms.

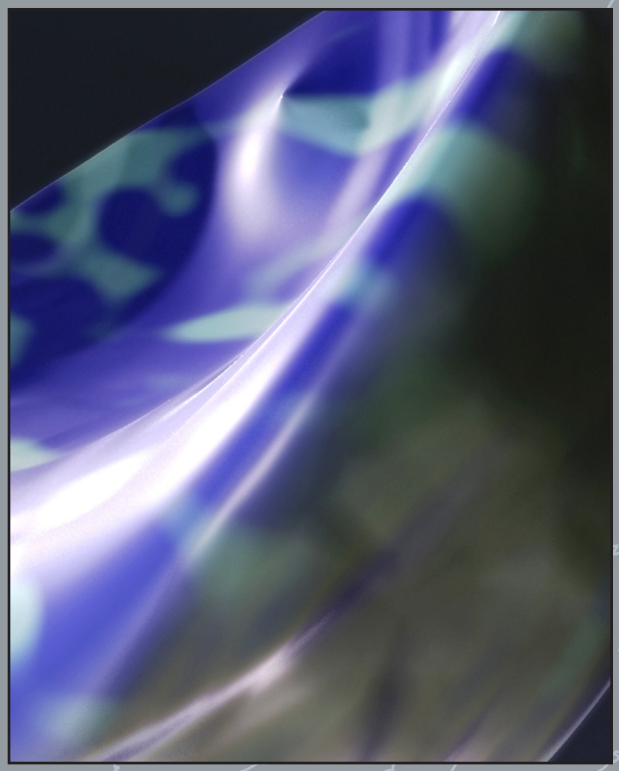


Jon Isherwood

China is a fascinating blend of the ancient and the modern. It was therefore a particularly appropriate place to find inspiration for this project, in which cutting edge digital technology is used to make sculptures made of stone, the oldest, most resilient and unforgiving of materials.

One of the greatest challenges for me, however, was that my approach to creating sculpture in this project was the reverse of how I normally work. I usually begin by modeling my sculptures in clay, and then use digital technology to model and cut the stone. In this case, however, the work began using 3D Studio Max to conceive the sculptures, which were then made into prototypes and eventually sent to China to be carved by hand. In other words, my normal working method is from the hand to technology, and in this project the artistic process began with technology and finished with the hand.

What was both daunting and intriguing about this way of working was the speed that the computer afforded in the design process. The 3D modeling technology enabled me to design a number of forms very quickly in the computer, and from those I could choose a few to print using a rapid-prototype machine. From working with the prototypes, I was able to see them as real objects and thus to see what needed to be changed or to understand the form. In the computer one finds a virtual scale that is relative to the screen, but in actual scale, it scales to the real world: the body, the hand. Rapid-prototyping facilitated a tactile intervention in the virtual design process.



One very exciting thing that occured while using the 3-D Studio Max software was that it provided me with the ability to overlay patterns onto each other and onto form. For example, in one of the pieces that I created for this exhibition, I used the computer to take a traditional Chinese calligraphic pattern and overlay it with an abstract geometric pattern of my own design—another collision of the ancient and the modern. I then superimposed these merged patterns onto a form, which became the sculpture "Fish Out of Water." The technology allowed this overlay, which would not have been possible otherwise.

My travels through China in August 2007 in conjunction with this exhibition were a main source of inspiration for the pieces I created, which are not a series, but rather four distinct responses to what I saw and absorbed. At the Dazu rock carvings, for example, I discovered an overwhelming experience of pattern and imagery bursting forward from the rock surface in high relief, surging forward in terms of dimension and yet still very attached to the earth. The issue of repetition and pattern and the aesthetic proportioning of the objects that led to a face-on frontal address from a sculpture were striking, and led to some of my sculptural explorations in pattern and form for this exhibition.

I am very grateful to Carl Bass and to Autodesk for providing me with this incredible opportunity to be influenced by and to make work in China using Autodesk software. China is a fascinating blend of contrasts and contradictions, and it has been an inspiration for the work I have made using the 3D modeling technology. Whilst I feel really excited and confident in these pieces, I also feel that they represent four distinct new beginnings in the further evolution of my work.

Christian Lavigne

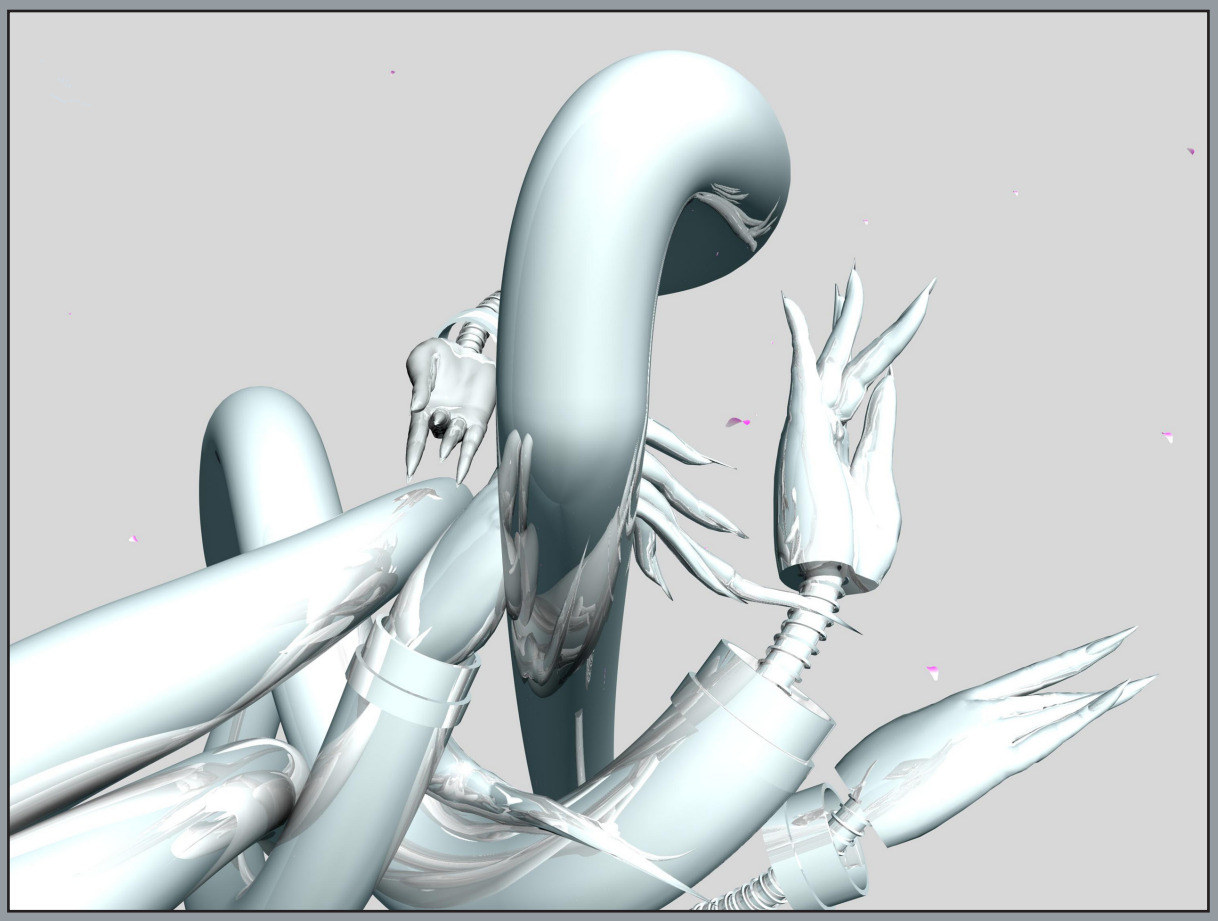
My main purpose is to contribute to promote a New Renaissance, i.e. to organize and to fête the reunion of Art, Poetry, Science and Technology, with the people who don't like the compartmentalization of the minds. I first approached the arts as a poet who enjoy to travel (by mind) in "distant cultures" (time or space distance). I became a painter and a sculptor because I needed to write poetry in 2D, 3D, and n-D if necessary. Because of my scientific background, and because – luckily! I haven't studied in an "école des beaux-arts", I started without any complex to use computers and various machines, in the early 80's, for my art works. I think that today the word "virtual" is the flag of a dangerous ideology. Artists must question "the progress", and build bridges between the "virtuality" and the actuality. The cybersculpture doesn't forget the body!

" Quand la cité n'a pas de porte,/ même le prince ne peut y entrer,/même le prince ne peut en sortir."
[Translation: " When the city has no gate,/ even a prince can't get in,/even a prince can't get out."]
computer rendering
2008

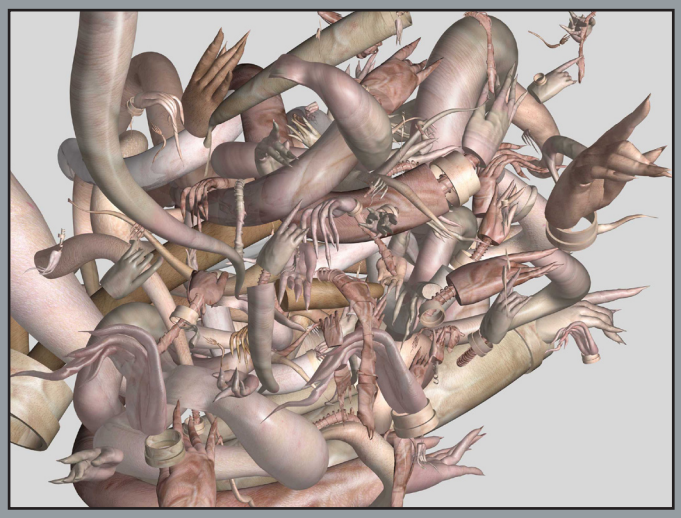
"TABAPO DU SILENCE"
computer rendering
2003
bottom left

"VERS L'INFINI"
3D printing colors
22x10xH17cm
2004-2006
Left

"TETE A TETE 2 / MNEMOSYNE"
Magnetic Resonance Imaging + 3D printing colors
14x22xH18cm
2006



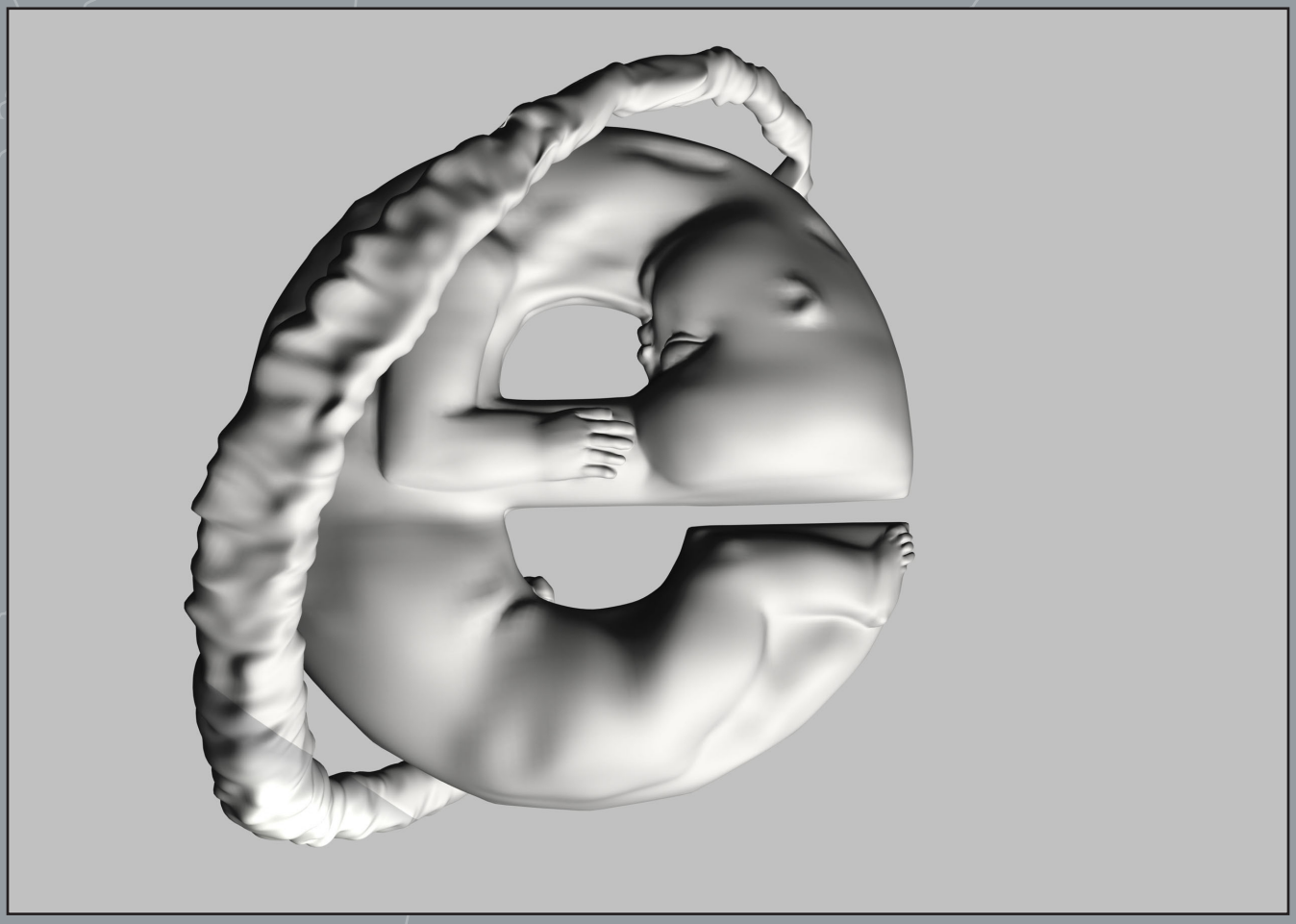
Li Huaiji



Due to itself dialectic development, reason reflects the process of losing human nature, which means that the future science and technology will take human beings into the "Instrumental Rationality" Time(Later Reason Time). The progress of science and technology and retionalization make reason become the production of culture industry and be catabolized further the power of ruling people.

As science is developing and the nature is conquered with each passing day, reason gets more and more instrumental object; people are losing more and more go-aheadism and become the enthralled target. "Instrumental Rational Criticism" points to the development of science and technology, in the present indrustrially advanced society, reason materializes science and technology, organizes and operates the manufacturing production and life style. It also has formed the new morpha and is deepening the dissimilation and inthralment to human beings.

The maximum of art should be the mutual citation between philosophy and science. Art should keep sustaining connection with the latest development of science and philosohpy, at the same time, we should criticize art soberly



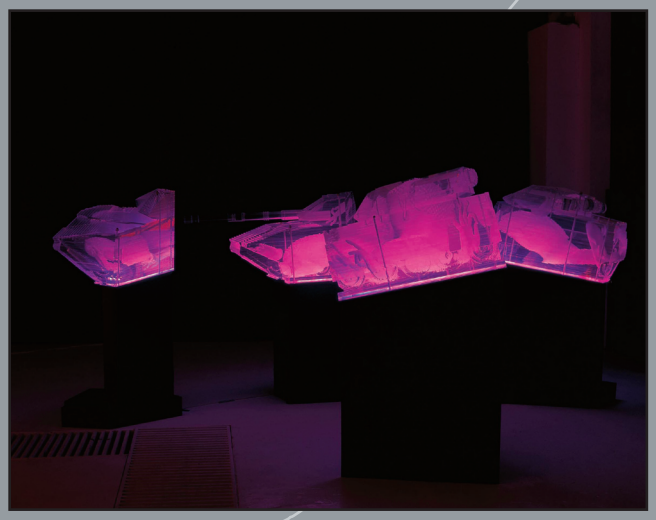
Li Hui

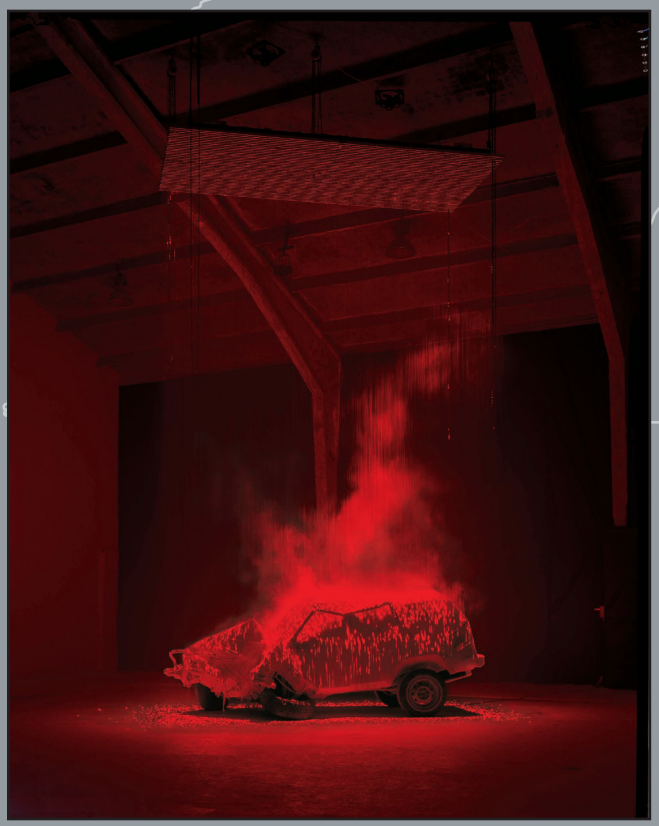
Amber
Right

Buddhist altat NO.2
Middle Right

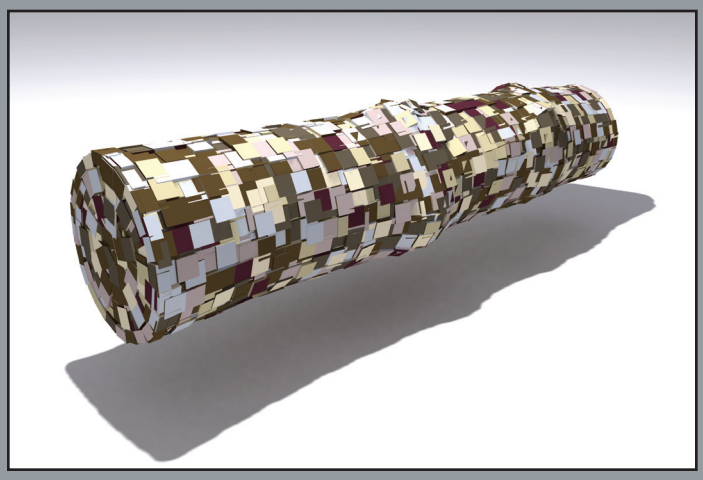
Untitled
Bottom Right

Variation
Left

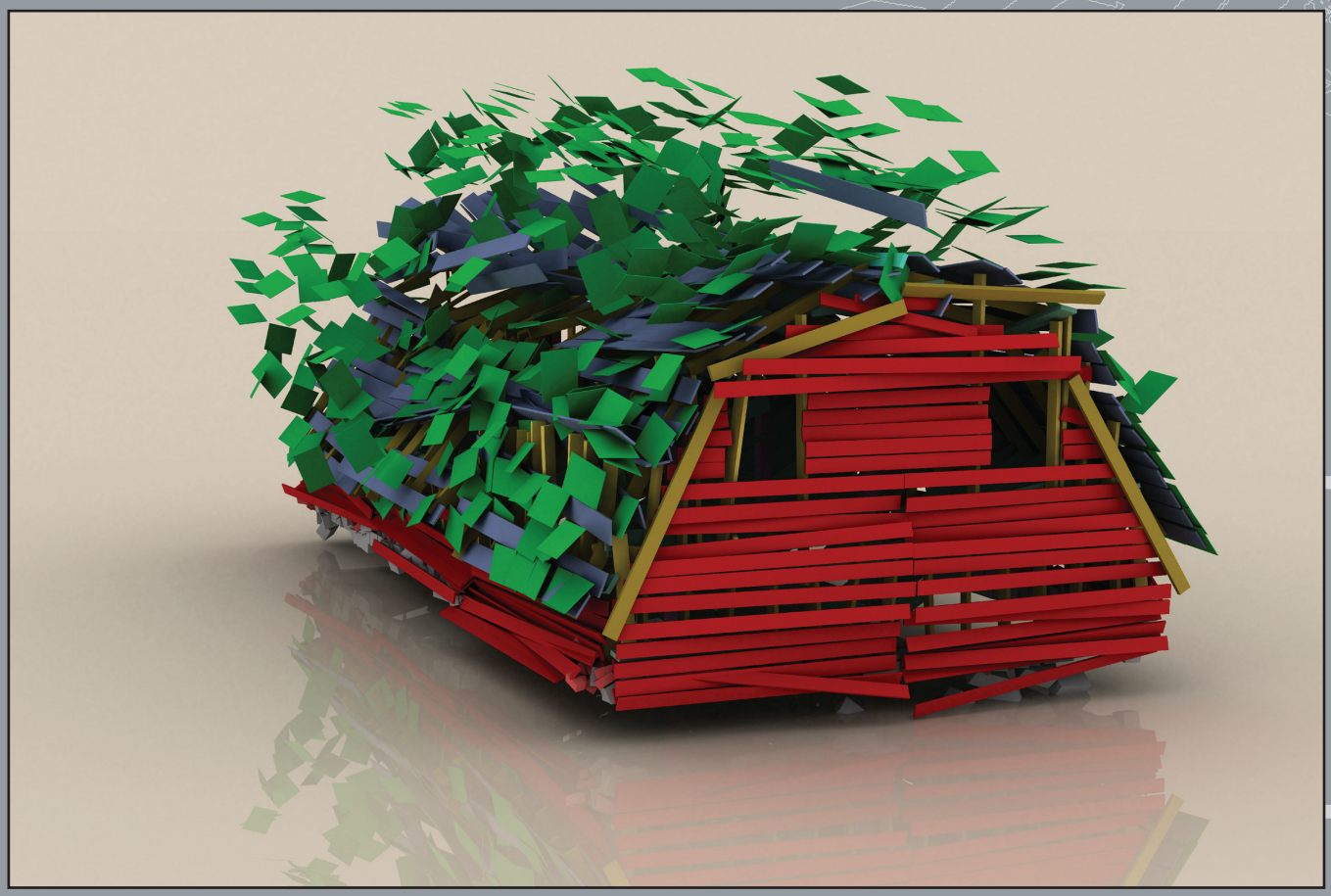




Li Hui



Greg Lock



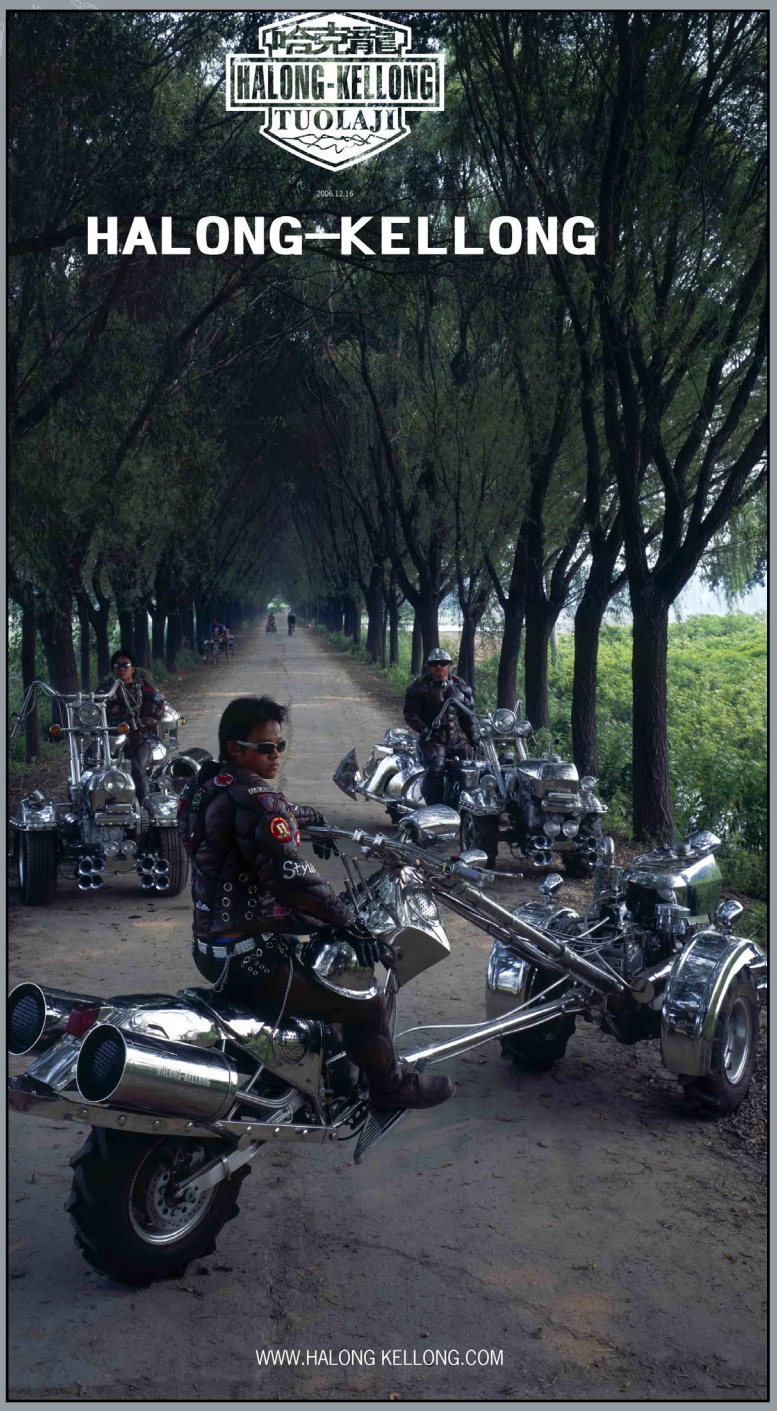
"Floating Log"
Archival Digital Print
60cm x 90cm
2008
Top left

"Pixelated Object #1 (LOG)"
Painted Vinyl / Gypsum compound
30cm x 7.5cm x 7.5cm
2008
Middle Left

"Pixelated Object #1 (LOG)"
Bronze
46cm x 12cm x 12cm
2007
Bottom Left

"I wished the barn could just blow away"
Archival Digital Print
60cm x 90cm
2008
Above

Perception is in part reliant upon optical acuity; the resolution of the visual detail we see before us. Commonly we interpret our environment by examining a recording of this information. I digitally generate sculptures to challenge this method of understanding our world. From a distance, these objects appear as ordinary components of the environment, but when approached pixelated surfaces become apparent. The moment that the sculpture is perceived as an imposter in real space is crucial to the work's success; it addresses our willingness to believe what we 'see' and brings into question how much we really understand our everyday world.

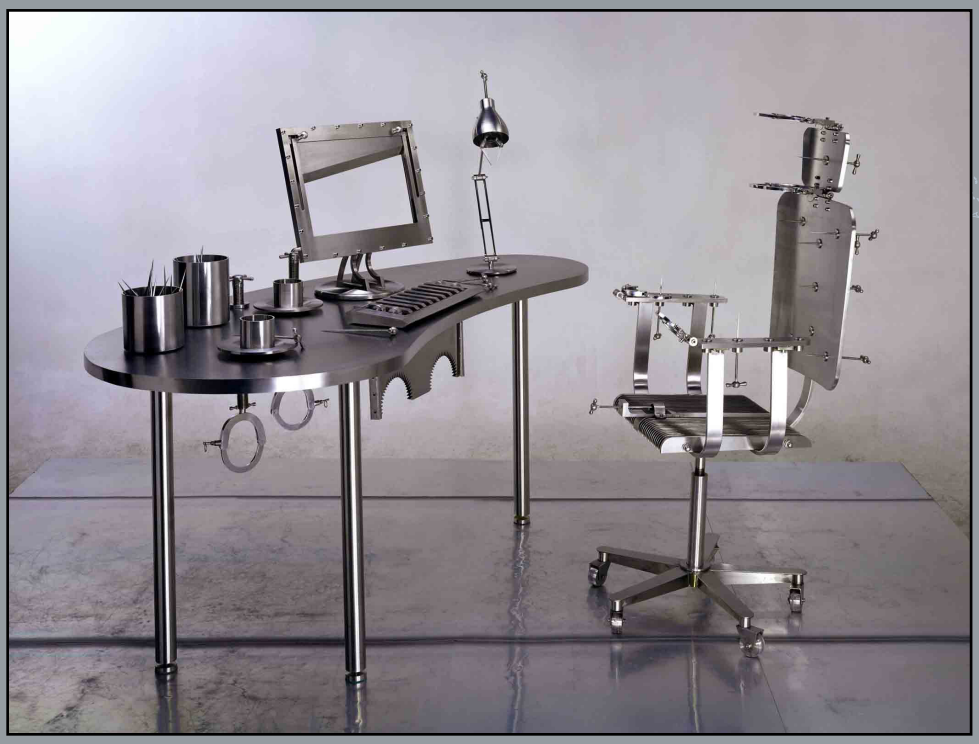

HALONG-KELLONG
TUOLAJI
2006.12.16
HALONG-KELLONG
WWW.HALONG KELLONG.COM

Shi Jinsong

Baby carriage-gun
Right Corner

Design 2004 NO.1
Below

Halong-Kellong
Left



The computer allows my work to take on an ephemeral and ethereal quality that transcends the real and the photographic. With this I want to uncover a visual language that deals with certain dualisms that define our relationship to technology; the synthetic and organic, the physical and spiritual, the mythic and scientific, the sexual and sterile. I make drawings that I translate into the computer; I am interested in organic movement and texture. In the software, forms are sculpted and placed into 3d environments, I set up lighting, simulate textures and materials, animate them, and I then "film" them. The result is forms that are creature-like and transforming in a space.

Jon Monaghan

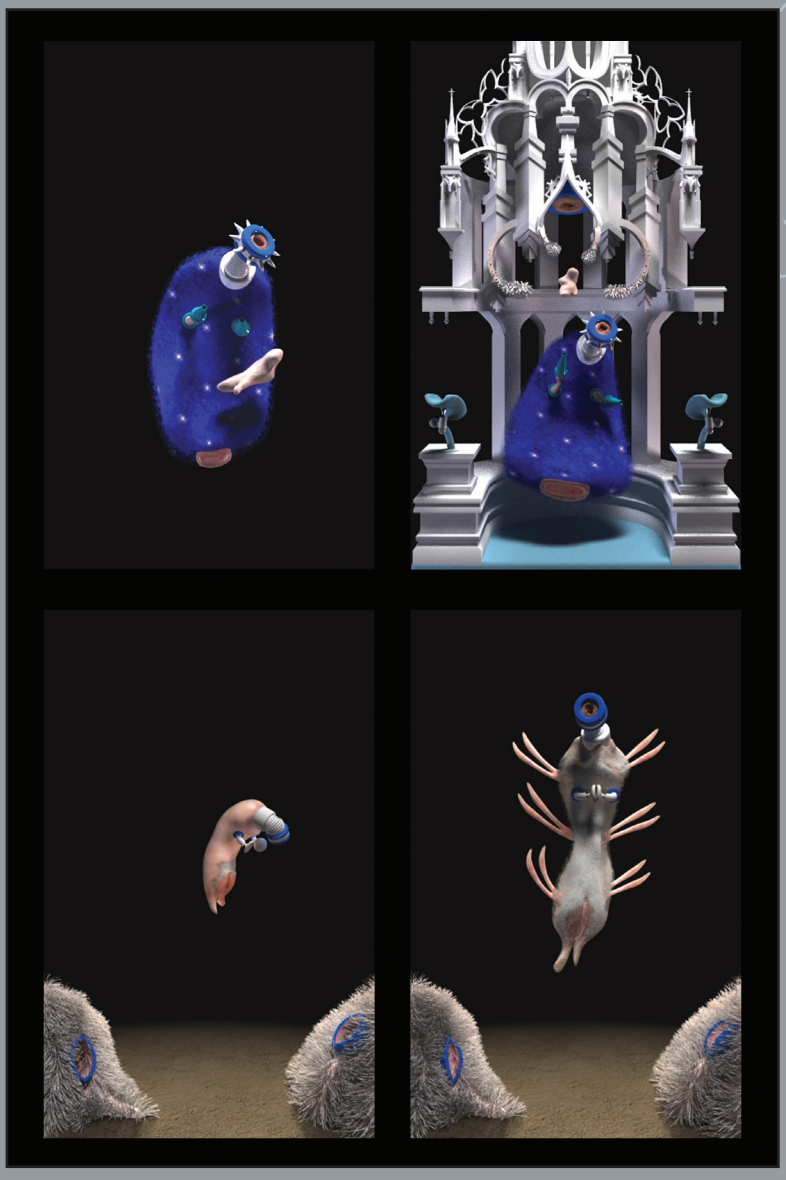
Jon Monoghan

"Your Uncertain Spirit"
3d computer animation
2008
Corner Right

"Monstrance"
29cm H x18cm W x 11cm D
ABS plastic, felt
2008
Corner Left

"Jesus, Jesus Christ"
3d computer animation
2008
Below

"Your Uncertain Spirit II"
17cm H x17cm W x 7cm D
ABS plastic, felt,
2008
Bottom Left



"Matador's Cape"
15"X24"X15"
Nickel
2005

"Columbia River Crystal"
15'X7'X7
Bronze
Commissioned for Crown Plaza
Portland OR
1995

"Rainmaker Kinetic Sculpture and Water Park"
25'X150'X300'
Stainless Steel, Concrete, Water Handling Equip.
Competition: Commissioned by City of Palm Springs, CA
2000

"Journey"
11'X5'X5'
Stainless Steel
2008

David Morris

David Morris

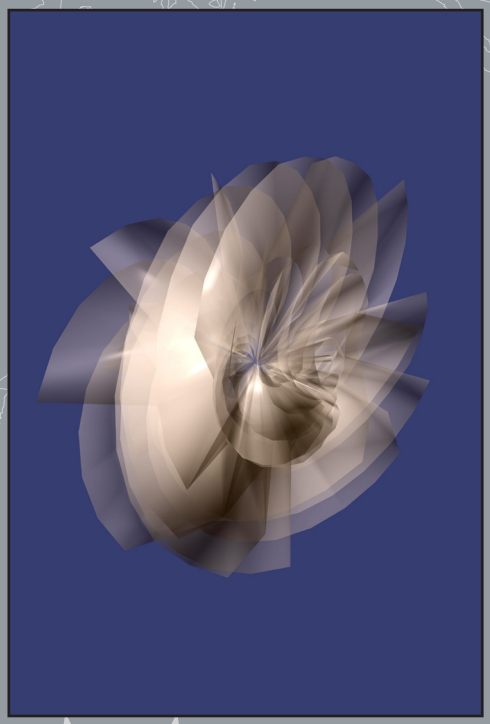
New ways of seeing our surroundings are possible through dimensional visualization of the vast streams of statistics constantly recording natural and human cycles. My work focuses on these hidden aspects of the environment, emphasizing a visual, tactile way of understanding global and metropolitan functions. Aesthetic pictures of the behavior of data through time combine with the capacity to interpret all manner of number streams. Input from regional and global information databanks are created as digital prints, prototypes, and animations. The resulting expanded awareness of human systems and global phenomena offers a unique view of our place in time.

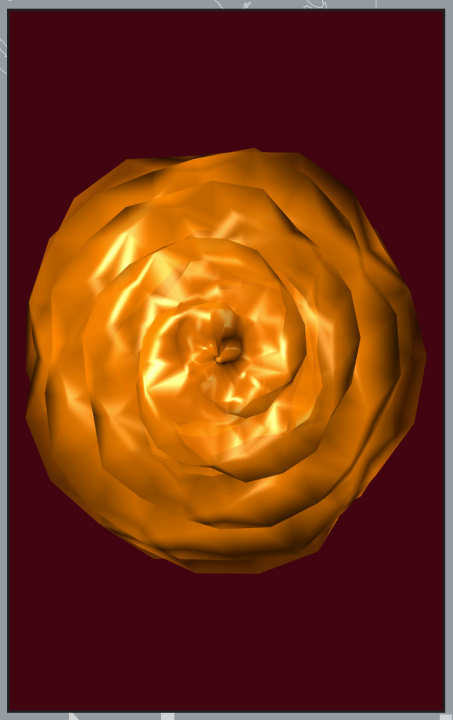
Exploding Blossoms
48" x 60"
Lambda Print
2007
Right

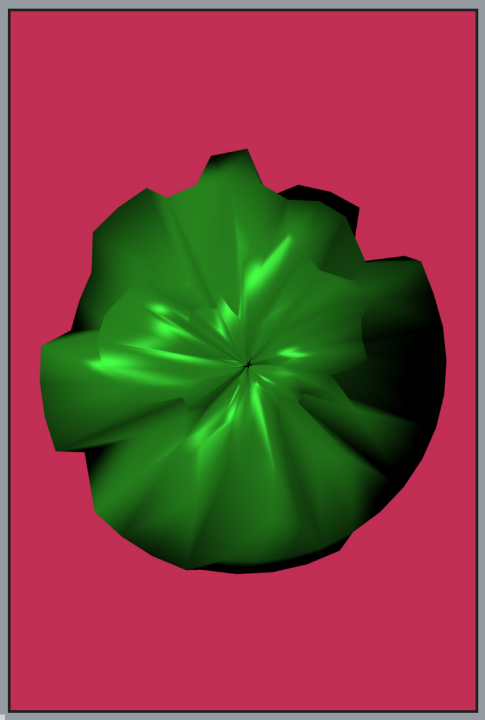
Moonrise and Set-30 Days
48" x 60"
Lambda Print of PR File Render
2004
Corner Left

Phoenix
Arizona-High and Low Temperatures for 30 years
48" x 60"
Lambda Print of PR File Render
2004
Middle Bottom

North - South Well Flow - 1 Year
48" x 60"
Lambda Print of PR File Render
2004
Bottom Right

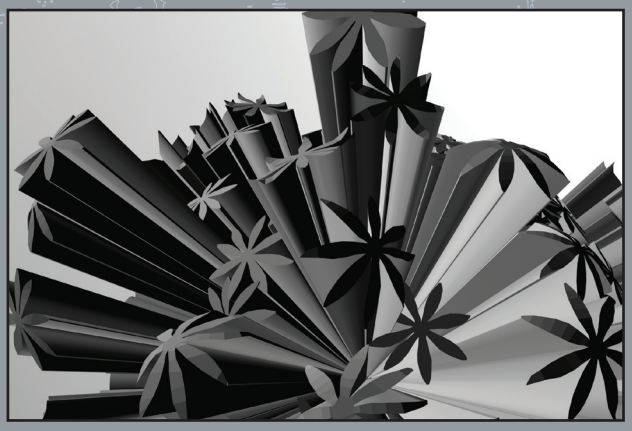






Mary Neubauer

Mary Neubauer



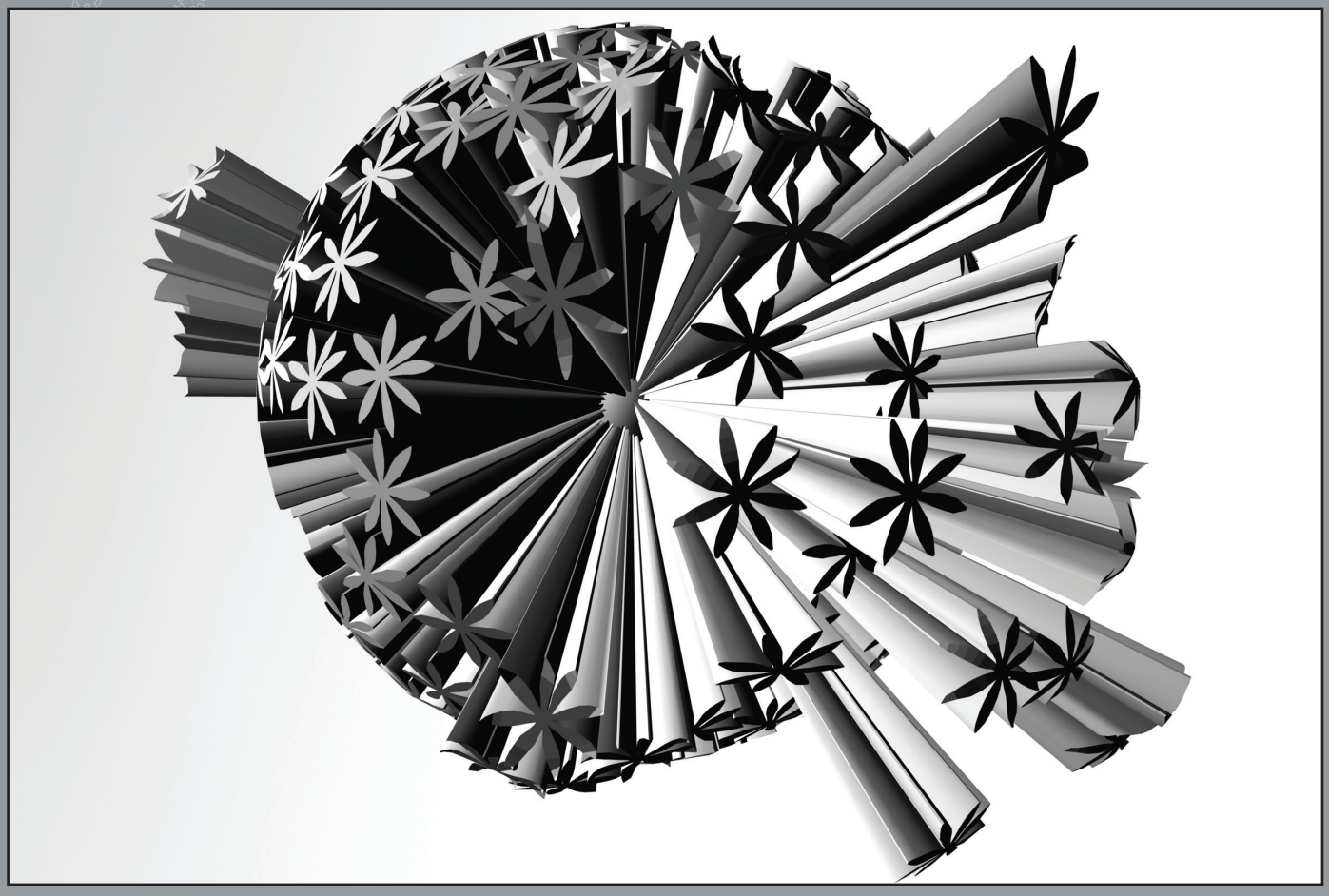
"Burst"
10" x 9" x 12"
RP Plastic
2008

Yuko Oda was born in Tokyo, and lives in New York City. She exhibits in galleries across the USA, EU, Mexico, and Japan. Recently, her work was shown at Scope NY, Paris DIVA, Miami Basel, Stockholm Supermarket, and Art Basel.

Oda obtained her MFA from Rhode Island School of Design and BA from Duke University. She was a resident at the Vermont Studio Center, and the School of Visual Arts. Oda received the Artist Grant from VSC, ISRC Grant from NYIT, Professional Council Grant and ACRE grant from Albright College.

She teaches art at the New York Institute of Technology.

"Burst-Detail"
10" x 9" x 12"
RP Plastic
2008

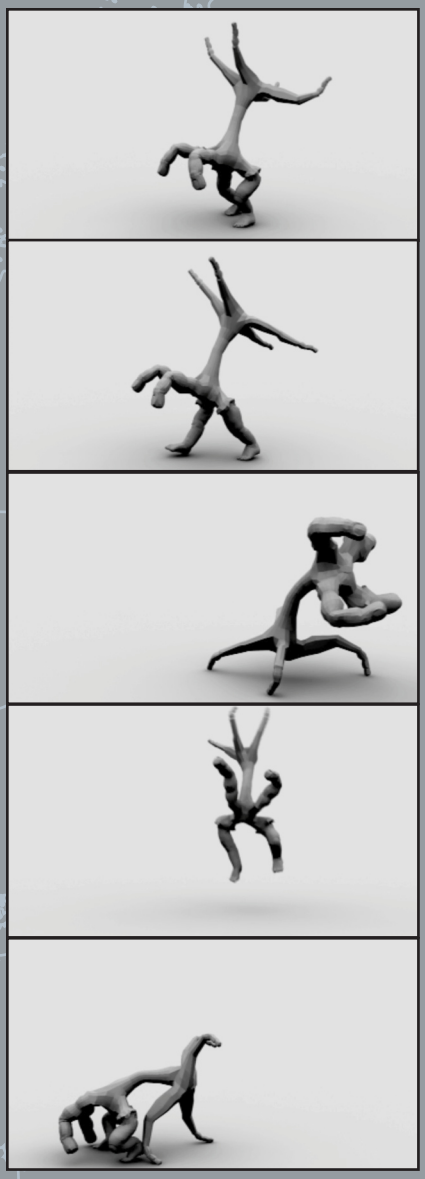


Yuko Oda

Yuko Oda

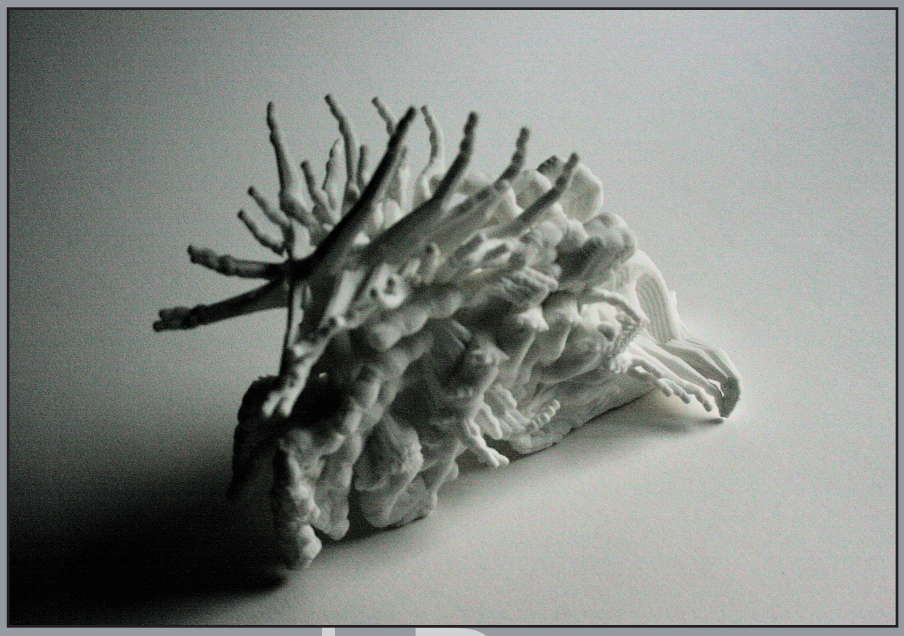
"Intimate Encounters"
15' x 8' x 7'
Steel wool, sponge, plastic bottles, straws, cotton swabs, toilet paper, steel mesh, wire
2006

"Outbreak"
9' x 6' x 6'
Wood, plastic, metal, foam
2008



My work takes language and nature as it is described in chemistry and biology as the starting point of his work. These themes are the discursive elements of each of the periods of my work. My work has multiple valences, layers of experience, meaning, and connectivity. These layers surround an object linguistically and then extend it into the world. These valences incorporate the biological concept of meme, the smallest unit of cultural evolution. Each work is the physical manifestation of a memeplex that refers to a body mind spirit dynamic.

The body refers to the Monster series and its attendant animations. These are concerned with the manipulated body and with multiple consciousness folded into an animate constructed body. The mind refers to the Sculptural User Interface with its parallel attendance to tendencies in conceptual art and computer science (the readymade, an extension of Beuys notion of social sculpture and open source software as a ready made made ready.) And finally the spiritual: Rees' Ajna Series is the conflation of western analytic science and eastern metaphysics with a special blend of surrealism from Batailles Visions of Excess.



Michael Rees

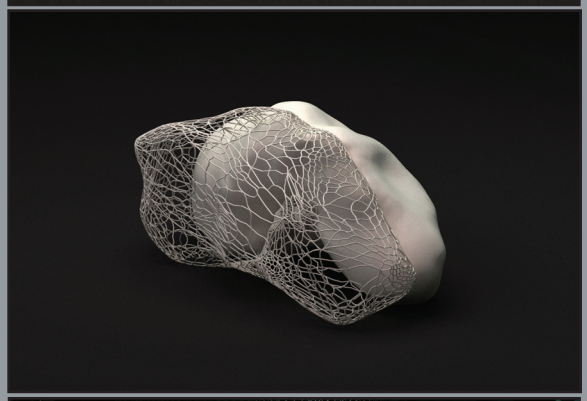
Michael Rees

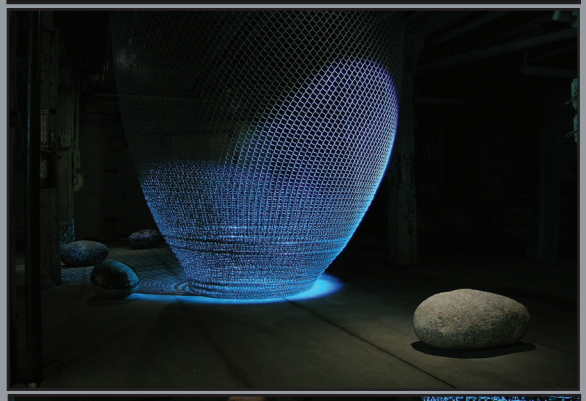
Animation stills from Putto
2x2x4: 1:50,
quick time animation,
2005
Left (top set)

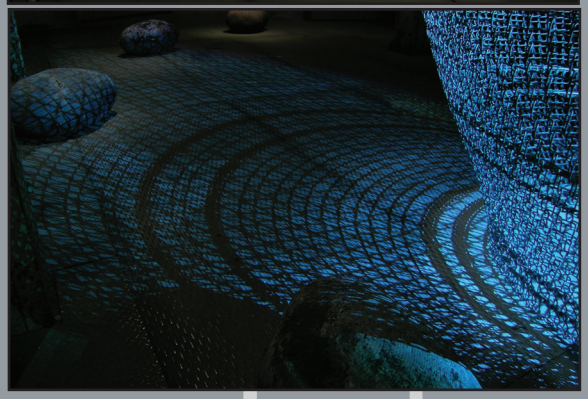
Putto
2x2x4 (18' tall)
Fiberglass, steel and Luminore Iron Skin
2005
Above

Conglomerate (maquette)
9x7x4"
Polycarbonate Selective Laser Sintering
2005
Left

Converge (Ghraib Bag) (maquette)
9x7x4"
Polycarbonate Selective Laser Sintering
2005
Corner Left







John Ruppert was born in Winchester, Massachusetts, in 1951 and received his MFA from the School for American Craftsman, Rochester Institute of Technology, New York, in 1977. Ruppert's work has been featured in numerous solo and group exhibitions in museums, sculpture parks and galleries both in the United States and abroad.

From 1962-64 he lived in Amman, Jordan. Became active in archaeology and traveled throughout the area (Turkey, Syria, Lebanon, Israel, Egypt, and Cyprus), visited sites and participated in several digs.

Experiencing the remains of ancient cities and civilizations in the barren landscape has had a lasting effect on him and his artwork.Ruppert, who is the chairman of the Dept. of Art at the University of Maryland, College Park, has been on the faculty there since 1987.

Reflection Series: Phobos / "satellite of Mars"
ABS plastic
12" x 8" x 8"
2008
Top Left

Reflection Series: Ida "asteroid"
ABS plastic
4" x 7" x 11"
2008
2nd from the Left

Origins
Aluminum Chain-link fabric, granite, cast aluminum, bronze, copper and iron, marble quarry dust, video projection.
16' x 20' x 60'
2008
3rd from the Left

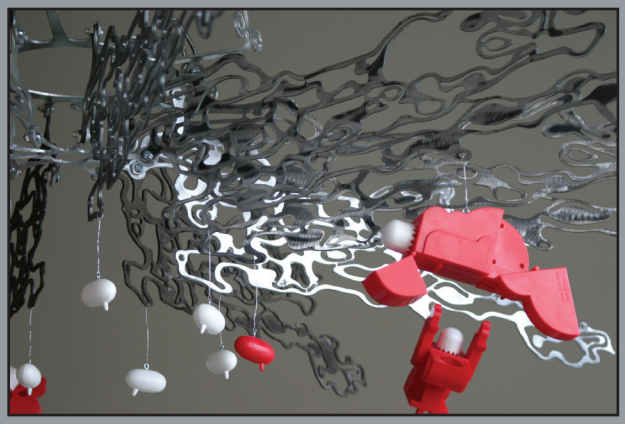
Origins (Detail)
Aluminum Chain-link fabric, granite, cast aluminum, bronze, copper and iron, marble quarry dust, video projection.
16' x 20' x 60'
2008
Bottom Left

Split Rock
Granite and cast bronze
33" x 30' x 15"
1995
Right

John Ruppert

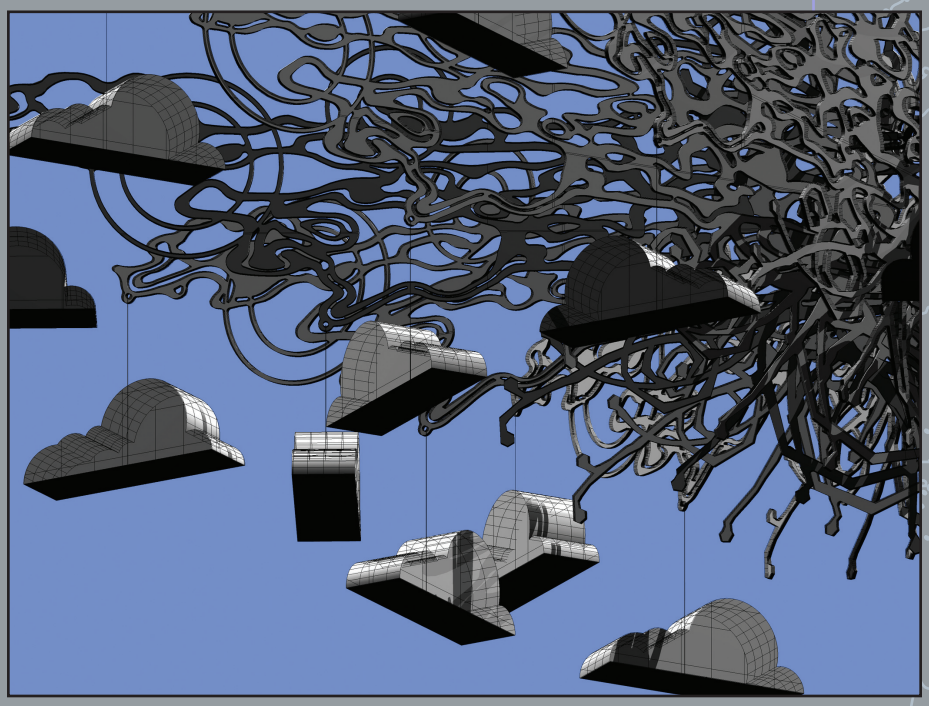
John Rupert

The circular, hanging format of this piece is inspired by Victorian era chandeliers. I am investigating the laws of ornament by stealing a pre-existing object vocabulary (i.e. "chandelier") and injecting it with my own set of reference cues. The steel cut-out shapes are derived from photographs of water, and sunlight penetrating a tree canopy, which are trans-coded through several computer programs. Keeping with the use of nature-as-icon, the hanging ornaments are simplified cloud forms, which are each a functioning, geometric puzzle. My intent is to create radically new input for an archaic format, that is, an antique from the future.



Jesse Small

Jesse Small



"Transformer Mist"
32" x 36" x 36"
Steel, plastic
2008

"Transformer Mist (detail image)"

Transformer mist 1

Transformer mist 5

Art is alchemy. Alchemy is the magic, observation, process and ritual of life. My sculptures, both virtual and actual, are conversations regarding the archetypal forms that are the basic structures of nature. I build alien abstract worlds that become familiar through frequent immersion. These worlds are constructed to open exploration to the deepest regions of the human psyche for development within the landscape of the imagination.

"Digital Stone" as a concept is based on the fusion of CAD technologies with traditional stone carving. All sculptures in this exhibition are designed and developed first in the virtual space of software programs. Physical models are then printed by rapid prototype machines as peripheral extensions of the computer "Hand" to produce the Actual from the Virtual.

Although it is possible to carve stone sculptures directly via CNC milling machines the production cost factors have been excessive compared to traditional stone carving at China. For thousands of years Chinese stone carvers have developed the means to produce accurate enlargements in stone that rival the machine. In the current age of expanding digital technologies, when the machine often excels over many factors of human production, stone carving at China is one of the diminishing examples of the human hand still being less costly and as accurate as the machine.

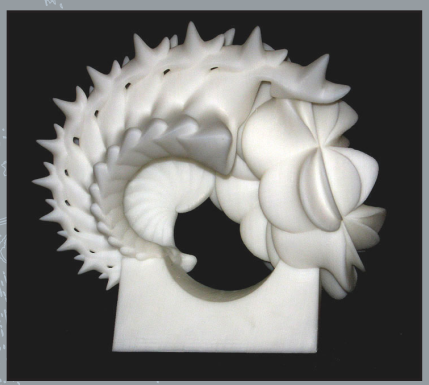
Only recently have other contemporary Western artists become aware of the new reality to outsource production to China just as the bulk of manufacturing for the world has shifted to China. This process of design and manufacture at a distance also highlights the optimization of global communications engendered by digital technologies that have been pertinent to the expansion of Digital Sculpture for the past decade.

This is significant to understanding the concept of "Digital Stone" as an extension of the globalization of the Digital Age. This also explains the rational choice not only to produce the "Digital Stone" sculptures at China but also to initiate the exhibition within China during Olympics Year as a cultural extension of these events.

During the past three years I have chosen to work with Chinese artisans to realize in stone and wood the fantastic forms that I have been developing in Cyberspace since the early 1990s after Autodesk introduced the first professional level modeling and animation software application for the PC. This development afforded the quantum aesthetic leap that has impacted my work for the past fifteen years by significantly speeding up the dimensional design process while simultaneously allowing me to view evolutionary changes in my forms through time (animation).

"Digital Stone" also references an awareness that the evolutionary stage of the Electronic Revolution is still in its infancy so that we are metaphorically at the Stone Age of a dynamic international cultural shift that has begun due to rapid technological advancements. I design sculptures to psychically function within contemporary society in ways similar to how the "Venus of Willendorf" functioned for Neolithic clans.

It is a great pleasure to exhibit with such a prestigious group of sculptors whom I also consider to be great friends. It is also an honor to present this work at China which has recently become a very significant player within the international contemporary Art scene. We are extremely fortunate to include the excellent perceptions of some of the best contemporary art writers from East and West Artworlds. I am especially grateful to Carl Bass and the staff at Autodesk for their immense energy and vision to support "Digital Stone".



Robert Smith

Robert Smith

"Trilabiabyte TraLa"
2005
ABS resin
10" high
Above

"QuixoticAquaticErotica"
2007
ABS resin
8" high
First from the Bottom

"Paradise Bird Burlesque"
2007
ABS resin
8" high
Third from the bottom

"Chautauquantumandala"
2007
ABS resin
8" high
Second from the bottom

I celebrate light–be it celestial or electrical. Light equates energy & truth; it illuminates understanding & intelligence. The sciences of ballistic-aviation and communication inspire my artistic work. Aircraft & angels are both heavenly harbingers. The juxtaposition of airplanes and archangels merges velocity & spirituality in our scientific era. Heavenly messengers hurtle through space, hitchhiking on the ultimate vehicles of communication; aircraft break barriers of sound & navigate through boreal light. My work depicts the global web of a myriad of messages that inhabit space. It is an interactive, aerodynamic interplay, tickling scientific data & scriptural studies. Computer-generated images, as well as a brush dipped into cadmium red oil or collages of NASA data & parabolic antennae, are all available materials that contribute to the making of the art object.

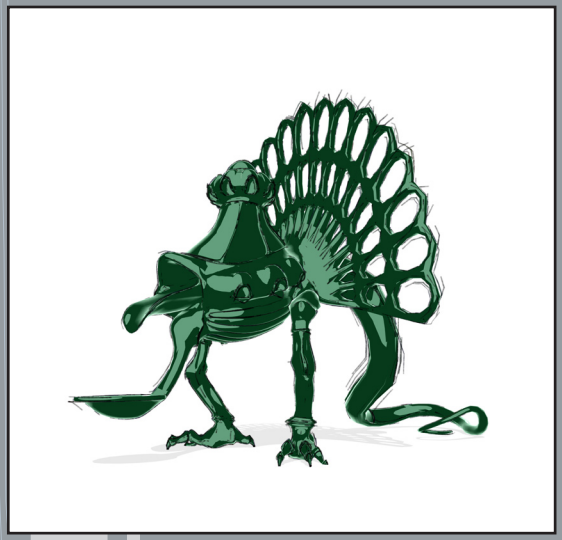
The new myths of our technological era are mathematical equations. Their new heroes are equals signs. Airplane designs are embodied by equations before they go into production. I regard all sciences & all disciplines as a design language for vital aesthetic expressions. Umbilic torus, spheres, unidentifiable flying objects, paraboloids, prismatic colors, space & time, God's creation, which mean what was, what is, and what will be–my intuition & my emotions, my belief, my vision, plus more–all contribute to what comes out of my head & hands.

Much of my work is inspired by the Book of Revelation, which concerns our nuclear era. The sixth seal of the Book is opened and displays apocalyptic symptoms. It comprises instructions related to the significance and the importance of the present, which is the greatest and grandest era in human history.

Till Death Do Us Part
approx 38"x32"x32"
wood, ink jet (there's a print on each chair) and LED
2005

Ultra Violet

Ultra Violet



In my creative work I use digital technologies and basic tenets of science to visually explore the implications of variability--metamorphosis, mutation, adaptation, and hybridization. My rapid prototyped sculptures, digital prints, and 3-D animations present characters--in whole or part--that bear physical evidence of formative experiences. Having successfully adapted in the face of unforeseen challenges, these synthesized creatures--monsters, really--portray an alluring and sometimes comic aptitude for physical variation, behavioral diversity, and cunning accommodation to unpredictable circumstances. The characters combine familiar features with exotic or speculative traits to enact our potentiality, which may in fact be a proclivity to transform, mend, and reconfigure ourselves.

Preview to Human Nature
SoFA Gallery. Indiana University Bloomington
2006 -- Installation view
Top Left

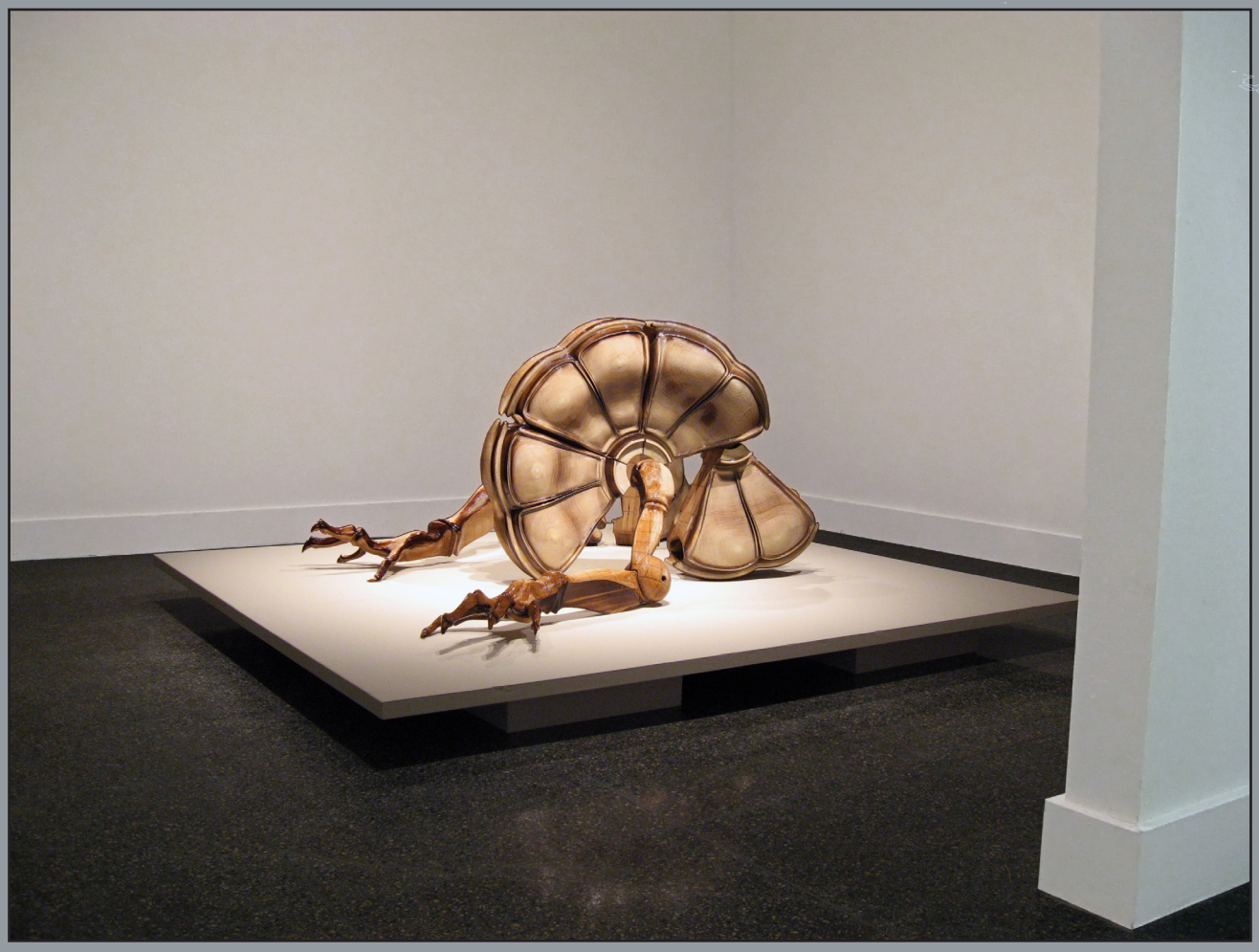
Wheel Claws Teeth
Rapid Prototype Object - Laminated Paper
30 x 50 x 60"
2007
Right

Wheel Claws Teeth
Rapid Prototype Object - Laminated Paper
30 x 50 x 60"
2007--detail
2nd from the Top

WatMon
rendered image of computer model
dimensions variable
2008
Bottom Left

Elona Van Gent

Elona Van Gent



How extraordinary it is to be human, struggling to communicate, to live a meaningful life, albeit so briefly. My work embraces a wide range of mediums from virtual to actual reality. My interest in digital activities and solid modeling was fueled by a search for a medium more capable of realizing my artistic intent: namely, a perceptual move from looking at the world as object to one being bodily present in the world. "Heraea's Women" demonstrates the sense of strategy, support, physical endurance; strength, stamina, grace and agility women athletes have shown in their pursuit of competitive sports. "Circle of Life" is a series ending where it begins, and repeating itself never ceasing, life continuing forever through the bodies of women. "Challenge" represents two male figures stuck in a perpetual contest of wills. "Giving Birth to Oneself" is a personal statement on creating one's own life just having come from the body of your mother. As one can see body language is essential to my work and solid modeling allows me to incorporate the delicate gestures, subtle contours and complex structure of the body into detailed and complex rhythms of form.

The Juggler
305mm x 130mm x 102mm
Zform 450, Axiatec
2007
Corner Left

The Challenge
238mm x 317.5mm x 188mm
Zform 450, Axiatec and Plexiglas
2008
1st Below

Heraea's Women in Movement
571.5mm x 304mm x 304mm
SLA Standard Duraform, ATI, Plexiglas, and Gold Chrome
2008
2nd Below

Mary Visser

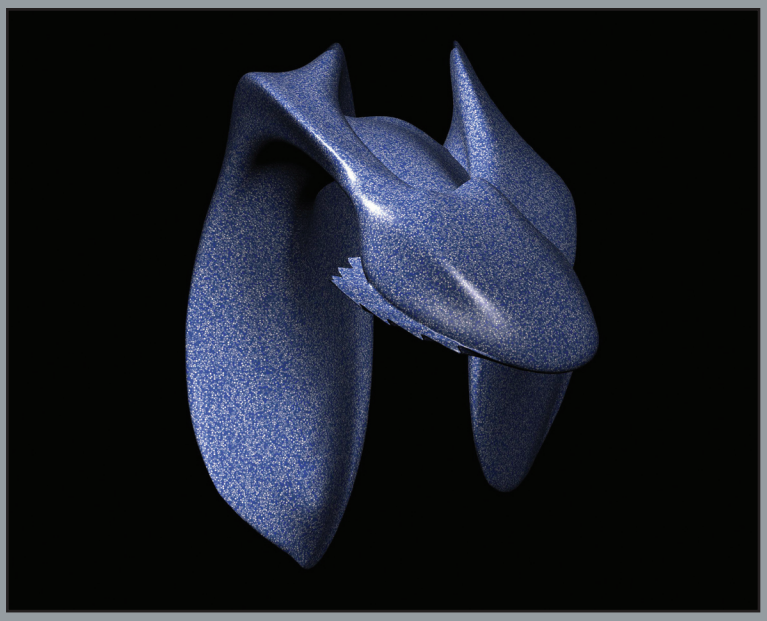
Mary Visser

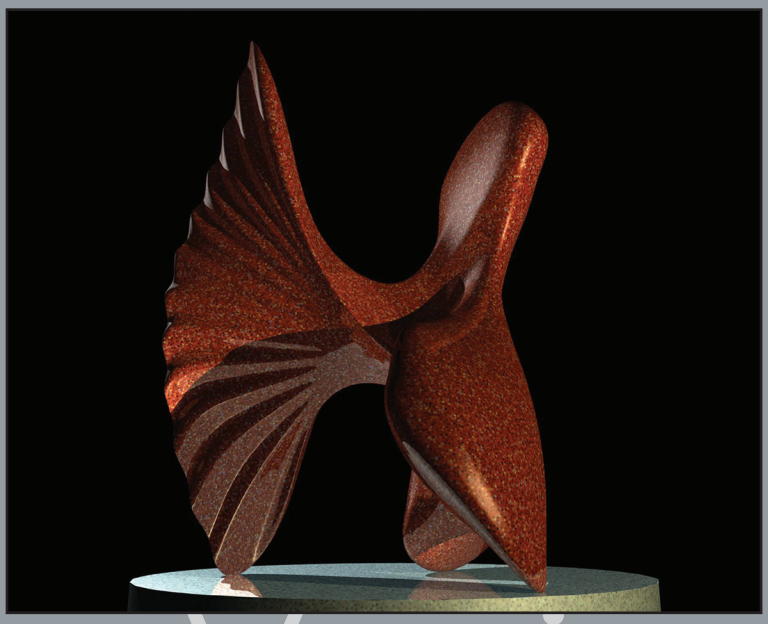
It is by great fortune that any of us become practicing artists. The creative experience appears to fill the sails of our lives and we celebrate by realizing that there is a greater
quality in our existence. In my work, I direct my efforts to the study of forms through minimal and monolithic constructions that evoke a sense of visual sensuality. The digital sculpture process has allowed me the advantage of time and efficiency. It maintains the focus on the aesthetic concerns while limiting the constraints of the physical material.

"Profiling"
life-size, digital 3D image
2006
Right

"Rossobruno"
30" X 30" X 30"
Granite
2007
Below

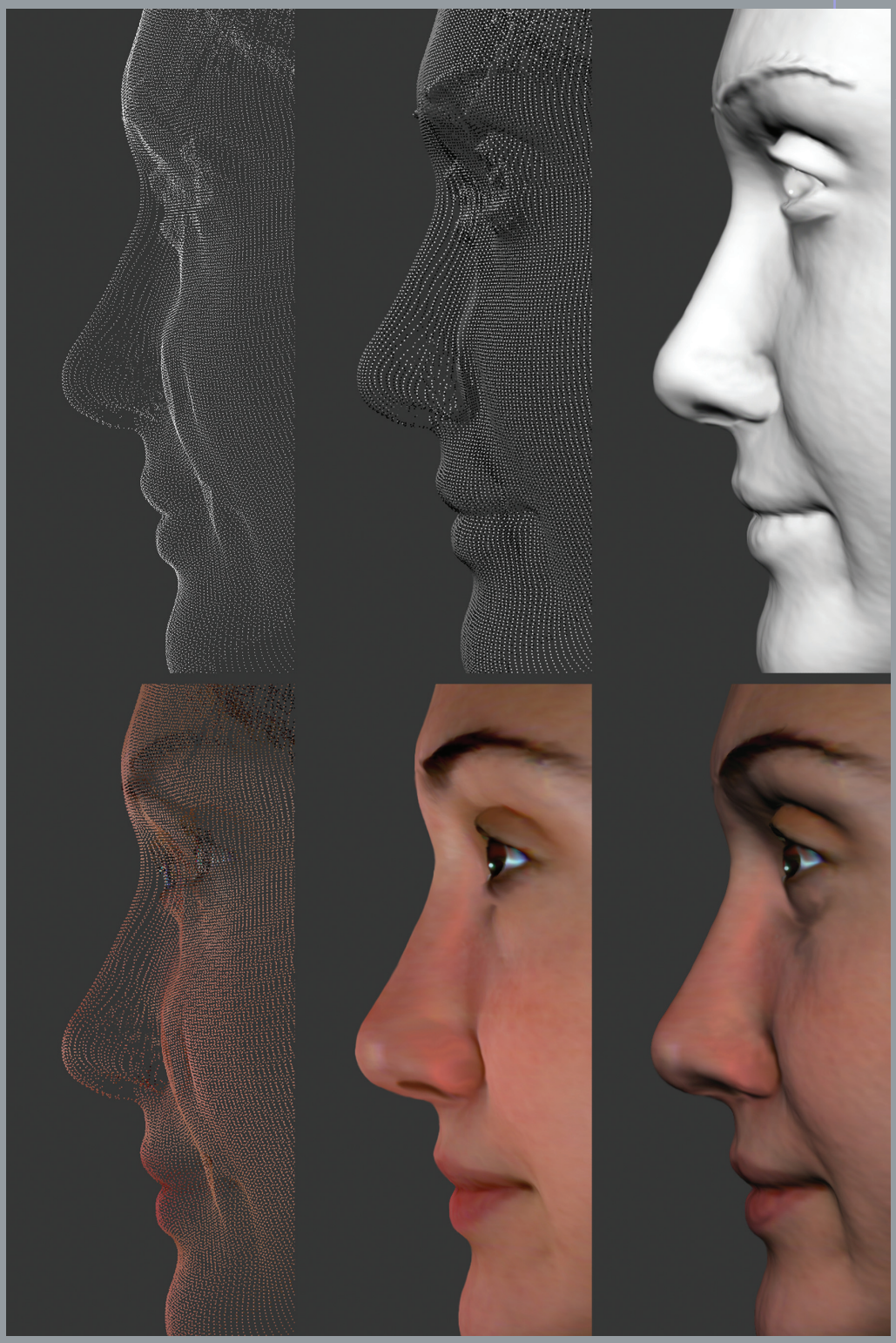
"Diavoloblu"
digital image, ABS RP model
2008
Below (top)





Peter Voci

Peter Voci



I have always been fascinated by the forms, textures, and configurations of natural objects. Unlike manmade artifacts, they reward deeper investigation by revealing aesthetic secrets, as subtle variations of simple bumps, lines or wrinkles build into complex symphonies of form. When placed into intimate conjunction with one another, as in my sculpture, their affinities can be explored and heightened while the hybrid object takes on a life of its own, independent of its origins. By using the facilities afforded by new technology, such as laser-scanning and CNC carving, problems like disparities in scale and form can be overcome, so a mountain range, for example, can merge seamlessly into the folds of a buffalo's back, or a trilobite's eye can become a large and prominent feature instead of a tiny detail. Previously rigid distinctions between carving and casting melt away, while flat photographic images can be turned into 3-dimensional reliefs. Since I've approached the construction of digital sculpture from an assemblagist's perspective rather than as a modeler, my results are different from what most other people have arrived at; I can see an infinite range of new combinations and permutations stretching out before me.

"Proteanproteus"
11.5" H, 6" W, 4"
Consolidated plaster powder with integral photos
2008
Right

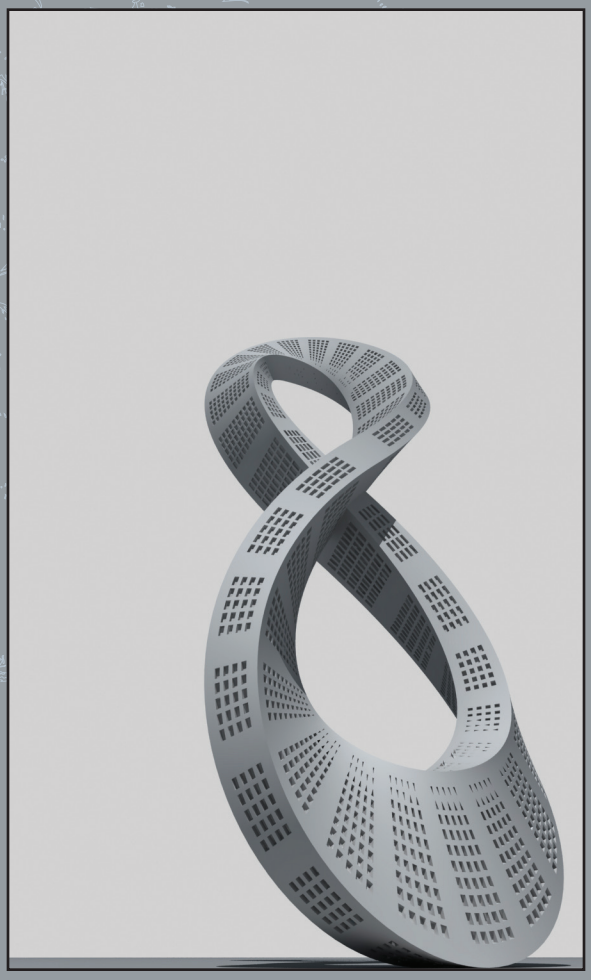
"Magnoleafhorn"
10.5" H, 7.5" W, 3"
Consolidated plaster powder with integral photos
2008
Bottom Right

"Searopisabia"
10.5" H, 2.5" W, 2.5"
Wood, Vegetable Ivory
2008
Bottom Left

"Crocanth"
14" H, 4" W, 4"
Wood
2008
Bottom Middle

Andrew Werby

Andrew Werby



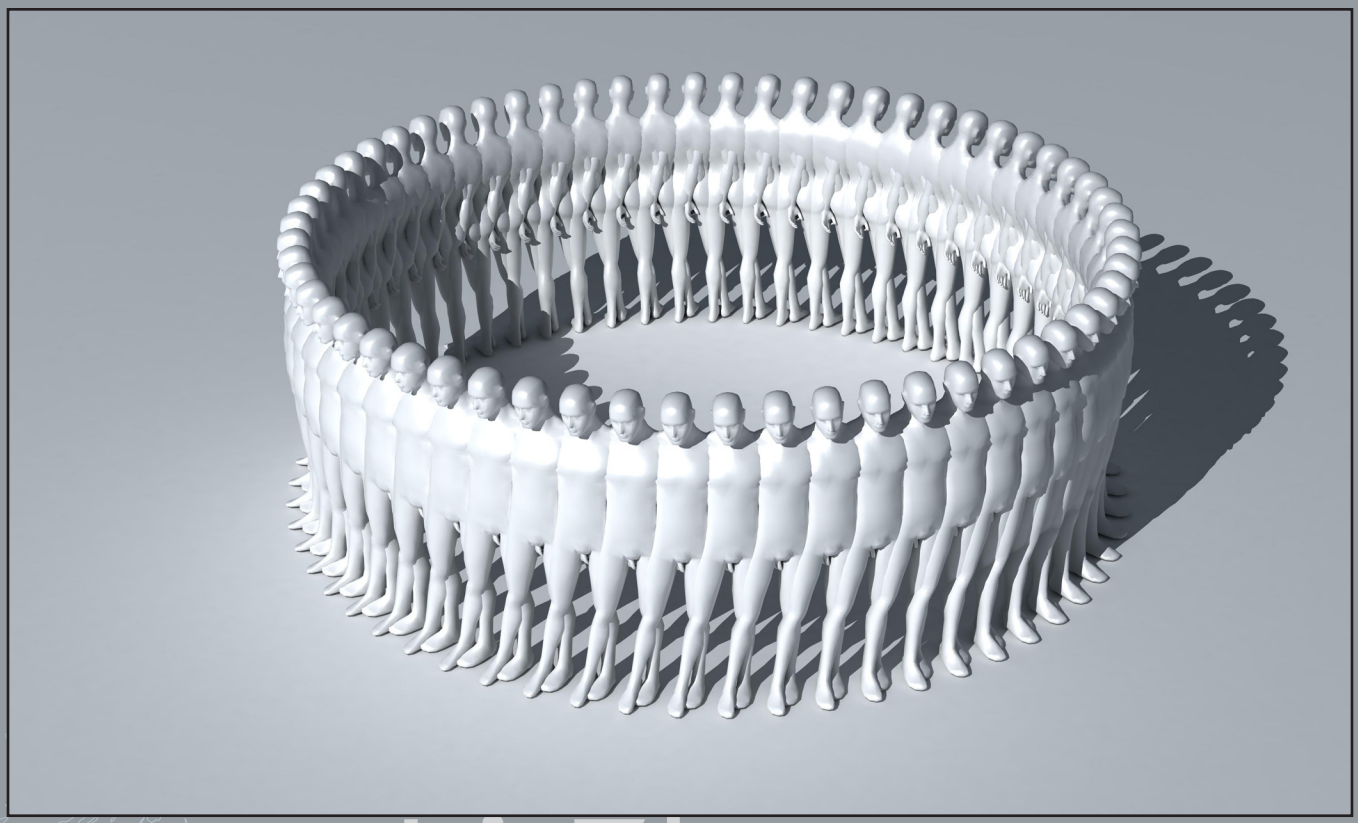
Architecture , I think, has been a massive change in the process of human development, as well as the most expensive consumer goods nowadays, in which artists' talents are well performed. As it's of great capacity, perpetuity and sociality, construction inevitably becomes the impression of power.

The rising new CCTV leaning towers, the complicated-style and uniquely-shaped Bird's Nest and the collapsing World Trade Center Twin Towers are beyond the buildings themselves. Buildings are far more than buildings. Furthermore, they are being extended spiritually and artistically. This desire to extend is just like a M&ouml bius strip in which there's neither a start nor an end, but only a way to cycle.

Fold City
Right

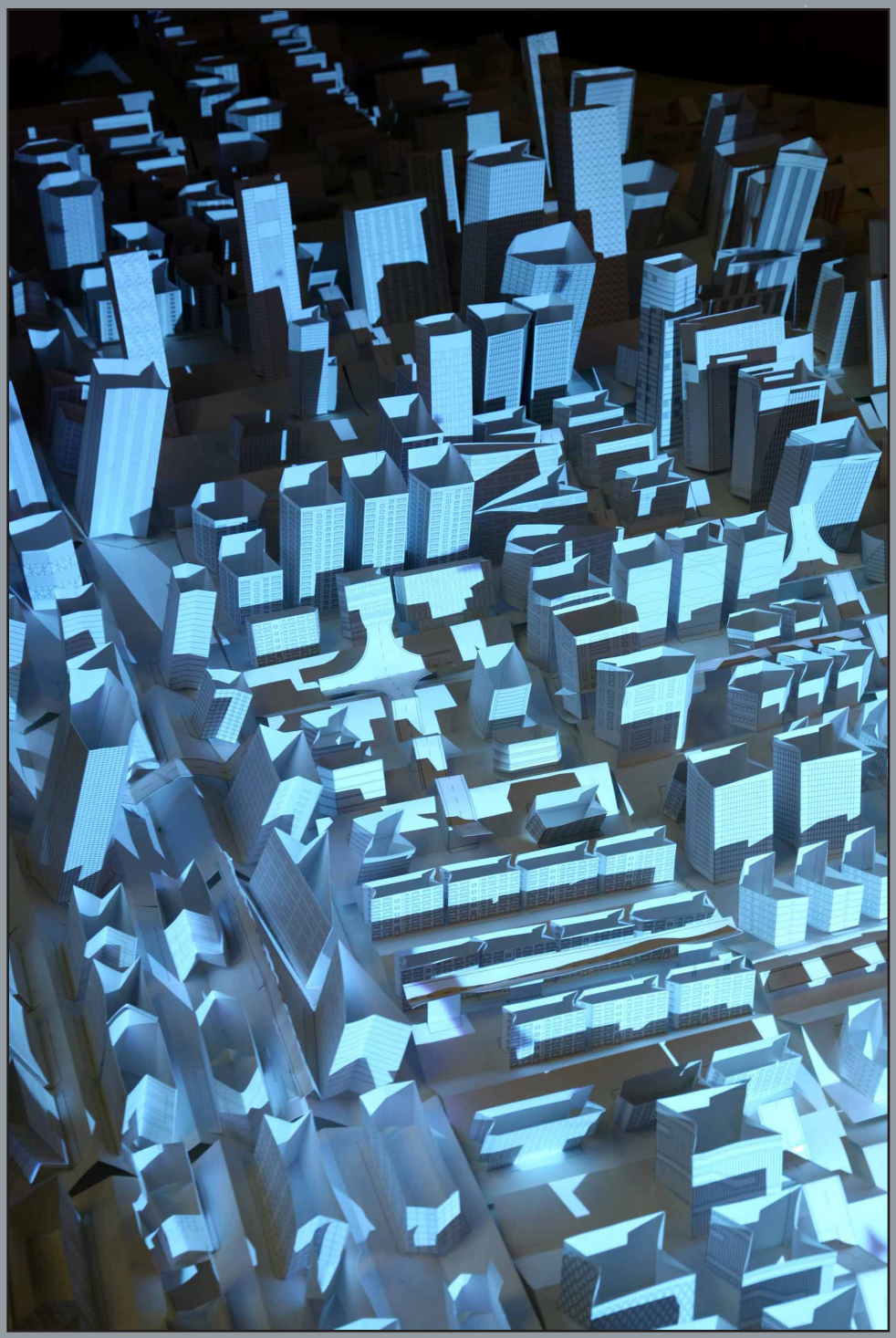
Architecture Design °™ Skyscraper
Left

We Fellows
Below



Li Zhen

Li Zhen



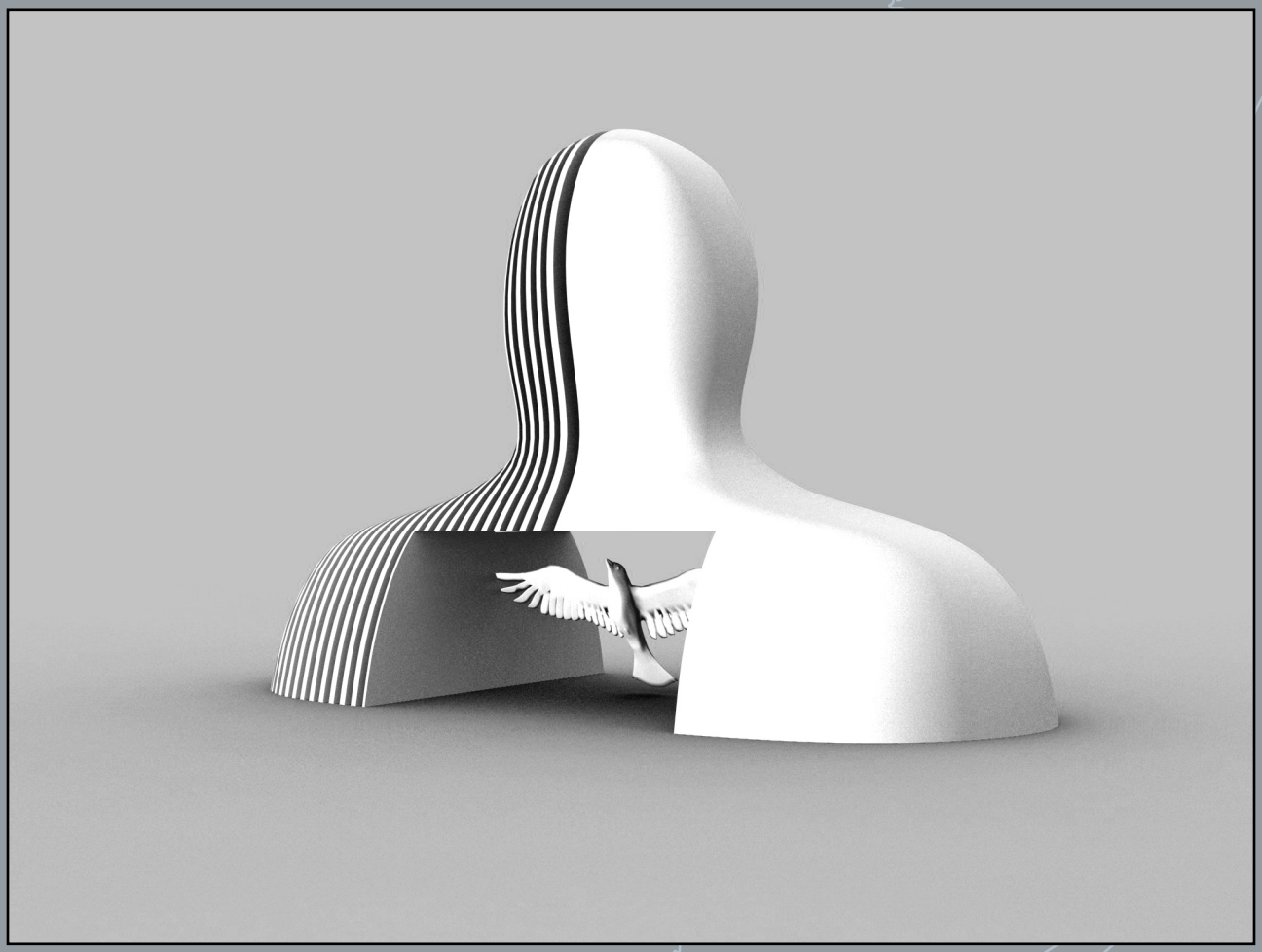
People are dissimilated more deeply and spiritually in the information age than in the industry age. This spiritual phenomenon can't be fully explained by science, philosophy or religion. Although the dissimilation is invisible, untouchable and beyond the spirit world, there's always art in the process of it. On one hand there should be more extendable room for art to live in, and on the other artists should pay attention to people themselves, their conditions and the reasons that derive from the conditions. Through my works, I attempt to convey the conflict between mechanization, order, and digitization as a whole and humanity. I endow my works with deep sense against mechanization, which implies and amplifies the connotations of them. I hope you will find a pure individual spirit in my works and let it touch your heart and mind. And I hope they may interpret and affect some of the phenomenon concerning the spirit world of man.

Balance-Dao
Right

Balance-Dao (2)
Bottom Left

Wang Zhong

Wang Zhong



e-Form

By. Robert Smith

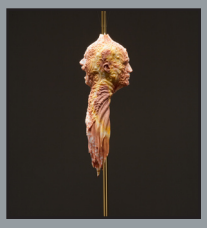
"e-Form" is the working title for the indoor component of Digital Stone Exhibition, sponsored by Autodesk, which includes the digital artifacts, virtual and physical, from the design through production stages of twenty granite sculptures digitally designed by four artists: Bruce Beasley, Jon Isherwood, Robert Michael Smith, and Kenneth Snelson. This includes the "Digital Stone" documentary video, by Joanne Cheng, that introduces these artists as well as the various stages of production from digital design to rapid prototype models through the traditional enlargement and carving of the granite sculptures at Fujian Province, China. "e-Form" also includes an extensive survey of Digital Sculpture featuring over thirty artists worldwide (see list below). "e-Form" survey is an evolution of the First International RP Sculpture Exhibition as well as the biannual international digital sculpture events of InterSculpt during the past sixteen years (see attached article, "Digital Sculpture: Ars Ex Machina", by William Ganis). This survey of international digital sculptors has been given the title, "e-Form", to reference the capability to design sculpture in one location and then e-mail files for rapid prototype production and/or manufacture anywhere in the world. The title also references the electronic output of these artworks to include 3D animation as well as the physical output to digital prints, rapid prototype models, and other sculptural processes/materials.

"e-Form" is also a living exhibition in the tradition of InterSculpt because a rapid prototype printer is resident at each venue to continue printing more sculptures that are e-mailed from various global locations. The exhibition literally continues to expand as it travels to each venue:

Beijing – Today Art Museum – October 2008
Shanghai – Duolun Museum of Modern Art – November 2008
Chongqing – Jinse Gallery – December 2008 through January 2009

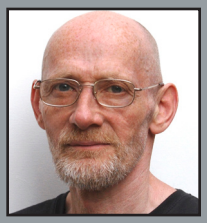
Biography

Lawrence Argent was born in England and educated in sculpture at he Royal Melbourne Institute of Technology, Australia and has a MFA from the Rinehart School of Sculpture at the Maryland Institute, College of Art in Baltimore, Maryland. He is the recipient of numerous fellowships including the Pollock- Krasner Foundation; the Colorado Council on the Arts: the Core Fellowship at the Fine Arts Museum, Houston, Texas and has been an artist in residence at the John Michael Kohler Foundation. Currently, he is Professor of Art at the University of Denver, where he was awarded the Distinguished Scholar award in 2002. He has exhibited nationally and internationally and is currently working on many public art projects around the country.



Born in California in 1955, Ball graduated from Pomona College in 1977, and has lived and worked in New York since 1978. Ball's solo exhibitions include PS1/MOMA Contemporary Art Center, New York; Magasin 3, Stockholm; and SITE Santa Fe, USA. His work is in the Maramotti Collection, Italy; San Francisco MoMA; and the Thomas Olbricht Collection, Germany, among others. Ball is a founding board member of the Digital Stone Project, New Jersey. Ball is represented by Salon 94, New York; Galleria Michela Rizzo, Venice; and De Pury & Luxembourg, Zurich, and has solo exhibitions scheduled at all three galleries in 2009.

Bruce Beasley build hot-rods while in High Scholl in Los Angles in the 1950's. He attended Darthmouth College and the University of California at Berkeley. In 1963 Beasley became the youngest artist ever to have their work in the Permanent collection of the Museum of Modern Art in New York. In 1963 he won the Purchase Prize in the Paris Biennale. His work is in the permanent collections of 28 museums world-wide. He has had 50 solo exhibitions and 170 group exhibitions in museums and galleries in the US and abroad. He has done 38 major commissions including the 2008 Beijing Summer Olympics.



Keith Brown is one of the foremost digital sculptors currently working in Europe. He has made regular representations at an international level as a contributor to, and organiser of, symposia and exhibitions in digital art. Brown graduated with an MA from the Royal College of Art in 1975. Since 1980 he has taught at Manchester Metropolitan University, in the School of Art, and is currently Professor of Sculpture & Digital Technologies. He is also Director of Art and Computing Technologies for the Manchester Institute for Research and Innovation in Art & Design. In 1997 he founded Fast-UK of which he is currently president.

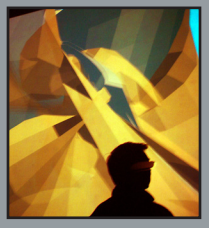
Dan Collins joined the School of Art faculty at Arizona State University in 1989. In addition to teaching courses in intermedia and foundations, Professor Collins is founding Co-Director of the PRISM lab—a 3D modeling and prototyping facility, and coordinator of the foundation program in basic art instruction (artCore). Collins studied studio art and art history at the University of California, Davis where he received his Bachelor of Arts degree (1974). He holds a Master of Arts degree in Art Education from Stanford University (1975) and a Master of Fine Arts (MFA) in "New Forms" and Sculpture from UCLA.

Born in 1967, Albert Dicruttalo grew up in the foothills of the Adirondack Mountains in the post-industrial town of Gloversville, NY. After studying art at Ithaca College and traveling extensively around the world, Dicruttalo worked in the Program of Computer Graphics at Cornell University experimenting with electronic technologies in the creation of sculpture. In 1998 he became chief assistant to Bruce Beasley in Oakland California, established a studio and foundry of his own, and has been showing his sculpture in galleries across the United States.

Sharon Engelstein was born in Montreal Canada and has lived many places. She graduated with an MFA in sculpture from the Claremont Graduate School in California, and then came directly to Houston to accept a fellowship with the Museum of Fine Arts. She has since been included in exhibitions throughout the United States and has won numerous awards including the Louis Comfort Tiffany Award and an Artist Fellowship from Houston Arts Alliance. She is an experienced teacher, and has lectured extensively at various institutions including the Modern Art Museum of Fort Worth, California College of Art, and The Menil Collection, Houston.

Fay was born in Shanghai, China, and moved to Hong Kong, where he completed his secondary education. He later studied in the US and received a MFA from University of California, Santa Barbara. He currently lives in NYC.

Fay's garden/jungle installations are the result of years of research in organic forms both Eastern and Western, real and mythical and materials traditional and digital. Fay likes to employ innovative ideas in his works and has a special insight into the shape and scale of things. He fantasizes himself as a scientist of some sort, who creates strange organic things.



Paul Higham has used digital technology in his art for over 30 years. Since the early 70s whilst studying at Goldsmiths College of Art at London University, his endeavor has remained consistent to propagate a new form of sculpture based on self organizing theories of artificial life. With his early interest in information theory, heuristics and Real Time data mining he developed the concept of 'DataSculpture' in the mid 90's. Higham continues to exhibit internationally, currently living and working out of New York, USA.

In 2007, New York Times Arts review Benjamin Genocchio dec 16th 07. The Princeton Times. Arts review Janet Purcell oct 6th 07. WAMC Public radio The round table July 8th 07. In 2006, Baltimore Sun critics corner Glen McNatt June 06. 2005, Art in America review Karen Wilkin. June 05, Modern British Sculpture Book by Guy Portelli, Shiffer press. Art News National review locks gallery PA Nov 2005. Goodwood Publications 1998 to 2005. In 2004- New York Sun review David Cohen Oct 04. Sculpture Magazine Interview with Eric Gelber Sept 2004. In 2003, Washington Post Museum review. Micheal O Sullivan. March 03, Art Critical.com interview with Eric Gelber nov 03 In 2002, Thinking Big Guggenheim museum Venice, Catologue. 2001, Sculpture magazine National review, Alistar Noble Oct 2001. In 2000, Art News "National Reviews Jon Isherwood at the Grimaldis, Oct 00. Sculpture Magazine Sarah Tanguy," Interior Passages'' a conversation. And 1999, Les Cahiers de la Sculpture Valerie Vivamlos , London and Paris. Sixty Minutes Tim Marlow, Sculpture at Goodwood. July 99. Jon Isherwood Sculptor. Channel 6 News. CBS. Albany, New York. In 1998, Cincinati Enquirer Findsen, , Cincinnati, Ohio. July 98. Sarah Tanguy, Exhibition Catalog, Grimaldis Gallery, Baltimore, Maryland. June 98. And 1997, Socrates Sculpture Park, 10th Anniversary, Exhibition Catalogue, Long Island City, New York. In 1996, Sculpture Magazine Sarah Tanguy, Jon Isherwood, Washington D.C. May 96. Partisan Review Karen Wilkin, At the Galleries, , New York, Spring 96. And in 1994, Pauline Pinard Bogaert, Ursinus Sculpture Show, Philadelphia Inquirer, 26th June 94. Karen Wilkin, Partisan Review, In the Galleries, Spring Edition. 1992, "New York Times Vivian Raynor, "Kouros Sculpture Center, New York, October 92. The Independent Dalya Alberge, "Chain of Thought", London,October 92.

Born in 1959, Christian Lavigne, after a few years in studiying mathematics and ethnology, decided to devote himself to art and poetry, in the 80's. He contributed to several magazines, poetry cabarets and radio shows. Making up the "Graphènes" (graphical/geometrical words) he developed a coherent personal poetical aesthetic universe, based on mythologies and symbols. For more than 25 years, the artist uses computers, NC or (since 1993) RP machines, and is now well known as a pioneer in digital sculpture. With Alexandre VITKINE he created ARS MATHEMATICA, which organise the worldwide computer sculpture biennial INTERSCULPT since 1995. The artist also created the TOILE METISSE association, for the meeting of North and South cultures.

Greg Lock was born in the Fens of East Anglia in England. He received his BA in Sculpture from Bretton Hall College, Yorkshire in 1991, his MFA in Sculpture from Parson's School of Design, NYC in 1995 and his MA in Creative Technology from the University of Salford, England in 1998. He has shown sculpture and digital work in museums and galleries including the Museum of Science and Industry, Manchester (2003) and the Islip Art Museum (2008). Greg is Assistant Professor of Sculpture and New Media at Purchase College, State University of New York and the Artistic Director of Rural Projects' artist's residency program.

Jon Monaghan is a video and installation artist currently earning his Masters of Fine Arts at the University of Maryland. Born in New York City, he has been using 3d and digital technologies in both an artistic and professional context for over 6 years. He has worked with numerous established sculptors to design and visualize their works in digital space. This experience has informed an emerging visual direction utilizing 3d computer technology.

Mary Bates Neubauer (BFA- Sculpture Colorado State University, MFA- Sculpture Indiana University Bloomington) was the recipient of a Ford Fellowship at Indiana University and a Fulbright Fellowship for study in Cambridge, England. In July, 2007 she was an artist in residence at the American Academy in Rome. She exhibits her sculpture and digital prints nationally and internationally and has completed a number of public art commissions. Her work can be found in private and public collections throughout the country. She is Head of Sculpture at Arizona State University, where she is affiliated with ASU's Partnership for Research in Spatial Modeling.

Michael Rees has exhibited his work nationally and internationally in museums, private galleries, art spaces, and alternative spaces. He has worked in a broad continuum of artistic practice including performance, animation, video, installation, sculptural objects, computer software programs, and interactivity. Rees work has been shown at the Whitney Museum in the 1995 Biennial and again in 2001 in the exhibition BitStreams. He has had international exhibitions at the MARTa Museum in Germany, and shown in New York galleries. The work is included in public collections at the Whitney Museum of American Art and also at the Kemper Museum of Contemporary Art, Kansas city with a large permanent public installation of sculpture and animation Putto 2x2x4. In 2008 Rees won a Rockefeller Renew Media Grant for the project Social Object: sculpture and software. His sculpture Converge: Ghraib Bag is on exhibit at The Fields Sculpture Park at Art Omi, Ghent, New York. His work is also included in e-form at the Beijing Today Art Museum and the Shanghai Duolun Museum of Modern Art, both in China. In 2007 Rees performed Live Life at a day of performance in Matthew Barney's studio as part of a day of performances "Action into Object" curated by Matthew Barney. Barney did a run through for his opera which was to be seen later in Manchester, England, and German Artist Jonathon Meese performed as well. In 2007 he also won a New Jersey State Council on the Arts Individual State Fellowship Award.

John Ruppert was born in Winchester, Massachusetts, in 1951 and received his MFA from the School for American Craftsman, Rochester Institute of Technology, New York, in 1977. Ruppert's work has been featured in numerous solo and group exhibitions in museums, sculpture parks and galleries both in the United States and abroad. From 1962-64 he lived in Amman, Jordan. Became active in archaeology and traveled throughout the area, visited sites and participated in several digs. Experiencing the remains

of ancient cities and civilizations in the barren landscape has had a lasting effect on him and his artwork.Ruppert, who is the chairman of the Dept. of Art at the University of Maryland, College Park, has been on the faculty there since 1987.

I grew up in Los Angeles, finding my way into visual art by means of street graffiti. The graphic, abstract, urban nature of graffiti has continued to influence my work, despite receiving my BFA and MFA with emphasis on 3-D studies. Upon completion of my MFA, I attended artist residency in Jingdezhen and Shenzhen, China. During this time the seeds for my current work were born, and I began my use of computers as a means to draft and manufacture artwork. I am currently involved in several public art projects, as well as private studio practice. I am currently based out of Kansas City, USA, at Belger Studios.

Robert Michael Smith is a digital sculptor and Associate Professor of art and technology at New York Institute of Technology Fine Arts Department. Smith is also NYIT Middle East Fine Arts Computer Graphics Coordinator for Global Exchange Programs at Amman, Jordan; Kingdom of Bahrain, and Abu Dhabi, United Arab Emirates. Smith has been an active pioneer of digital sculpture, 3D visualization/animation, Web design, virtual sculptures for the Web, virtual actors for computer gaming, as well as a significant art and technology educator. During 1999-2003 Smith was a Board Director for Manhattan chapter of SIGGRAPH. Smith was the Web Director of www.sculpture.org during 1997-2003 and a Board Director of the International Sculpture Center during 2003 -2005. Smith is President Emeritus of the Sculptors Guild, and a founding Board Director of Digital Stone Project. Smith previously taught throughout New York City at Pratt Institute, School of Visual Arts, The New School for Social Research, Parsons School of Art & Design, The Sculpture Center, as well as University of the Arts at Philadelphia, University of North Dakota, University of Hawaii at Manoa, and San Jose State University. Smith has also been a guest lecturer at numerous universities, international conferences, and featured in several international articles and books including two chapters, "Digital Imaging" and "Digital Sculpture" in the recent Thames & Hudson publication "Art of the Digital Age", by Bruce Wands.

Smith's sculptures and digital art have been exhibited at prestigious New York City, NY venues including:

Sculpture Center; P.S. 1 Contemporary Art Center; Asian American Arts Center; Blum Helman Warehouse; and

The Corning Gallery at Steuben; The Rubelle & Norman Schafler Gallery, Pratt Institute, Brooklyn, NY; as well as:

National venues including: Pittsburgh Center for the Arts, Pittsburgh, PA; Chesterwood, Stockbridge, MA; Grounds for Sculpture, Hamilton, NJ; Rockland Center for the Arts, Nyack, NY; FermiLab, Batavia, IL; Exploratorium, San Francisco, CA; Downey Museum of Art, Downey, CA; Tucson Museum of Art, Tucson, AZ; Honolulu Academy of Arts, Honolulu, HI; Sculpture Tour, University of Tennessee / Knoxville; Nave Museum, Victoria, TX; Leigh Yawkey Woodson Art Museum, Wausau, WI; North Dakota Museum of Art, Grand Forks, ND; Muskegon Museum, Muskegon, MI; Tyler Museum of Art, Tyler, TX; Edwin A. Ulrich Museum of Art, Wichita,

KS; University of Alabama Art Gallery, Birmingham, AL; The Alexandria Museum, Alexandria, LA ;The Plain's Art Museum, Moorhead, MN; The Rourke Art Gallery, Moorhead, MN; Hillwood Art Museum, Brookville, NY; Southwestern University, Georgetown, TX; Robert Fullerton Art Museum, San Bernadino, CA; The Alexandria Museum, Alexandria, LA; University of Oklahoma Museum of Art, Norman, OK; Alaska State Museum, Juneau, AK; University of Alaska Museum, Fairbanks, AK; Anchorage Historical and Fine Arts Museum, Anchorage, AK; Fine Art Museum of the South, Mobile, AL; Gaston County Museum, Dallas, NC; West Bend Gallery of Fine Arts, West Bend, WI

International exhibition venues have included: Art Cologne, Germany; Supermarket 2008, Stockholm, Sweden; Foresight Art Center, Amman, Jordan; Museum of Science and Industry, Manchester, England; Museo de Monterrey, Monterrey, Mexico;

UTS Gallery, Sydney, Australia; Yeditepe University, Istanbul, Turkey; Snowhite Gallery, Aukland, New Zealand;

Taiwan Museum of Art, Taichung, Taiwan; Kaohsiung Museum of Fine Arts, Kaohsiung, Taiwan; Queen's Square, Newcastle upon Tyne, England; Galleria Arte Moderna, Forte di Marmi, Italy; Gallerie Graphe, Paris, France;

Conseil Général de Meurthe-et-Moselle, Nancy, France; Isla Center for the Arts, Mangilao, Guam.

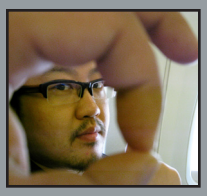
Robert Michael Smith will be a featured artist along with Bruce Beasley, Jon Isherwood and Kenneth Snelson in "Digital Stone", an exhibition sponsored by Autodesk that will travel later this year to contemporary art museums throughout China, including Beijing Today Art Museum, Shanghai Duolun Museum of Modern Art, and Jinse Gallery at Chongqing. Smith has been awarded a sabbatical leave from NYIT to live and work in China during the span of "Digital Stone" Exhibition from Fall 2008 through Winter 2009.

Elona Van Gent was born in 1961 in the American midwest. She studied literature and music before receiving an MFA in sculpture. Since then, her work has gradually shifted from metal processes to digitally designed and fabricated sculptures, prints, and animations depicting improbable species of monstrous creatures. Her projects have been shown in exhibitions at the Exploratorium in San Francisco, Peter the Great Museum in Russia, Roda Sten in Sweden, and Sydney's University of Technology. Elona has lectured at museums and universities in America and Europe and has received grants from the Michigan Council for the Arts and the University of Michigan, where she currently serves as Associate Professor in the School of Art & Design.

Mary Hale Visser, Professor of Sculpture and Computer modeling at Southwestern University in Georgetown, Texas has exhibited widely throughout Europe and the USA. Her work has appeared in art journals and publications such as Sculpture International and A Comprehensive Guide to Outdoor Sculpture. Well known for her large-scale sculpture installations and workshops on 3D modeling, Visser is one of the first group of artists who pioneered the use of rapid prototyping in sculpture. The recipient of several awards and fellowships, Visser's research focuses on the use of digital 3D modeling and rapid prototyping to create complex abstract figurative sculptures.

Peter Voci holds the rank of full professor and is the Chairperson of the Fine Arts Department as well as the MFA Graduate Director in the College of Arts and Sciences at the New York Institute of Technology. In 2004 he initiated an MFA degree program specializing in 3D Animation, Graphic Design and Art and Technology. He has also contributed to his field by extensively exhibiting in national and international arenas. Prof. Voci has lectured on the subjects of visual literacy, digital sculpture and image manipulation and has also juried numerous art and computer animation competitions. Peter Voci has been active with law enforcement agencies, medical examiners offices and forensic anthropologists as an imaging specialist in the field of ante mortem digital facial reconstruction. In 2008 he was awarded a grant from USA and NASA to work on motion capture research in the Orion space program.

Andrew Werby, born in 1952, started making three-dimensional collages from natural forms when in college at Berkeley in the early '70s, starting with objects borrowed from the University's departmental collections. Using rubber molds, he has since captured hundreds of natural forms and recombined them in various media including bronze, ceramic and Sculpted Paint, an art medium he developed. In the '80s, he assembled a group of artists working in a similar vein, who exhibited jointly as the Juxtamorphic Art Movement. In the late '90s, he became intrigued by the possibility of extending this aesthetic by using 3d scanners rather than molds to capture the surface information from natural objects, utilizing desktop CNC mills to produce tangible 3d art output on a small scale. The subsequent acquisition of bigger computer-controlled carving machines has made it possible to realize these forms on a larger scale, and in materials including wood, metal, and various plastics. The recent addition of additive rapid-prototyping has made it possible to create a new generation of Juxtamorphic art objects with integral photography on their 3-dimensional surfaces.



LiZhen was graduated from School of Architecture, CAFA in 2003. As a young designer, he soon participated in China's construction business after graduation. He began to teach in City Design School of CAFA in 2005, and his way of teaching in Commercial Design is active and with great passion, which makes him an excellent academism teacher. In 2007, he, as well as many other young artists, took part in an exhibition Break Ranks, which showed us multiple possibilities from this new generation of contemporary art. He obtained an MFA from CAFA and joined in another exhibition Blank in 2008.

WangZhong graduated from Central Academy of Fine Arts in 1988. Since then he has engaged in design, teaching and study on urban sculpture. At present, he's professor, vice dean of City Design School, member of consultant committee of People's Government of Beijing Municipality, member of National Urban Sculpture Committee, deputy secretary-general and director of China

Sculpture Institute, artistic judge of Beijing 2008 Olympic Games and of World Expo Shanghai 2010.
He took part in many important exhibitions home and abroad and won lots of national prizes. Many of his works have been collected in museums and in some art institutes. His magnum opuses are Ancient Beijing Series, Removal Plan Series, Life Series and Balance-Tao Series. He also published a monograph Conspectus of Urban Sculpture and several essays.

Born in Hebei Province, China, in 1963. Graduated from Art Department, Hebei Normal University. He in now the present director of Today Art Museum.

Born in Dangyang County, Hubei Province, China 1969. Graduated from the Hubei Academy of Fine Arts, China in 1994. Currently living and working in Wuhan and Beijing, China.

He was born in Beijing, 1977. Graduated from the Central Academy of Fine Arts Beijing, China, 2003. Working on Art since 2003. Live in Beijing, China now

Catalog
Design & Production
Christy Diaz