BEALL CENTER FOR ART+TECHNOLOGY
University of California, Irvine

Scalable Relations Sheldon Brown

Press Packet

For immediate release

EXHIBITION: *Scalable Relations*

LOCATION: The Beall Center for Art and Technology

OPENING RECEPTION/MEET THE ARTISTS: January 8, 2009, 6:30 – 9:00 pm

ADDRESS:
University of California, Irvine
Claire Trevor School of the Arts
712 Arts Plaza
Irvine, CA 92697-2775

HOURS:
Tuesday - Wednesday, 12 – 5 p.m.
Thursday - Saturday, 12 – 8 p.m.

GENERAL CONTACT:
(949) 824-4339
http://beallcenter.uci.edu

BRIEF OVERVIEW
The exhibition brings together works by faculty of the UC Digital Arts Research Network (DARnet) that explore digital media's capability of representing a growing amount of data in constantly evolving relations. Addressing a range of issues— from patterns and generative processes to representations of online communication and sharing—the projects in *Scalable Relations* illustrate the complexities and shifting contexts of today's information society. The *Scalable Relations* exhibit will be open to viewers **January 9 – March 14, 2009**. In addition, the Beall Center Family Day, February 21, 2009, 11:00 a.m. – 3:00 p.m., allows younger audiences to participate in hands-on arts and science projects related to the current exhibit. The Beall Center for Art and Technology at the University of California Irvine explores relationships between the arts, sciences, and engineering, promoting new forms of creation and expression using digital technologies. The Beall Center is free and open to the public.

CURATOR'S STATEMENT
The *Scalable Relations* exhibition at the Beall Center brings together a group of works that explore digital media's capability of representing variable amounts of data in constantly evolving relations. The Beall Center is a node in the larger network of the *Scalable Relations* exhibitions series, which presents media artworks by faculty of the UC Digital Arts Research Network (DARnet) across UC campuses from January - March, 2009.

The connectivity and computational processes enabled by digital technologies have a profound effect on our societies and lives, changing the ways in which we communicate and shaping areas ranging from design, architecture, and urban planning to information processing and cultural production in general. One of the distinctive features of the digital medium is its capacity to establish relations between large quantities of data through filtering and processing according to different criteria. These constantly evolving, scalable relations affect both the production of meaning and a traditional understanding of aesthetics, which become subject to computational logic—the instructions given by algorithms—and a constant reconfiguration of contexts. Addressing a range of issues, all the projects in *Scalable Relations* illustrate the complexities and shifting contexts of today's information society. The format of the exhibition itself, in its distribution across multiple venues, mirrors the relational theme and the inherent connectivity of the digital medium.

The projects featured at the Beall Center explore the theme of scalable relations from several angles. One group of works explores patterns, complexity, and "generative algorithmic process"—the computational transformations that are set in motion by code and, with some degree of autonomy, produce a system or artwork—with regard to nature, organic processes, and urban development.

Rebeca Méndez's video projection *At Any Given Moment* captures the idea of complexity in the image of a waterfall: droplets of water are falling at variable speed in variable light, creating and revealing natural patterns based on complex organization. Méndez's 'simulation' of a waterfall in the gallery space also plays with notions of scale—reducing the waterfall to the scale of the gallery and highlighting its position as a representation in the encounter with the viewer. The theme of organic visual structures continues in C.E.B. Reas' *Process 16*. At the core of the project is a text that describes a visual process—filling a rectangular surface with instances of a visual element in different sizes and gray values—and also functions as the software interpretation of the text. Visually, the work takes the form of a dual projection: one side shows the process of the computational drawing being executed; the other exposes its mechanisms, such as the 'behaviors' of its lines. In Reas' work the interactions between elements are outlined in programming, and structures evolve through actions / movements of the elements within the given parameters. The visual structures emerging from Reas' software programs have organic qualities; they are abstractions of systems that could occur in the natural world. At the same time, these software structures point to the art-historical roots of the digital medium in conceptual art, which places an emphasis on the variations of formal instructions as well as concept, event, and audience participation—on relations, as opposed to art as a unified object. The connection between nature and computation takes a very different form in Greg Niemeyer's *CO2 Playground* installation, which allows visitors to observe changes in air quality on the basis of human and plant activity. *CO2 Playground* is part of Niemeyer's larger project *Black Cloud*, which addresses environmental conditions and air quality, in particular. The installation consists of slides, plants, and air quality sensors, which have been placed in several of the *Scalable Relations* exhibition venues. The slides suggest the activity of climbing up (slow) and sliding down (fast), which is equated to the processes of generating and burning oxygen, while the plants absorb CO2 and produce oxygen through photosynthesis. At the project website, accessible as part of the installation, visitors can browse live feeds of data from the various air quality sensors. *CO2 Playground* illustrates one of the roles that people play in the system of nature and allows them to monitor natural conditions as they are affected by human intervention.

Sheldon Brown's *Scalable City* introduces a shift from nature to constructed settings in that it uses algorithmic processes for the visual creation of an urban / suburban / rural environment. The project, which merges data visualization and gaming, allows users to apply data and algorithms to urban development. Their interactions affect patterns of landscape, roads, architecture and vehicles: actual data from the physical world undergo algorithmic transformations and then become elements of a new urban condition that is shaped by software. In a playful way, *Scalable City* explores the effects of computational design on our environment and raises questions about the cultural condition we are creating. While the visual 'world' generated by *Scalable City* does not produce a distinctively positive or negative vision, it highlights how the logic of computerized processes—such as patterns of relationships between elements and their spatial distribution—create their own aesthetics and shape our environment.

While *Scalable City* emphasizes computational logic in the game of constructing an environment, Niemeyer's *CO2 Playground* references play in the context of human-

created environmental pollution. The social principles of collecting and sharing observations about the environment in *CO2 Playground* also form a link to a second group of works in the exhibition, which address concepts of computational analysis within the social world by taking a look at the scalability of relations in today's infosphere of online communication and exchange. Warren Sack's *Conversation Map V.2.0* creates a dynamic visual diagram of the large-scale online communications taking place on e-mail discussion lists, filtered according to various aspects, including participants and themes. The diagram, created on the basis of computational linguistics and social network analysis, shows the people exchanging messages; the themes they are discussing; and a semantic investigation of these themes—the shared metaphors and relations between descriptive terms becoming apparent from the conversation. A different form of social networking and semantic analysis unfolds in *Cell Tango*, a project by George Legrady and Angus Forbes featuring a dynamically growing collection of cell phone images (contributed by exhibition visitors and people online) that are visually sequenced according to text tags. The *Cell Tango* database collects all the images that have been sent to a site that the artists created within the online photo sharing and image archive Flickr via the *Cell Tango* e-mail address. As within the Flickr site, people can classify and label their images with text tags. The projection in the gallery space shows an animation in which the images from the archive are shown in various configurations: all the images collected in the database; the latest contributed images together with other Flickr images that have tags provided by the contributor; relationships between images according to text tags. In different ways, *Conversation Map V.2.0* and *Cell Tango* explore representations and semantic relationships within online environments of communication and sharing. As the previous projects expose and create patterns of connections, their focus is more oriented towards the production of meaning in a social context.

Together, the works in *Scalable Relations* sketch out some of the complex relationships that have emerged from the effects of digital technologies and computational processes on the contemporary world. While the scope of the exhibition is far from comprehensive, it highlights some crucial aspects of the interconnection between digital media, the natural and constructed environment, and social networks, as well as the new ways in which these interconnections are represented.

- Christiane Paul

ARTIST'S STATEMENTS

Sheldon Brown, *Scalable City* (2006-09)

Scalable City creates an urban / suburban / rural environment by means of data visualization. The project is an ongoing artwork that takes form in various media, including gaming, immersive installations, sculptures and digital prints. Its central piece is a computer game involving user interaction, data, and algorithms as applied to urban development. As our world becomes increasingly characterized by this equation, we find ourselves inhabiting the artifacts of these relationships.

Scalable City combines five major components: landscape, roads, lots, architecture and vehicles. Users' input shapes the interactions among major components of the world,

which are each created by a process in which real-world data are subjected to algorithmic transformations and then redeployed as elements of a new urban condition determined by software input / output. *Scalable City* places responsibility for the creation of urban structures on each of its users; their activities are simultaneously constructive and destructive. The project poetically explores the mis-application of computational processes to design decisions and shows how development in general can produce unintended effects after much iteration.

Scalable City engenders a vision of the cultured forms that we are rapidly creating. The project neither indicts nor embraces this future, but illustrates its algorithmic tendencies, heightening one's awareness of the aesthetics of their underlying logic as they shape much of our cultured existence.

George Legrady and Angus Forbes, *Cell Tango* (2006-08)
Cell Tango is an interactive installation that features a dynamically growing collection of cell phone images contributed by the public and visually sequenced according to contributors' text tags. The public creates an archive of images by sending cell phone images to the artists' site at Flickr (www.flckr.com) by using a project-specific email address.

The database and custom visualization software residing on a computer retrieves the data from Flickr and features it in a dynamically created visualization presented as a large-scale projection. The project consists of several animation sequences: at start all the contributed images in the database are placed on the screen; the latest contributed images are the grouped with other images from Flickr based on the tags provided by the contributor; images burst open with the tags, and then several Flickr images per tag; all images in the database appear on screen.

Rebeca Méndez, *At Any Given Moment* (2008)
At Any Given Moment is an art installation consisting of lava rocks, sound, and a video projection of a waterfall. In an attempt to explore the nature of perception and media representation, this work focuses on the phenomenological approach of 'stepping out' in order to 'see ourselves seeing.' The repetitive rhythm, tight crop and large-scale image of the waterfall emphasize its particular organizational logic in time and space. Allowing us to view ourselves from the outside, as part of the representation, we learn about ourselves and challenge preconceptions of our surroundings, specifically of the nature of matter. The cross-rhythmic tensions between simple elements in the waterfall—each droplet falling at variable speed, variable light and variables of atmospheric conditions—create visual difference and reveal the patterns that one simple form, a particle of water, produces through relationships and complex organization.

Greg Niemeyer, *CO2 Playground* (2008)
The *CO2 Playground* installation—consisting of slides, plants, and sensors—is a site of exploration for visitors to observe changes in air quality due to human and plant activity. It allows visitors to affect air quality measurements through their activity and is monitored via the website of its parent project, *Black Cloud*. The activities involve active

exercise, still contemplation, human presence and absence (due to gallery opening hours). The slides facilitate exercise (as allowable by venue regulations) and encourage a form of activity—to climb up slowly and slide down fast—that expresses the slow process of Oxygen generation and the fast process of burning Oxygen. The plant activities involve CO2 absorption and Oxygen production through photosynthesis, which is regulated by the quantity of available light. The proportion of plants and slides address how many plants are required to sustain human life. The project website shows continuous live feeds of data from the air quality sensors, which have been placed in several of the exhibition venues.

C.E.B. Reas, *Process 16* (2006)
Process 16 is a text that defines a process and a software interpretation of that text. The text is displayed next to a two-panel projection. The process runs simultaneously on both sides. The process' surface is displayed on the left side while its mechanisms are revealed on the right.

Process 16
A rectangular surface filled with instances of Element 3, each with a different size and gray value. Draw a small, transparent circle at the midpoint of each Element. Increase the circle's size and opacity while it is touching another element and decrease these values while it is not.

Element 3: Form 2 + Behavior 1 + Behavior 3 + Behavior 5

Form 2: Line
Behavior 1: Constant linear motion
Behavior 3: While touching another, change direction
Behavior 5: After moving off the surface, enter from the opposite edge

Warren Sack, Conversation Map v.2.0 (2000 -)
Using techniques from computational linguistics, social network analysis, and information visualization, the Conversation Map automatically summarizes and produces an interactive diagram of hundreds or thousands of email messages sent to online public discussions. The diagram includes three parts: a social network visualizing who is exchanging messages with whom; a list of discussion themes, a menu of topics being discussed; and, a semantic network that shows which topics are discussed in similar terms; or, in other words, the synonyms or metaphors that are emerging from the discussion.

ARTISTS' BIOGRAPHY

Sheldon Brown, *Scalable City* (2006-09)
Sheldon Brown is an artist who works in new forms of culture that arise out of the developments of computing technology. He is Director of the Center for Research in Computing and the Arts (CRCA) at the University of California, San Diego (UCSD),

where he is a Professor of Visual Arts and Artist-in-Residence at the California Institute for Telecommunications and Information Technology (Calit2).

Brown's projects examine the relationships between mediated and physical experiences and often span a range of public realms. His work plays with overlapping and reconfiguring private and public spaces, with new forms of mediation, proliferating co-existing public realms with geographies and social organizations of increasing diversity. Brown's art explores the schismatic junctions of these zones—the edges of their coherency—providing glimpses into their formative structures with a view that suggests transformative modes of being and the extension of constrained boundaries.

Sheldon Brown has shown his work at venues such as The Museum of Contemporary Art in Shanghai, The Exploratorium in San Francisco, Ars Electronica in Linz, Austria, The Kitchen in NYC, Zacheta Gallery in Warsaw, Centro Nacional in Mexico City, and others. He has been commissioned to do public artworks in Seattle, San Francisco, San Diego and Mexico City, and has received grants from AT&T New Experiments in Art and Technology, the Asian Cultural Council, the NEA, the Rockefeller Foundation, IBM, Intel, Sun, Vicon and others.

George Legrady and Angus Forbes, Cell Tango (2006-08)
George Legrady is a media artist and director of the Experimental Visualization Lab in the Media Arts & Technology program at UC Santa Barbara. He belongs to the generation of artists who, in the 1980s, started to integrate real-time computational processes with conceptually based photographic and multi-linear database narratives. His key interactive installations include the *Anecdoted Archive from the Cold War* (1993), *Slippery Traces* (1995), *Pockets Full of Memories* (2001-2007), and *Making Visible the Invisible* (2005-2014) for the Rem Koolhaas Seattle Central Library. His contribution to media arts consists in intersecting cultural content with data processing for new forms of aesthetic and socio-cultural narrative experiences.

Angus Forbes is a Ph.D. student and IGERT fellow in the Media Arts & Technology program at the University of California, Santa Barbara. His research areas include information visualization, interface design, self-organizing algorithms, and computational linguistics. In 2006 he created the interface to the National Geospatial Digital Archive, a multi-campus preservation initiative funded by the Library of Congress. He founded Synaesthetic Software, Inc. in 2002 to develop music education software. Angus is also the drummer for Heat Death, a Gamelan-influenced heavy metal/noise duo.

Rebeca Méndez, *At Any Given Moment* (2008)
Rebeca Méndez was born in 1962 in Mexico City. She received a BFA (1984) and MFA (1996) from Art Center College of Design, Pasadena, California. She has participated in numerous exhibitions worldwide and her work is represented in public and private collections including the San Francisco Museum of Modern Art; The National Design Museum, New York; Denver Art Museum; and Museo Jose Luis Cuevas, México, D.F. Méndez is a professor at UCLA, Design | Media Arts Department. Her research and practice are transmedial and interdisciplinary. Through her photography, videography

and art installations, Méndez explores the dialogue between the weather and the landscape as a way to address issues of time and space in relation to human physicality. She considers the journey as medium and travels to Chile and Iceland regularly. Méndez lectures internationally and her work has been reviewed extensively by renowned publications worldwide. In 2008, she was awarded an art residency at the Gunnar Gunnarson, Skriduklaustur in Iceland. She lives and works in Los Angeles, California.

Greg Niemeyer, *CO2 Playground* (2008)
Born in Switzerland in 1967, Greg Niemeyer studied Classics and Photography. He started working with new media when he arrived in the Bay Area in 1992 and received his MFA in New Media from Stanford University in 1997. At the same time, he founded the Stanford University Digital Art Center, which he directed until 2001, when he was appointed Assistant Professor for New Media at UC Berkeley where he is involved in the development of the Center for New Media, focusing on the critical analysis of the impact of new media on human experiences.

Niemeyer's creative work focuses on the mediation between humans as individuals and humans as a collective through technological means, and emphasizes playful responses to technology. His most recognized projects were *Gravity* (Cooper Union, NYC, 1997); *PING* (SFMOMA, 2001); *Oxygen Flute*, with Chris Chafe (SJMA, 2002); *Organum* (Pacific Film Archive, 2003); *Ping 2.0* (Paris, La Villette Numerique, 2004), *Organum Playtest* (2005), and *Good Morning Flowers* (SFIFF 2006, Townhouse Gallery, Cairo, Egypt, 2006) and, with Joe McKay, the *Balance Game* (Cairo 2007, London, 2007). His current project, the *Black Cloud*, an Alternate Reality Game, is funded by the MacArthur Digital Learning Initiative.

C.E.B. Reas, *Process 16* (2006)
C.E.B. Reas (b. 1972 in Troy, OH) lives and works in Los Angeles. He is an associate professor and chair of the department of Design | Media Arts at the University of California, Los Angeles. His work focuses on defining processes and translating them into images, and has been exhibited internationally at institutions including LABoral (Gijon, Spain), The Cooper-Hewitt Museum (New York), and the National Museum for Art, Architecture, and Design (Oslo); at independent venues including Telic Arts Exchange (Los Angeles), <>TAG (The Hague), and Ego Park (Oakland); at galleries including Bitforms (New York), BANK (Los Angeles), and [DAM] (Berlin); and at festivals including Sonar (Barcelona), Ars Electronica (Linz), and Microwave (Hong Kong). He has lectured at institutions including University of Applied Arts Vienna, The Royal Academy of Art (The Hague), and the NTT ICC (Tokyo); and at artist-run spaces including Machine Project (Los Angeles) and Atelier Nord (Oslo).

With Ben Fry, Reas initiated Processing.org in 2001. Processing is an open source programming language and environment for creating images, animation, and interaction. In September 2007, Fry and Reas published *Processing: A Programming Handbook for Visual Designers and Artists*, a 736 page comprehensive introduction to programming within the context of visual media (MIT Press). His essays have appeared in the books *Network Practices* (Princeton Architectural Press), *Aesthetic Computing* (MIT Press),

Code: The Language of Our Time (Hatje Cantz), and the Programming Cultures issue of *Architectural Design* (Wiley).

Warren Sack, *Conversation Map v.2.0* (2000 -)
Warren Sack is a software designer and media theorist whose work explores theories and designs for online public space and public discussion. He is Associate Professor of Film and Digital Media at the University of California, Santa Cruz, and earned a B.A. from Yale College and an S.M. and Ph.D. from the MIT Media Laboratory. Warren's writings on new media and computer science have been published widely and his art work has been shown at the ZKM|Center for Art and Media, Karlsruhe, Germany; the New Museum of Contemporary Art, New York; the Walker Art Center, Minneapolis; and the artport website of the Whitney Museum of American Art. His *Conversation Map* is currently included in the SFMOMA exhibition *The Art of Participation: 1950 to Now* (November 8, 2008, through February 8, 2009).

ADDITIONAL INFORMATION, IMAGES, AND RESOURCES
http://beallcenter.uci.edu
http://scalablecity.net/
http://www.mat.ucsb.edu/~g.legrady/glWeb/Projects/ctango/cell.html
http://www.blackcloud.org
http://www.reas.com/iperimage.php?section=works&view=&work=p16_s&id=0
http://hybrid.ucsc.edu/ConversationMap

Tours by Beall Interns are available free of charge during business hours
Private group tours available by appointment: contact David Familian at 949 824-4543