



"Mlem" is the primordial Stuff out of which  
the universe emerged

NOVEMBER 1983  
VOL. 3 ISSUE 4

ARTISTS USING SCIENCE & TECHNOLOGY

# process

Scott Kim © 1983

co-sponsored by stanford computer arts society

robert mckim: "asking fruitful questions"

emily dubois: "woven music", starring the loom and the player piano

zev pressman: "wet paint", a film

kevin o'farrell: "bionics: learning from natural structures"

free - open to all - bring friends - bring art to share

**forum room, meyer library, stanford**

for directions, see calendar on next page.

**december 3**

**2-5:30**

# CALENDAR

- Thru  
November 12      COMPUTER ART BY YLEM MEMBER LUZ BUENO will be shown at Nieman-Marcus in San Francisco.
- November 11-  
January 29      BRITISH HOLOGRAPHY show at the Holo Gallery at 1792 Haight St. in San Francisco.
- November  
12 - 13      MODERN SURGICAL TECHNOLOGY, an operating room with its hardware, will be set up at the Exploratorium. The public may handle the various devices. 3601 Lyon St., San Francisco.
- November 13  
thru  
December 18      BOXES AND NEON EXHIBIT at Anna Gardner Gallery. Includes neon by YLEM member Kennan Herrick. 3445 Shoreline HWY, Stinson Beach. Hours Friday Saturday, Sunday, 1-5 pm, or by appointment. Call 868-0761.
- November  
14 - 16      APPLIED INTERACTIVE COMPUTER GRAPHICS COURSE in Los Angeles features Dr. James Foley and Ellen Knapp. Fee \$795. Information: Continuing Education Institute, 10889 Wilshire Blvd., Suite 1000, Los Angeles 90024.
- November 16 -  
January 8      TEXTILES BY MEMBER VERONICA BIALIK are featured in a three person show at Twin Pines Cultural Center, 1219 Ralston, Belmont.
- November  
17 - 19      ELECTRICITY EXHIBITS CONFERENCE at Exploratorium, 3601 Lyon, San Francisco. Scientists, artists, and museum workers will explore ways to build effective new exhibits. Info: 563-7337.
- November 23 -  
January 1      'PHOTOGRAPHY THROUGH THE MICROSCOPE' at the Exploratorium, 3601 Lyon St. in San Francisco.
- ★  
December 3  
2-5:30      "PROCESS" - YLEM MEETING, Forum Room, Meyer Library, first floor. Enter campus at Stanford Stadium, park in Hoover Tower area. Follow Ylem signs from Hoover Tower to Meyer Library, a tall structure 2 buildings behind it. Stanford's Christmas Crafts Fair will occur the same day by Treasider Union, so plan to come early and shop (and plan NOT to park near it!)
- December 9  
thru  
January 8      THREE IN ONE: LIGHT, STRUCTURE, AND MOTION at Olive Hyde Gallery features interactive exhibits including pieces by YLEM artists Gertrude Myrrh Reagan and Don Lloyd. 123 Washington Blvd. at Mission Blvd., Fremont.
- ★  
December 10      YLEM FIELD TRIP AND SKETCH PARTY, The Tree Circus in Santa Cruz county. Bizarre! Botanically Lovely! Trees with trunks and branches bent into lattices, hearts, knots and spirals. Meet 10:30 am in Santa Cruz at Greyhound Depot, 425 Front St. with cameras, drawing materials. Lunch in Santa Cruz. Fee: \$10 - includes donation to Tree Circus that is trying to save the trees. Reservations, bus schedule, car pool info. call Shoshana Dubiner at 221-3595. (weather permitting)
- December 17 -  
February 15      VARIATIONS ON A THEME, art by YLEM member Scott Kim, will be shown at Department of Humanities and Sciences, Stanford(in the inner quad).

## OPPORTUNITIES

- November 10      COLLEGE & ART SCHOOL STUDENTS - computer art sought for CADRE conference juried show in January. Mail to Bunny Carter, Art Dept., CADRE INTERNATIONAL GRAPHICS EXHIBIT, S.J.S.U., One Washington Square, San Jose, CA 95192.
- Deadline  
November 25      MAPS in any media - all works exhibited. Size limit 8"x10". No returns Documentation to all participants. Send entries to: Diverse Works, 214 Travis, Houston, TX 77002; (713)223-8346.
- Deadline  
December 30      GRANTS for work that advances higher education through video or television sponsored by Annenberg Corporation for Public Broadcasting Project. For guidelines: Annenberg/CPB Project, 1111 16th St. NW, Washington D.C. 20036.
- Now      LET THERE BE LIGHT, a holiday festival, will include crafts and performance shows. Lasers and multimedia and etc. Performers will be paid. Ylem members interested in performing contact Louis Brill at 664-0694 (8-10 am best times). Everyone else should plan to be at the Civic Auditorium to see the exciting festivities on December 9-11.
- Now      RESTAURANT WANTS ART. Squids, at 97 McAllister, wants matted art, maximum size 16"x20" vertical. Will consider video and laser. Contact Michael Shemchak, 60-B Woodward St., San Francisco, CA 94103, 621-8127.
- Now      THE MODM GALLERY, 835 Loring, Crockett, CA 94525, is looking for artists to show. Info call Melissa Harmon at 787-2527.
- Now      YOUR SKILLS MAY BE IN DEMAND at San Francisco School of the Arts Foundation. This brings working artists into the classes at the Arts High School in San Francisco. The program is in its 2nd year. Phone 648-7080 and ask for Fred Sonenberg or Ann Wettrich. Also ask about students helping you with your work for work study credit. (The latter works with other schools and colleges as well.)
- Now      VIACOM 30, local Northbay cable channel, seeks music video of all types for proposed new program. Contact Viacom 30, PO Box 3598, San Rafael, CA 94912 or Michael Freeman at 459-5260.
- Now      FIND OUT ABOUT LIMITS OF COMPUTERS IN MODERN WARFARE and help educate the public. Computer Professionals for Social Responsibility has chapters in the East Bay, Palo Alto, San Jose. Meetings monthly. Also Boston, Madison, WI, and Seattle. Info: CPSR, PO Box 717, Palo Alto, CA 94301.

## RESOURCE LIST

by Trudy Myrth Reagan and Julian Rowan

**Key Words**

structure, structuralism  
 morphology, morphic, isomorphic  
 process, formative process, modularity/hierarchy, transformation, systems  
 and information interdependencies, integrative

BENTHALL, J.	Science and Technology in Art Today	New York; Praeger; '72
CRITCHLOW, K.**	Order in Space	London; Thames&Hudson; ('65) '69
D'ARBELOFF, N.*	Designing with Natural Forms	London; B.T. Batsford; '73; '74
EMMERICH, D.G.**	Constructive Geometry-Morphology	Seattle; Univ.of Washington;('67) '70
FULLER, R.B.**	Synergetics	London & New York;MacMillan; '75
KANDINSKY, W.***	Concerning the Spiritual in Art	New York; Wittenborn; many print'gs original - 1912
KEPES, G.***	The New Landscape in Art and Science Editor- Vision plus Value Series	Chicago; Paul Theobald; 1st ed. 1956 New York; Geo. Braziller; '65 thru'72
LOSS, J.*	What is It?	New York; Doubleday; '74
PIAGET, J.***	Structuralism	New York; Harper&Rowe; '70
RICKEY, G.	Constructivism	New York; Geo. Braziller; '67
STEVENS, P.S.	Patterns in Nature	Boston; Little,Brown-Atlantic Monthly Press; '74
THOMPSON, D'arcy***	On Growth and Form	London & New York; Cambridge Univ. Press; '69; original - 1917
WHYTE, L.L.***	Aspects of Form	Bloomington & London; Indiana Univ. Press; '66; several printings;orig. 1951
WILLIAMS, R.**	Natural Structures	Moorpark, Calif; Eudoemon Press; '72
WOLBERG, B & L.*	Zooming In-Photographic Discoveries under the Microscope	New York; Harcourt Brace; '74

\* - suitable for children  
 \*\* - related to geometry and structure  
 \*\*\* - historically important;basic read'g

The keeper of samples for the architectural firm of Skidmore, Owings, Merrill (yarns, fabrics, granites, glass, etc.) will give advice about where to obtain materials for big commissions, or help set up a similar resource library for design firms, says member Marsha Nygaard. Contact Ian Hoddow, 594 Valencia #5, San Francisco 94110, (415) 431-2241.

"Computer Animation as an Aid to Comprehending the Universe", Computers and Imagemaking, Pergamon Press, Oxford, 1981. by Kenneth Knowlton.

The Human Body, Jonathan Miller (of The Body in Question) with 3-D movable illustrations showing the workings of the human body designed by David Pelham.(Omygod, they pop out!) Viking, N.Y. \$16.95 *Just out!*

Cymatics, Hans Jenny - explores such matters as how rhythm and vibration determine structure. Good Illustrations. Basilius Presse AG, Basel, Switzerland, 1967

Dynamics, The Geometry of Behavior, Abraham and Shaw attempts to teach advanced mathematical concepts visually. Color diagrams; animated disk available. Vol. I, Periodic Behavior, and Vol. II, Chaotic Behavior, are now available from Aerial Press, P.O.Box 1360, Santa Cruz CA 95061. Vol. I is \$25, Vol. II and disks, \$15.

The Mind's Best Work, D.N. Perkins, on creativity. Harvard, 1981, \$18.50.

Exploratorium Publications, a catalog listing of exhibit catalogs, "recipes" for making displays and demonstrations, and the Exploratorium Magazine. Exploratorium Store, 3601 Lyon St., San Francisco, CA 94123, (415) 563-7337.



---

## MEMBERS IN THE NEWS

At a National Endowment for the Arts Conference held in New Orleans about art in the schools, Ruth Asawa was included on a panel and spoke on the role of artists in the educational program. She also reports that the state of California is studying the idea of setting up perhaps three "Arts Summer Schools" for promising students. In addition she says that NASA and NEA are studying what artists can do for the space program.

An article by Othmar Tobisch about the connections between geological sciences and visual art will be published in volume 16, number 4 issue of Leonardo. The magazine should be out in December.

Eddie Oshins spoke on behalf of Yuri Orlov on a panel of The American Society Cybernetics about Ethical Imperative in the World Community of Scientists. Oshins just received the sixth scientific paper by Orlov, almost 50 pages in Russian, that was smuggled out of prison camp.

### Help wanted

Anyone knowing how to formulate chemicals that form crystals as they are being viewed in a slide projector with polarized light, please call Trudy Myrrh Reagan. She and her friends will try the technique and report in a future newsletter.

---

## MAILING LIST UPDATE

### Address Changes

David Newman  
PO Box 1985  
Rockefeller St.  
New York, NY 10185  
(212)758-1985  
conceptual art, drawing,  
computer art

Isuzse Molnar  
Frank Dietrich  
626 Flint Ave.  
Long Beach, CA 90814  
(213) 498-0823

Batya Friedman  
Op. in Science & Math  
U.C. Berkeley  
Berkeley, CA 94720

Michael Starkes  
P.O. Box 2309  
San Rafael, CA 94912  
459-4500

Russell Reagan  
TESC D-214  
Olympia, WA 98505

### New Members

Milton & Sylvia Van Dyke  
506 Campus Drive  
Sanford, CA 94305  
328-0184 (home)  
497-2443 (work)  
fluid dynamics

Vernon Reed  
4407 Sinclair Ave.  
Austin, TX 78756  
(512)454-7997  
animated LCD jewelry

Bill Henderson  
24764 Sequel Road  
Los Gatos, CA 95030  
(408)353-1673  
airbrush painting,  
space architecture  
computer graphics

Frank Guyre  
1474 Fields Drive  
San Jose, CA 95129

Christa Schubert  
2924 Ladoga St.  
Long Beach, CA 90815

Mareha Nygaard  
1461 Church St.  
San Francisco, CA 94131  
285-8332  
conceptual art

Michael Fisher  
PO Box 3568  
Berkeley, CA 94703

Melody Trapp  
35 Aliso Way  
Portola Valley, CA 94025  
854-0743  
painting, graphic design,  
computers, visual thinking

Ron Covell  
2390 Stokes St.  
San Jose, CA 95128  
(408)275-9515  
(408)727-5588  
sculpture, computer  
graphics, technology

Dale N. Scott  
PO Box 31537  
San Francisco, CA 94131  
647-1127  
lasers, laser etching  
& cutting, robotics

Victor Acevedo  
PO Box 594  
Monterey Park, CA 91754  
(213)289-7228  
interdisciplinary research,  
synergetics, perceptual  
phenomena, polyhedra

Sabine Frank  
1710 Allston Way  
Berkeley, CA 94703  
845-5378

Ralph Stapenhorst  
982 McNeer Ave.  
Petaluma, CA 94952  
(707)763-9118

Shelley Rae Doeden  
241 Bonita Road  
Portola Valley, CA 94025  
851-1847

Luz Bueno  
548 Cragmont  
Berkeley, CA 94708  
computer art

Dr. Kenneth Hunter  
810 Gonzales Drive, 10F  
San Francisco, CA 94132  
467-7392  
computer music

Susan L. Van Baerle  
1487 1/2 Pennsylvania Ave  
Columbus, OH 43201  
(614)421-1285  
computer graphics research

Isaac Victor Karlow  
26 Gramercy Park South  
New York, NY 10003  
computer art

Ann Skinner Jones  
57 1/2 Levant  
San Francisco, CA 94114  
861-8326  
computer graphics,  
photography

Rowena Patten  
PO Box 784  
Pt. Reyes Station, CA 94956  
visionary art (mandalas  
& animation)

George Wolton  
30 Cragmont Ave.  
San Francisco, CA 94116  
664-4915

Stephen Baruch  
c/o EPRI  
PO Box 10412  
Palo Alto, CA 94303  
855-8912 (work)

Jeffrey Perrone  
3685 17th St.  
San Francisco, CA 94114  
431-9562

Janie Warnick  
91 Baywood  
San Mateo, CA 94402  
343-2973  
tessellation, natural  
patterns, fiber arts

## ABOUT THE ARTISTS

Scott Kim is in the process of inventing a PhD at Stanford called "Computers and Graphic Design," being a search for new visual metaphors on which to base computer interfaces. In school, he has been playing with computer typography, music, and mathematics. Outside of school he has been working with symmetrical calligraphy, polyhedra, education video games, and other synaesthetic imagination twisters.

The lettering for this month's Ylem cover comes from exploring new ways of relating the meaning and writing of a word. In this case, "process" is being viewed not as a static word, but as a single shape changing from one form into another. Other of Scott's designs, including his book Inversions, are being made available through Look Twice, Box 50697, Palo Alto, CA 94303. Look Twice is now in the process of producing its first catalog.

Kenneth Knowlton studied engineering at Cornell and MIT. After graduation he spent 20 years working at Bell Labs in New Jersey and then he moved to SRI in Palo Alto. Now Knowlton works at Via Video in Santa Clara.

Over the course of his career, Knowlton has invented six computer languages and various hardware ideas including a telephone with sign language recognition for the deaf.

He has explored the computer as a tool for art from many different angles, one of the most important of which has been computer animation. For his films, he has collaborated with such people as Stan Vanderbeck, Lillian Schwartz and Emmanuel Ghent.

About the Groucho piece, Knowlton says, "In making pictures out of dominoes, my purpose is to make things which are intriguing both perceptually and intellectually. Perceptually because at close range you don't see the picture nearly as well as from far away. In fact the portrait may not even be recognizable. This is quite the opposite of the generally held notion that by getting closer to something you see it better.

"Intellectually, because of the severe constraints I have chosen. If I had chosen to cannibalize any number of sets of dominoes to get just the ones which a particular picture seems to call for, or if I were to cut the dominoes in half, to use the ends with lots of spots where the picture is light, etc., it would be a simple matter. But, choosing as I do to use all of the dominoes of exactly four sets, without cutting them, makes it an interesting problem. I have programmed a computer to produce an optimal plan for each case. I leave it to you to ponder just what I am asking the computer to do."

In spite of his involvement with computer graphics as a visual tool, he remains a skeptic about whether the products of such work qualifies as art. Indeed, "what is art?" is a question that fascinates him.



'Groucho', c 1982, Ken Knowlton

Veronica Bialik returned to school to study art after her two children had grown, first to the College of Notre Dame, Belmont, then to the Rudolph Schaeffer School of Design, San Francisco. The latter emphasized the fundamentals of color and design at a time when other schools were ignoring it. Also it was here that she met Wayne Davies, who predicted that she would get hooked on silk screening which she thought was absurd.

"I thought that was ridiculous. I hated serigraphy, with its toxic solvents. But it turns out that what he was doing with water-based dyes on cloth was very easy on me," she recalls.

Bialik set up a joint studio with Wayne in 1978. Her engineer-sculptor husband built much of the hardware. She enjoys silkscreen because, after having worked out a design, she can make innumerable variations of color combinations and overlays. Besides her artwork, she also prints and dyes custom yardage for fashion designers and teaches color and 2-D design privately "to support her art habit."

About her work she says, "I enjoy abstracting visual textures from nature, rocks, cobwebs, feathers, dewdrops, and in this case the wisteria in my backyard. I took a picture, had a stat made, worked by hand with ink on paper from the stat in very large scale for screenprinting on fabric. Since I am now working in miniature pattern repeats, this new reduction of the wisteria print will produce a new series, either for screenprinting on paper or on fabric."

Works based on Bialik's wisteria pattern are included in her show at Twin Pines Art Center, Belmont. (see calendar)

# SIGGRAPH, DIGICON CONFERENCE NOTES

by Eleanor Kent

SIGGRAPH held its 10th conference this July in Detroit for 20,000 people. During the five days there were seminars; technical sessions; 200 vendor exhibits; video, film and laser graphic shows; receptions; and an art show that was replicated in Tokyo and Avignon.

There was a stupefying amount of information on electronic systems, printers, plotters and photographic hardcopy machines at the vendors' exhibit hall. For the first time a seminar was given specifically for artists. The seminar was conducted by Susanna Molnar and Vibeke Sorensen who assembled wonderful course notes. Other speakers were James Blinn, Joanne Culver, Tom DeWitt, Frank Dietrich, David Em, Darcy Gerberg, Robert McDermott and Richard Taylor. They addressed many artists' questions directly; eg. how to get access to equipment, where to get training on the systems.

Seventy five artists were included in the art show. A highlight was Michael Naimark and Ed Tannenbaum's "Computer Eyepiece," a frosted dome about a foot in diameter which had a film loop of a winking digitized eye projected into it from the back. The effect was of a large eye watching the people looking at the art show in the gallery. The full color catalog has many reproductions and three essays by Catherine Richards, Gene Youngblood and Lucinda Furlong. (\$7 from SIGGRAPH)

DIGICON '83, International Conference on the Digital Arts sponsored by the University of British Columbia was held in Vancouver during August. For the 600 or so people who came there were presentations on both music and art, with slides, tapes and films of such recent work.

Many of the speakers who spoke at SIGGRAPH were able to go into more detail about problems special to artists and musicians using computers in their work. The vendor show was small, but exhibitors were able to spend more time explaining their products.

One highpoint was the concert given at the Queen Elizabeth playhouse. Of special interest at the concert was "Night Satellite Teleconcert" with music composed and played for the occasion on Fairlight CMI music computers by Jean Fliche in Vancouver, Osamu Shoji in Tokyo and Martin Wesley-Smith in Sydney. The concert was held simultaneously in three cities, joined together by satellite. At the conclusion applause from Australia and Japan could be heard over the microphones.

Another highlight was on the last day, a presentation of music, visuals and dance linked by computers. Working together were Robert Moog and William Buxton playing synthesizers, while Constance Shrader danced using Jo Ann Gillerman's LED jewelry which Thomas DeWitt's Pantomation motion-tracking system used to draw images on a large video screen using Eric Podieta's paint program. There was no score, they improvised. It was stunning.

From both conferences the message to musicians and artists is clear; make friends with a programmer. Also, as the equipment becomes more and more available it would be wise to learn how to program in order to make the systems do what you want them to do.

Yiem Officers: President - Trudy Myrrh Reagan; Corr. Secretaries - Lois Johnson, Francine Pfeiffer; Membership - Robin Samelson; Programs - Deanne Dellbridge; Newsletter Ed. - Luanne Hicks; Treasurer; - Tom Presburger; Field Trips - Shoshana Dubliner; "Yellow Pages" - Louis Brill.

Send to Yiem, 967 Moreno, Palo Alto, CA 94303

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zip \_\_\_\_\_  
Phone ( ) \_\_\_\_\_

I would like:  
 to receive a sample issue.  
 a year's membership. \$10 is enclosed.  
 newsletter only, since I live more than 100 miles from both San Francisco and Palo Alto. \$5 is enclosed.



ARTISTS USING SCIENCE & TECHNOLOGY

967 Moreno, Palo Alto, CA 94303 (415) 856-9593

FIRST CLASS  
Return Postage Guaranteed  
Address Correction Requested