"Ylem" is the primordial stuff out of which the universe emerged.

Ongoing Process
February 4, 1984 Forum • San Francisco Art Institute

"Crystal Spheres" - Will Mangan
By what process does a polished sphere of rock crystal become visual music? Will Mangan passed around such a ball, asking us to notice the irregularities in it. He then showed his videotape, "Crystal Spheres" in which closeups of them rotated while lit by changing colors of light. Internal needlelike structures glinted white, and larger fractures flashed prismatic color against the colored backgrounds. It was a display of Will's vision to see the possibilities, and his video recording skill to create the dreamlike motion and to do justice to the color.

"Woven Music" - Emily DuBois
Weaver Emily DuBois and her composer friend, Michael Elinson, were intrigued with the similarities between the Dobby loom and the player piano. Both use a row of holes which may be open or shut to control the action. Emily described their collaboration at Fiberworks in Berkeley where they explored what piano rolls of music would look like when woven, and what patterns suggested by Dobby loom weaving would sound like.

"Protein Synthesis, a film"
This was truly a sleeper! The different molecules were played by goofy dancers in various guises, and the explanation was a parody of "Jabberwock". A teaching film prepared for Dr. Paul Berg's molecular biology classes at Stanford Medical School, it was factual. Overhead shots from the neighboring hi-rise dorm gave an overall picture of molecular processes. But hilarious nevertheless.

"Bionics: Learning from Structures in Nature"
- Kevin O'Farrell
When building a vessel to explore the ocean deep, one would do well to study how living creatures withstand the pressures there. This study of natural structures Kevin O'Farrell called "bionics," and showed many examples of the similarities between natural and man-made structures. "When you study nature deeply in this way, you don't always find what you came for. Something else fascinating and useful may appear."

Asking Productive Questions
- Robert McKim
Where do (fruitful) problems come from?
In school, problems tend to come from the teacher. McKim believes that even at the PhD level, most students are not coming up with their own problems. In creating problems for his engineering course, Visual Thinking, he noticed that some problems suggested many exciting ideas to students, and some were duds, which caused him to notice the an area of inquiry.

Problem-solving, he decided, has been over-rated. Problem finding is actually more creative and more difficult. We can find a problem by noticing a need -this is called "market pull". We may also have a new invention, and go find out what it is good for ("technology push"). Curiosity is a major source; and some people, when struck by an idea, pursue it as if they were spiritually called.

Playing Around:
The Underwater Violin
When teaching, McKim noticed that in some contexts few questions are asked and few risks are taken, inhibiting the invention of problems. Fear of ridicule is a big culprit. This didn't bother Mark Gottlieb, he said, as he showed a slide of Mark in a pool wearing scuba gear and sitting and playing his invention: the underwater violin.
In his class, students invented the need to walk on water. The "Jesus Shoes" idea suggested many projects. A lot was learned even by projects that didn't work, by the process of taking risks. A playful, fear-less, venturesome environment is very important.

McKim's class always gives a prize for the most spectacular failure. For example, to the project that sank while the student learned the difference between open-cell and closed-cell foam: a set of red towels was awarded.

The Hole in the Jigsaw Puzzle
Needs are hard to talk about. They are a lack; a void; a hole in a jigsaw puzzle. To learn to identify them, he has students observe, say, workers in a medical lab. The worker doesn't think about the inconvenience of using a device. It is simply there, like a lake you have to walk around. If you are on the jigsaw puzzle with the hole, it is like the lake. You don't see it as a need. The invisible need is only felt as an irritant, a bug. To help students identify needs McKim has them keep a "bug diary" - in which they write down every irritation for 24 hours. Then the class makes a display of them, and decides what is practical to solve.

continued on page 2
Ylem Notes

Some very capable members have come forward of late to give Ylem more professional support. Not only were good suggestions made at the get-togethers this Fall, but in January, and again in February, a small, committed group met to select the best ideas and to map strategy for their implementation. The pivotal meeting was at Deanne Delbridge's in San Francisco on January 17th. The ideas were fine-tuned at San Francisco Art Institute in a meeting held just before our regular forum meeting there.

Watch for these developments, beginning now:

- An upgraded newsletter; larger format, more images, book reviews, and articles with information unobtainable elsewhere. David Healy, graphic designer, is producing this newsletter. San Francisco members are holding the mailing parties to get it sent off to us.

- A videotape "sampler" of Ylem artists' work, and of some presentations we have enjoyed at our forum meetings can take shape if Ken Sakatani, who has access to cameras and lighting, has help. Call him at 415/648-8471 to offer your experience, access to editing facilities, or videotapes that have been made of your work that we can excerpt. We hope to show it on Cable TV.

- Both of the above projects will involve new expenditures. There are some other needs that have become apparent, as can be seen in the budget below. Accordingly, it was decided to raise the dues to $15 ($10, distant members) beginning in June.

- Non-profit status will be a help. It will encourage donations of money and equipment access. Leslie Mausnaga has completed a very well-written first draft of the by-laws, which will be presented at the next business meeting. She is now ready to move to the next step, the forms for incorporation and non-profit (Ca. & Federal).

- Regular business meetings to carry out projects has become a must. It was decided that the most convenient time was at 11 am the same day as our forum meeting, preferably very close-by. Everyone is welcome (See Calendar).

- Collaboration with industry: Bill Henderson sees marvelous possibilities for this, not just with computers, but unusual hardware in optics, acoustics, robotics, painting and cutting tools.

- Have your filled out your "Yellow Pages" form? Robin Samelson, 3769 Nathan Way, Palo Alto, CA 94303, 415/856-0682 will send you a form. Also Bill Henderson, 24764 Soquel Rd., Los Gatos, CA 95030, 408/353-1673, will collect your suggestions about appropriate projects and other contacts that you think we could develop.

- The "Yellow Pages" information will be initially published, several artists at a time, in the newsletter, and in summary form with the next mailing list, due out in midsummer. Thank you, Louis Brill, for conceiving the project and getting it going.

- New officers will take over in June. The people who attended the January 17th meeting voted themselves the nominating committee. Robin Samelson, who is our membership chairman, offered to be Public Information Officer as well. Penny Robertson, who has just studied accounting, offered to be treasurer. Top priority: Recording Secretary - someone who likes to attend meetings and doesn't mind taking notes; Director - the executive who makes sure all projects are functioning well; newsletter editor: It was suggested that until we can pay a salary for this we should ask for a college intern. Letters to local schools will be sent soon. Mailing list: Will Mangan and Joe Villareal have offered help. Trudy Myrhh Reagan has input the mailing list in dbase II.

- A San Francisco meeting spot has been the request of many members. Easier access may boost attendance and help other people to discover us. We have budgeted a small amount for rent, and will probably meet at Fort Mason.

- Other exciting topics discussed:
  - Ways to raise funds by either documenting Ylem artists in marketable form, or showing their films in a film series.
  - How to use computer data bases to distribute information about ourselves and find new people.
  - Team-up with colleges and art schools when setting up a program requiring access to industry.

Ylem Newsletter
Trudy Myrhh Reagan, editor
David Healy, art director

Ylem Officers
Trudy Myrhh Reagan, president
Loie Johnson, secretary
Robin Samelson, membership
Deanne Delbridge, programs
Tom Pressburgers, treasurer
Shoshanah Dubhins, field trips
Louis Brill, "Yellow Pages"

Ongoing Process (cont)

Bringing Bugs into the Now

As long as a bug is simply an irritant, as long as you are unwilling to do something about it, it remains a bug. When it is recognized as a problem that you have now willing and capable to deal with, it becomes a need. For a need is like a crying child: it has a sense of urgency about it. It also engages you, it becomes an opportunity. McKim observed that the "port" in opportunity is from the Latin word portal, door. Our need, our jigsaw puzzle hole, has become a door.

A Good Problem is Worth More than a Good Solution.

If you make a diagram of where money is spent in developing a product, most of the costs are in the later, problem-solving stages of the operation. McKim has seen beautiful, expensive solutions that didn't fly: they weren't answers to good questions. Finding a good need to fill is cheaper, and more productive. Robert Noyce, while working at National Semiconductor, asked assembly workers struggling to connect wires to microchips. He saw a need, and the integrated circuit was born. He started Intel with this idea.

Why is this process overlooked? We are too burdened with the shoulds of our lives. Shoulds exist in the past and future, needs are discovered in the now. Look for the needs that you are now willing to tackle with some gusto, he suggested.

Budget June 1984-85 (proposed)

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(hidden subsidy: Trudy Myrhh Reagan has done all of the telephoning for free.)
Ylem Calendar

Now - Mar. 30, Th, F 2-6 pm, & by appt.
Bits and Pixels, works by Ylem artist Eleanor Kent, Newspace, 762 Valencia, S.F., CA 94110. 415/626-1694

Now - Mar. 31
Chocolate Ox, works by Ylem artist Edward Sellery, Bechtel Int'l Center, Stanford University.

Now - Apr. 15, 9:30am - 10:30pm daily
Computer Art, the New Art Medium, incl. works by Ylem artists Daniel Cooper, Aaron Marcus, & Lucia Grossberger. 377 Geary, S.F. Call for times of demos: 415/397-0966

Now - Apr. 27, T, W, Th, 11-4pm, W 7-8pm, Sun 1-4pm
Faces, incl. portraits, naive art, expressionist, computer generated. Euphrat Gallery, De Anza College. 20251 Stevens Creek Blvd., Cupertino, CA.

Mar. 14 - May 10
Chips & Changes exhibit about the computer chip and its sociological impact. Also Wed. night 7:30pm lecture series: #1, Mar 14, Alvy Ray Smith of Lucasfilm; #2 Mar 21, Steve Wozniak; #3 Mar. 28, Gene Amdahl, Alan Kay; #4 Apr. 4, Adam Osborne, Bill Godbout. The Exploratorium, Lyon & Marina, S.F.

Sat. Mar. 16, Sun. Mar. 17
Art & Computers, Ylem member Ron Pellegrino, McBean Theatre at 12, 2, 4pm; Computer Science Demos, 11-5pm. The Exploratorium, S.F.

Mar. 17, 8pm
Tibetan Temple Bell Concert. Dance Palace, 1315 Highway 1, Pt. Reyes Sta. $5.

Mar. 18, 7:45pm
Tibetan Temple Bell Concert. Trinity Center, 149 Clinton, Redwood City, $5.

Mar. 21, 7:30pm
Computer Music Demonstrations, 3rd Wed. of each month, by Center for Computer Research in Music & Acoustics (CCRMA), Stanford. 1600 Arastradero Rd. behind campus. Free.

Mar. 22-25, all day
9th West Coast Computer Fair. Vendors, seminars on computers, incl. graphics. Brooks Hall, Civic Center, S.F. $12/day, $20 for all 3 days.

Mar. 23, 7pm

Art & Computers, Larry Cuba, McBean Theatre, 12, 2, 4pm; Computer Science Demos., 1-5pm. Exploratorium, S.F.

Mar. 24, all day

Tues. Mar. 27, 9-4pm
Cerebral Dominance. A short course in brain function. Holiday Inn, 1217 Wildwood, near Great America, Sunnyvale. Info, Cortext, P.O. Box 6867, Stanford 94305, $35

Sat. Mar. 31

Sat. Mar. 31, Sun. Apr. 1
Art & Computers, Daryl Sapien, McBean Theatre, 12, 2, 4pm, Exploratorium, S.F.

Sat. Apr. 7, 9-4pm
Cerebral Dominance. A short course in brain function. Los Gatos Lodge, 50 Saratoga Ave. Los Gatos. Info, Cortext, P.O. Box 6867, Stanford 94305, $35

Apr. 7, 11am
Ylem Business Meeting, Tressider Union Cafeteria, Stanford. Come witness the primordial chaos out of which Ylem emerges.

Apr. 7, 7pm
Perception, Ylem forum, Meyer Library Forum Room (ground level), Stanford University. Park near Hoover Tower, follow Ylem signs to Meyer Library, a tall structure two buildings behind it.

Sat. Apr. 7, Sun. Apr. 8
Art & Computers, Ed Tannenbaum, McBean Theatre, 12, 2, 4pm, Exploratorium, S.F.

Apr. 8 & 9, 9-9:30pm
Radiance, a film by Ylem member Dorothy Fadiman, Bijou Theatre, 640 Emerson, Palo Alto. Ms. Fadiman will be there to discuss her work.

Apr. 14, 1-7pm

Sat. Apr. 15, Sun. Apr. 15

Apr. 28-29, 10-4pm
Appletree Press Openhouse, etching press demo, works by Ylem artist Marilyn Krieger among others. 175 South Blvd., San Mateo. Reception Apr. 27, 7:30pm.

May 13-17

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

NAME
ADDRESS
CITY ZIP
PHONE
I would like:
□ to receive a sample issue
□ a year's membership. $15 is enclosed.
□ newsletter only, since I live more than 100 miles from both San Francisco and Palo Alto. $10 is enclosed.
Dear Trudy,

I have been dabbling in stereo photography for years but it has taken Ylem to convince me it is time to dive in.

The latest issue of Popular Science Magazine has an article on the current state of Hologram experiments.

Last spring the NIMSLO CAMERA company started their promotion for their new camera and processing service. It is the only stereo system readily available at this time. The NIMSLO company has only two processing machines in the world. One is in France and the other is in Georgia. Their service is necessarily an intimate part of this system. The camera is simple, completely automatic, and takes 4 images on standard 35mm film. The hard part is done in their lab and is too complex for relative amateurs to fool with. The camera and the service is available through most large camera stores. I got mine at Brooks Cameras.

NIMSLO CORPORATION
One Nimslo Park
Altanta, Georgia, 30338

Customer service telephone is 1-800 554-2854. What you get back besides your sets of four color negatives are color prints. The four images are sophisticatedly integrated behind the thin sheet of plastic mounted on the surface that serves as a viewer. You look into them, not at them.

All of the older stereo vision systems are now rare and difficult to get. Their components were much simpler to manipulate; deceptively so. They required a lot more sophistication than many people supposed.

Sincerely, Gunnar Timmonds
P.O. Box 1102, Palo Alto, CA 94302

Dear Trudy,

Thanks for asking about our computer airbrushing project.

Our system includes a Paasche double action airbrush, an x-y positioning mechanism, an Apple II, and associated electromechanical stuff. It produces pictures whose maximum size is 2x3'. It is now used by programming in MVP Forth. Interactive image creation is coming. While ink adjustment is touchy, we have produced some respectable samples. The line quality can vary from marker-like to soft airbrushed. If you would like to see it (or use it) call Steve Zins, 415/321-6311.

Sincerely, Steve Zins

Dear Trudy,

I am now working at CADAM, Inc. in Burbank. CADAM is a subsidiary of Lockheed who was one of the pioneers of CAD/CAM in the early sixties. Needless to say I have been pretty busy. Before I started at CADAM, I did not know very much about how CAD/CAM works, but now I am starting to appreciate it as a potential tool for the visual artist. This is because it is designed to be used by a draftsman, not a programmer, and one uses a light pen, drawing tablet, and function keys to make a drawing. Since most artists are not inclined towards programming, the CAD/CAM approach will become very attractive when color graphics and solids modeling functions are added.

It’s nice to see Ylem growing in membership.

Sincerely yours Robert E. Dewar
2709 North Fair Oaks Ave.
Alhambra, CA 91001

Opportunities

Send slides and tapes about Sculpture that makes noise to Civic Arts Gallery, 1641 Locust St., Walnut Creek, CA 94596. attn. P.W. Brown. Exhibit, Summer '84... San Jose Film Festival in May will feature SciFi and Fantasy Films. Info: S.J. Film Fest., Box 758, San Jose, CA 95105... slide deadline Mar. 31st. 3rd Design International, many categories of interest to Ylem members. Traveling show; book; prizes. Info: D.I. Box 1803, Ross CA 94957... deadline Apr. 9, Animation & Drama on 1/4" Videotape, selections to be made for cable TV program, "New Images" to be aired in May. Info: Mary Tseou, Video Interconnect, Cultural Ed. Collab., 59 Temple Pl., Boston MA 02111, 617/338-3073... Apr. 14 Compufair, featuring ed. tech. for school & home. Booth space available. Info: Computer Assoc. of Indep. Schools, The Norwood School, 8821 River Road Bethesda MD 20817, 301/365-2595... Help Wanted, Richard Wanderman would like to hear from writers, artists, and other professional people with learning disabilities who have developed effective and innovative ways of dealing with their problems. He is collecting the information for research and a newsletter. Anyone who can share information may contact Richard by writing 1050 Ferry St. #100, Eugene OR 97401... Beyond the Horizon Gallery features computer art. Send slides to Elizabeth Van Deusen, dir. 5820 Elwood St., Pittsburgh, PA 15232... Captain Video will promote home video disk of your film & video works. Info: Andrew Brier, Captain Video, 901 San Pablo Ave., Albany, CA 94706, 415/528-1040... Educational Slide Shows, software sought for science teaching, scientifically accurate. Info: Dr. Charles Belinsky, Educational Images Ltd., Box 3456 West Side Sta., Elmira NY 14905... Video tapes for distribution wanted by non-profit group. UC Video, Neil Sieling, 425 Ontario St., SE, Minneapolis, MN 55414, 612/376-3333... Marin Community Video Channel 31 public access. Programming, pre-produced tapes, or tapes from producer teams living or working in Marin Co. Training available. Info: M.C.V., 61 Tamal Vista Blvd., Corte Madera, CA 94925, 415/924-7370... ARTSIG Art networking on CompuServe. Electronic mail, software exchange, art database. Packet & password sold at Radio Shack. Network is accessed by local phone #, 55/hr. Info: Radio Shack, or CompuServe 5000 Arlington Gt., Columbus OH 43220... SIGGRAPH will be held in S.F. in '85... local SIGGRAPH welcomes members. Meetings on computer hardware & software problems. $10/yr. to Brian Cabral, treas., 18158 S. Austin Rd., Manteca CA 95336. Info: 415/595-8444 or 408/732-3800... Center for Visual Arts' Slide Archive of members work is used by galleries, historians. Needs hi-tech, computer art! Info: 1515 Webster St. #425 Oakland CA 94612, 415/451-6300... Micrographics Technology wants artist-written software to sell with their graphics hardware. Info: Marie Owens, Micrographics Tech., 1820 McCarthy Blvd., Milpitas CA 95035, 408/996-8423...
Beyond the Crisis of Art

The Tangled Wing: Biological Constraints of the Human Spirit
by Melvin Konner
(Harper Colophon Books, 1983, $8.95)

"The physicist A.S. Eddington—who was, admittedly, an idealist 'in the last instance'—once contrasted the nature of the experience of colour with that of becoming. Eddington's point was that the experience of colour is wholly subjective: what he calls 'mind-spinning, or mental sensation. Colour bears no resemblance to its underlying physical cause or its 'scientific equivalent' of electro-magnetic wave-length. Thus Eddington believed that when a subject experiences colour he does so at so many removes from the world which provides the stimuli: 'we may follow the influences of the physical world up to the door of the mind,' he writes, 'then ring the doorbell and depart.' But he goes on to say that the case of the experience of becoming is very different indeed: 'We must regard,' he wrote, 'the feeling of "becoming" as (in some respects at least) a true mental insight into the physical condition which determines it. If there is any experience in which this mystery of mental recognition can be interpreted as insight rather than image-building, it should be the experience of "becoming"; because in this case the elaborate nerve mechanism does not intervene. Thus Eddington concludes, "becoming is a reality — or the nearest we can get to a description of reality. We are convinced that a dynamic character must be attributed to the external world. I do not see how the essence of "becoming" can be much different from what it appears to be."

- from Beyond the Crisis in Art by Peter Fuller, 1982.

Editor's Note: The apparent color of an object made up of those wavelengths not absorbed by the object. Thus a red object absorbs every wavelength except red, which is reflected back to our eye. Moreover, the brain has what seems a very roundabout way to infer color information.

Ylem Artist: Luz Bueno

Luz Bueno comes to computer graphics from a background in sculpture, ceramics, watercolor, pastels, and metal. She has taught computer graphics through the California College of Arts and Crafts, taught art to special education students, and has given a number of in-service classes and workshops for teachers in both public and private schools.

Bueno has written and published technical and training manuals, including the Via Video System One artist's manual. Her recently published computer art works include the Christmas cover for Computer Graphic World and the 1984 New Year's cover for California Living magazine.

Currently, Bueno is showing several of her computer paintings in an exhibit entitled FACES at the Euphrat Gallery, at DeAnza College, Cupertino, and at the Tandem Computer Corporation, Cupertino.

Bueno is teaching at the Berkeley School of Computer Graphics, offering computer graphics on Via Video System One with Ultra software and Easel for the IBM PC and other microcomputers.

Bueno will be providing hands-on demonstrations of the Via Video System One and Commodore computer graphics at the Ninth West Coast Computer Faire in San Francisco from March 22 to 25.
Perception  
April 7, 2-5:30pm,  Forum Room,  
Meyer Library, Stanford University

Kathy Wersen: "Tibetan Temple Bells"  
Alex Nicholoff: "Prism Sculpture"  
Rodger Shepard: "Perceptual Illusions, Ambiguities, and Anomalies"  
Milton Komisar: "Pulsed-Light Scupture Environments"  
"Man, the Incredible Machine" — film

co-sponsored by Ylem: Artists Using Science & Technology and Stanford Computer Arts Society  
Free! Bring friends, bring art to share.

"Spectralwave"  32" x 108" sculture by Alex Nicoloff

This sculpture is best seen in a sunny, open environment around the middle of the day. At the time, changing groups of prisms, paired precisely and mounted at the top of each curve plane, will project an expanded spectrum downwards. As the sun moves across the sky each day, the colorful patterns move obliquely from one side of the concave surface to the other. The form of the sculpture is an aesthetic integration of prism optics and the daily movements of the sun. (Photo taken at local noon June Solstice, 1983.)