Ylem (Eye-lum): 1. The primordial stuff out of which the universe emerged. 2. An emerging group of artists who believe that science and art enhance each other and human understanding.

"Bamboo Too" - 1984 Dan Cooper

VOL. 4  NO. 3  "Up in Lights"  SEPTEMBER 1984
About the Cover

Ylem: a Perspective
by Louis Brill

From its beginning as a twinkle in Trudy Reagan's eye three years ago, Ylem has firmly established itself as a support network for a unique group of artists which has much to offer both its own membership and the public in the astonishing array of images inspired by science and technology.

We have gained measures of success beyond our wildest dreams, and at present count over 130 core members, mostly from the Bay Area, with many others from across the nation and the world. Our activities include bimonthly forums, field trips to sites of scientific interest or artistic inspiration; and a newsletter with a calendar of events, exhibits, and resources. I think, however, that the single most important resource that Ylem offers is the continual interchange of ideas and opportunities between members. For those with similar interests (computer graphics, multimedia, crafts, filmmaking to name a few) or diverse, these meetings have directly born fruit (marketing opportunities, contacts, appreciation of technology in a nonthreatening environment, not to mention lasting friendships).

Demonstrating the tremendous depth of creative talent that is integral to Ylem, the members have been given exposure to the public in an outstanding collection of symposia, of which a small sample includes: "Unusual Media" (January '82) - from sand to satellites; "Space Consciousness (July '82) - representations of our galactic environment; "The Light Fantastic" (Sept '83) - lasers and holography; and "Mathematics and Art" (June '84) - computer graphics to weavings.

Since its inception in 1981, Ylem has produced over twenty newsletters, eighteen forums, and assisted in the planning of three conferences, including Cadre '83; a high-tech fiber conference at Fiberworks, and the upcoming SIGGRAPH '85.

Having just received California non-profit status, Ylem has become eligible for grants and other funding sources, providing new opportunities for its artists, and expanding the range of its newsletter.

But the strength of Ylem rests upon the individual member's (that's YOU, folks) participation: to come to its bimonthly meetings; to arrange presentations; to contribute to the newsletter; to help with fundraising and other projects; to sponsor new ideas for programs, field trips, etc.; and to enroll new members. This expands the network of artistic opportunities and events which inform the public about new media and high-tech art. Two examples: Bill Henderson, former aerospace engineer who was head of lunar base planning for NASA, has since traded his technological expertise for the canvas, and now his paintings express the beauty of geometric formations. Like most members, attending the group's meetings gave him a chance to learn about the artistic expression of technology. A seminar on tessellations (interlocking designs) inspired him to design his own interactive computer program on the same subject. Another member, Eleanor Kent, who has experimented extensively with color Xerography, used the group to gather information on getting started in computer graphics, combining these technologies into a series of visual delights. She has since organized the first computer-related art show in Mexico.

Ylem has an eye to the future and is developing a long-range plan that includes a loan library for corporate members; a video project to document members' works; and expansion of its network capabilities nationally and internationally, making the creative experience available to its widest possible audience.

But the key to our continued success is your active participation.

This newsletter is published bi-monthly and distributed to members of Ylem. Membership application is on page 7.

Ylem Newsletter
Trudy Myrh Reagen, director
Mark Burstein, editor
David Healy, art director

Ylem Officers
Trudy Myrh Reagen, president
Robin Sanelson, membership
Deanne Delbridge, programs
Shoshanah Dubiner, field trips

Contributions are most welcome. Drawings, graphic pieces, photos; with explanation; submissions to "Opportunities," "Random Access," or "Calendar"; short book reviews or articles are sought.
We arrived at Stanford, still under the influence of the Olympic spirit and narrowly missing its traffic (from the soccer games). Once inside Tressider Union, we were welcomed to the depths and introduced to the program by Trudy.

"Light, Form, and Space" was the topic of Anna Valentina Murch, a London-born "environmental conceptual artist" who creates "interior landscapes" - pieces which are installed in large buildings, and can be observed changing over time. She showed slides of some of these: images projected on fabric; a "sea of holes"; runways of sand and lights; shafts of light "cracking space in half". Her interest in geology and geologic time scales revealed itself in the natural materials she worked with: sand, salt, coal, mirrors, slate, shattered glass. These pieces were designed to change radically during the day as "light shadows" moved over them, and she documented this with photographs. Some of her more conceptual pieces included observing glass bubbles in the tide; mimicking the flow of magma; and the sounds of burning rain. On the more elaborate artworks, sounds generated by the materials themselves were synthesized and played back to the pieces, as we ourselves became part of the loop. In all, a unique and inspiring vision.

Clyde Spencer then talked on the Origins of Life, or five billion years in 60 minutes. While somewhat resembling a lecture on evolution, the intent was not just didactic, although there were some fascinating pictures of the nodes and false branches on the tree of evolution (cases of reverse evolution; giant predatory birds; half reptiles/half birds or mammals). Attention was constantly drawn to the work of "scientific artists": paleologic reconstruction, and visualising and painting these surreal creatures of ancient nightmare worlds. Clyde also demonstrated his Galactic Travel game (from Cenozoic Software) which takes the brightest stars within 4000 light years and allows you to roam, showing how the stars look from different angles.

That talk was paralleled by the exhibits in the lobby at intermission, including Judith Wasserman's prints of new constellations, and Don Davis's space art.

The next presentation was such a mind-bending panoply of cosmic imagery that it is difficult to put into words. Geoffrey Chandler is an artist of astonishing talent, whose "space art" has graced Omni nine times, as well as innumerable prints, record covers, and so on. He first showed us his "spacescapes" - novae, comets, nebulae, views from imaginary planets, luminous plumes of starstuff, wisps of galactic matter, black holes. He portrays the "romance of space" and there was the feeling of being present shortly after the Creation. That event itself was sublimely realized in his second tray "Portraits of the Infinite" which showed us the results of a prolific stage in his career which grew out of the first. "I wished to paint the concept of light and time (a cosmic abstraction of an image portraying infinity). Symmetry was the seed and color the catalyst... As with quasars, quarks, and gravity waves, it can be seen as esoteric revelations or spiritual manifestations..."

For the final lecture, "Relativity and Reality", John Greenhill attempted 70 years of theoretical physics in 40 minutes. He is a nuclear safety engineer and was part of Britain's "brain drain". He explained how physics, like art, attempts to model reality: that formulae (like Maxwell's equation) are pictures, and a bridge between the inner and outer worlds. He covered Napoleon's cannons; Newton's relativity; the ultraviolet catastrophe; why things get weird around the speed of light; where time stops; why there are rainbows on your records; Bell's theorem: why logic, reality, and locality are incompatible; paradox, paradigm, hidden variables, and half-dead cats. The information was as turbulent and densely packed as a neutron star, but was in the main comprehensible.

After splashdown, we went our separate ways (save those who stayed for dinner).
A representative selection of the work of some Ylem artists:

Mike Marshall is a software artist, whose Target was generated on a DataGeneral “Eclipse” using his own “Art Demo” software. It was shown at SIGGRAPH 83.

Eleanor Kent produced Zebra Eggs by laying eggs on the glass of a color Xerox machine, holding a mirror over them, and running the resulting image through Prof Production’s Vidon Colorizer.

Larry Shew’s Kandinsky was done on an Apple II with a Kofa pad using “Illustrator” software.

Frank Dietrich produced Softy on a Vax 750 using his own Pascal software. The image is basically an interpolation of two sine wave sweeps and two target lines.

The images on this page are individually copyrighted by the respective artists.
Wednesday nights, Sept. 12 - Oct. 24, 7-9:30 pm
Getting Down to Business - a workshop for the independent producer sponsored by Bay Area Video Coalition and Film Arts Fdn., 346 9th St., S.F. Non-memb. $35 per session, $210, entire series, which covers subjects like grant proposals and budgeting and production management. Checks to "BAVC, 1111 17th St., S.F. 94107, Info., 415/861-3282 or 552-8760.

Sept. 21, 5-8 Sept. 22-23 7-9 pm
Studio Exhibit by Dan Cooper of computer-generated serigraphs, 1 Onyx Ave., Larkspur, CA. Info., 415/924-0850.

New and Unusual Instruments, new instruments in percussion and string with Jonathan Glasie, The Exploratorium, 3601 Lyon St., S.F. www.exploratorium.edu

Sept. 25, 9-11 pm (Reaj. by Sept. 25)
Ylem How to Party, Hands-On Intro to Computer Graphics using micros and Koa Pads at DeAnza College, 21250 Stevens Creek Blvd., Off Hwy. 85 & 880, Cupertino. Make reservations by Sept. 25, because to offer this at cost we need at least 10 people at $20 to meet college's fee. With 15 people, we can play an extra hour. 40 computers available, so let's go! Bring bag lunch for picnic afterwards. Resv. and info., Lillian Quirke, 20251 Reinell, Cupertino, CA 95014, or call her early (6:30-8 am) or late (9 pm-midnight) 408/446-4310.

New and Unusual Instruments, new instruments in percussion and string with Jonathan Glasie, The Exploratorium, 3601 Lyon St., S.F. www.exploratorium.edu

Sept. 29, 8-10 pm
"Pissaro", a celebration of dance and art by the Valerie Huston Dance Theatre, Morris Astley Aud., San Jose State U. (Tickets at Box Office.)

Oct. 2, 7-10 pm
Inspirations and Influences in contemporary architecture and design, AIA lecture, S.F. Museum of Modern Art, Van Ness at McAllister, S.F. (2nd in a 4-lecture series) Info., 415/362-7397.

Oct. 5-13
Lecture Oct. 5, 7 pm, reception follows
"Hi-Tech Textiles", lecture, Fiberworks, 1940 Bonita, Berkeley. Some computer assisted works.

Oct. 8, 8:45-10:30 pm
Ylem Field Trip, SFGA Collection of Contemporary Art (morning) and Stanford Linear Accelerator Center (afternoon). Bring bag lunch. Meet at SFGA Food Adm., Ctr., S F Foods Adm., Ctr., 1 S F Ave., at 9:45 am, and SLAC parking lot just inside gate to right, 2575 Sand Hill Rd. Menlo Park at 1 pm. These are across the street from each other, near 1-280. $3. Info. and RSVP, Shoshana Dubiner, 1447 Cabrillo, S.F. 94118. 415/221-3359.

Oct. 7-14

Oct. 13, 11 am
Ylem Business Meeting, Student Union, SF State (directions on back cover).

Oct. 13, 2-5:30 pm
Ylem Forum, "Up in Lights" Ed. rm. 117, SF State, 1650 Holloway, (see back cover for directions) Bring friends & art to share.

Until Oct. 14, Wed.-Sun., 1-4

Oct. 16, 7-8 pm
Inspirations and Influences in contemporary architecture and design, see Sept. 18.

Oct. 19 (eve.) 20
Microcomputers and Higher Education Conference - How colleges are using microcomputers with their curricula. $40 plus meals. Registrat., Carl Grame, DeAnza College, 21250 Stevens Creek Blvd., Cupertino, CA 95014, lunch on Sat 18th will feature Dr. David "Mr. Koala" Thornburg. Info., Lillian Quirke, 20251 Reinell, Cupertino, CA 95014, or call her early (6:30-8 am) or late (9 pm-midnight) 408/446-4310.

Oct. 20, 7-9 pm
Open Studio & Dialog about Ylem. 4611 Church St., S.F. Bring your ideas, share wine & cheese and see works in progress by light sculptor Marsha Nygaard. Phone 415/291-8322 for directions.

Oct. 20 & 30

Oct. 20, 11 am
Open Studios & Dialog about Ylem. 26665 St. Francis Dr., Los Altos Hills. A chance for those in the South Bay to contribute ideas to Ylem, and enjoy Annalee Nunis' paintings and art-teaching software, wine & cheese. Phone: 415/494-0565 for directions.

Oct. 1-9

Oct. 17-24
nexa Science and Humanities courses, SF State. Of particular interest Fall semester: Myth & Scientific Thought; The Two Crazies: The Mad Scientist & The Mad Artist; The Visual World of Science and Art.

Deadline Sept. 20
CHI '85 - The ACM Conference on Computer-Human Interfaces (CHI) has issued a call for papers. Send 5 copies to Bill Curtis, MCC, Echelon Bldg. #1, 9430 Research Blvd., Austin, TX 78759, 512/341-0860. Also Panels, Videotapes, Demonstrations deadline 10/26 to other addresses. Info: ACM CHI '85 Conference Co-ord., 11 W 42nd St. NY 10036 212/869-7460.

Deadline Oct. 24
Computer Graphics artwork in the form of posters, mounted or framed materials, slides, art discs, video pieces, that are non sales oriented. Works must be prepared for display with short description of work. Artists pay shipping costs. Pacific NW Computer Graphics Conf. Info.: Nancy Rottet (see calendar, Oct 29 for address).

Deadline Oct. 19
Teaching Problem-Solving Skills in Logo, UCSF Extension - offered in San Jose, Thurs. and Sat. mornings. Location in San Jose to be announced. $235, credit will cover both "turtle" computer graphics and the tasks of LOGO similar to LISP, (artificial intelligence language) Info: UC Extension, Carriage House, Santa Cruz, CA 95064, 408/429-2311.

Computer Graphics Weekend Workshops Fall '84 CG in the Design Studio, CG for print, Media, Send 5 Transition to CG, Interactive Videodisc and Video Techniques, etc. Pratt Center, 9 Skyline Drive, Hawthorne, NY 10532.

Berkeley School for Computer Graphics, Fall Classes. PO Box 9585, Berkeley, CA 94709, 415/524-1668.

Illustrators Wanted by Antic magazine for Atari users. Published in S.F., Info.: Gary Yost, 956-0886.

Slant Registry, CVA (Center for Visual Arts), Oakland. Placesart artist's work in its slide registry for annual $30 membership fee. Now for $150 per year, the slides will also be at the Resource Library at Showplace Square, San Francisco where they will be shown by designers that come from entire U.S. Linkup with computers in design centers throughout the country is planned. Info: CVA, 1515 Webster #425, Oakland, CA 94602, 415/451-6100.

Anyone interested in discussing a group purchase of professional quality computer graphics equipment, call Ylem member Mike Marshall, 415/857-0795.
A few periodicals our members should enjoy:

**Brain/Mind Bulletin** is a fascinating newsletter produced every three weeks out of Los Angeles. Concerned with the "frontiers of research, theory, and practice", this well-illustrated (b&w) periodical keeps us informed of some of the latest scientific studies and discoveries in the area of consciousness, medicine, computers, and so forth. The issues I happen to have here deal with: melanin as a key organizing molecule in creativity, memory, and emotions; and the new mathematical models of chaos "dynamics" which have great implications in social, medical, and neuro-scientific. Single complimentary copies are available by request (send a stamped, self-addressed business-size envelope), or subscriptions are available at $25/year from Interface Press, Box 42211, Los Angeles, CA 90042.

The work of the Exploratorium, that bastion of fun and technology, needs no introduction here, but what may be less known are their fine publications. The gorgeous, informative **The Exploratorium** magazine is an award-winning glossy which appears quarterly, and the **What's Going On** newsletter and calendar of events. These and other benefits (discount at stores and events, free admission always) are yours for a membership contribution (minimum $30). Information: The Exploratorium, 3601 Lyon St., San Francisco 94123. Phone: 415/563-7337.

**Lightworks** "A Journal of Images, Ideas, and Information" is devoted to the "pan-arts" - avant-garde media, video & c.g., innovative, and very up-to-date. Subscriptions are $15/yr. Info: Lightworks Magazine, P.O. Box 1202, Birmingham, MI 48012/1202.

**Hardcopy Revolution** "One of the most tenacious obstacles to widespread acceptance of color imagery, especially utilitarian information generated by computers, is the difficulty in getting cheap, quick, reliable hard copy. Linked to this is the cost and/or poor quality of available color reprographic techniques," writes writer David Henry Goodstein in U&lc magazine, 8/84. He talks about two products which offer solutions.

One is Mead Corporation's new micro-encapsulated paper coating, giving instant half-tone or contone color copy at high resolution and a fraction of the cost. The other is Image Resource's new 35mm digital film recorder, PC-compatible, able to produce 35 color slides per minute priced at 1/30th the cost of comparable Geographics equipment.

Image Resources (partly owned by Polaroid) has introduced a 35mm high-quality digital film recorder. The system features 4096 element bi-directional addressability and IBM PC interfacing. It has built-in anti-alasing and image enhancement software which yield output reputed to be as good as any ever produced on $300,000 Diecorr or Genographics output recorders, all for $9,850. Throughout of 30 full-colors per minute makes it appear to be a tremendously cost-effective device. Hooked to some of the hot new IBM PC software for creation of business graphics images and typographic programs, it could put a lot of small typesetting shops into the Information Repackaging business we've been touting for some years.

**It's Done with Holograms**

The September 1984 issue of High Technology contains an intriguing report (p.8) on a "holographic window" that could broaden the spectrum of artists now working with holographic technology. Artists have traditionally used holography as an image-forming and recording medium akin to photography. This may soon change.

With help from Polaroid, a company called Photos has developed a holographic coating for windows that would redirect up to 90 percent of incoming sunlight onto fixed locations deep within a building. Different regions of the hologram diffract rays coming in at different angles so that the focus of a rainbow "spotlight" remains steady regardless of the sun's position in the sky. (Sunlight must strike the window directly however, and it would not work on overcast days.)

Developed under a Department of Energy contract, the hologram's intended purpose is to reduce a building's electrical lighting and air-conditioning requirements. Ylem members, though, might consider its light-directing properties for sculptures or installations where natural light at fixed angles could be useful for purely esthetic reasons. Daytime dance and theater productions offer other possibilities for creative applications.

The hologram has so far been demonstrated in architectural models with windows only two inches square, but costs are projected to be just $3-56 per square foot for real buildings. Aspiring "environ-light" artists might find it worthwhile to contact Photos (Westford, Mass.) for more details.

by Jon Alexandr

**All Ears** Review: "All Ears: a sound investment" (Civic Arts Gallery, Walnut Creek, 6/13/84).

The exhibit, running through August 12, is a look at sound and art, comprising both an exhibition and several performance pieces. The exhibition included a display of musical (continued on page 7)

Ylem's lively "smorgasbord" style is evident in these recent activities:

Trudy has been working on the features of this year's mailing list which will make it possible for members to locate other members in their own area, that is, areas of expertise as well as where they live. It is hoped that this will make it much easier to invite colleagues over to investigate a common interest. In years past, polyhedral puzzle parties and a Godel, Escher, Bach reading group flourished in the Palo Alto area. Similarly, copy machine artists and computer artists have gathered at Eleanor Kent's in San Francisco.

Meanwhile, at SIGGRAPH '84 in Minneapolis in July, Ylem members Scott Kim and Frank Dietrich were leading tutorials. Pacific Data Images was giving a big party for the conventioners. Other members were attending and showing work. No sooner had they returned than one of the organizers of next year's convention confered with Ylem's president because SIGGRAPH '85 is to be held in San Francisco! Ylem plans to be involved in exhibiting computer art there, and perhaps is its hospitality events. The conference will attract between 20,000 and 30,000 computer graphics specialists.

This, and the creation of another exhibit opportunity that would feature other media in which Ylem artists excel were the subjects for a discussion held at the studio of Jerome Kirk in August. People who attended had solid suggestions and some good gallery contacts. The ideas for exhibit proposals will be discussed again at Marsha Nygaard's (see calendar). Annalee Nunn will hold another gathering at her studio in Los Altos Hills.

Since the board has determined that Ylem needs in infusion of $2400 a year to pay the full cost of typesetting the newsletter, and, it is hoped, to pay its editor and art director modest sums for their time, it was decided to interested companies in joining as corporate members. One of the interests of corporate membership that was decided upon was that Ylem could be helpful finding artists willing to show works in their lobbies and to assist in arranging these shows. This is yet another exhibit possibility for member artists.

Meanwhile, the mail brought documents showing state tax-exempt status, and the forms for the federal non-profit status were being filled out. After this is granted, memberships, including corporate memberships, and other donations will be deductible.

just for friendship's sake, ten of the members gathered for a picnic at Twin Pines Park in late August where painter Ruth Silsies showed them through the (continued on page 7)
Ylem member Ruth Asawa
Lanier writes:

In February of 1983 Pat Carlisle of the firm Royston, Hanamot, Alley and Abey asked me to do a project with school children from the Tenderloin. The children that attend Redding School, the principal Darlene Lau and three teachers, Jean Caine, Sandra Gulli and Laurette Lau responded to the proposal, which will result in a permanent installation at Central City Park "Father Boeddeker Park", Eddy and Jones Streets, in San Francisco.

One hundred children participated. They worked on a 4' x 16' panel at Redding School. Artists Nancy Thompson, Aiko Cuneo, Lynne Sonenberg, Mae Lee, Cindy Lundy and I worked with the children, principal, teachers and aides. The material used was baker's clay.

Lafayette Manufacturing in Hayward will cast it in glass fiber reinforced concrete (G.F.R.C.), a strong but light-weight material.

A field trip to Lafayette Manufacturing was arranged. Forty-five students and 8 adults went to see their panels being prepared for mold-making.

Completion date is scheduled between November 1984 and spring 1985.

Ylem Notes (continued from page 6)

One of the most requested items in Ylem’s repertoire, actual hands-on experience with a free-hand computer drawing system will be available for artists on Saturday the 29th of September (See calendar).

The next field trip planned will interest both art lovers and those with a scientific bent. On the morning of October 6, at Ylem will visit the outstanding contemporary art collection in Palo Alto, and then spend the afternoon in the Stanford Linear Accelerator Center (See calendar).

Ylem is known for its forums and newsletters, but the full menu consists of wide range of activities for exhibiting, making friends, and finding new comestibles for thought.

The December forum subject will be "Kinetic Motion," and cover both movement in art and nature. 20 minute light shows, computer graphic animation and experimental video by artists, and demonstrations and movies of scientific phenomena are sought. Contact: Louis Brill, 415/ 664-0694.

Random Access (continued from page 6)

Since Beverly has a degree in museum and gallery management she also does some consulting work. Presently she is doing some curatorial work for fellow Ylem member Fred Stitt of Guidelines. Fred has started a yearly conference on the Future of Architecture. This includes art forms which may be a part of "cutting edge" architecture, art forms that could be called "techno-romantic." This year’s conference is in Anaheim in June and Beverly plans to organize a group of shows in conjunction with it. These shows will feature art with elements of high-tech: computers, lasers, holograms, etc. If Ylem members have shows scheduled in that (L.A.-Orange County) area Beverly hopes they will contact her so that news of their show can be included in some way with the program.

contact: Beverly Reiser
6979 Exeter Dr., Oakland, CA 94611

Ylem Membership Application

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

NAME

ADDRESS

CITY

STATE

ZIP

PHONE

□ to receive a sample issue
□ $15 Individual membership (1 year)
□ $100 minimum Corporate/Institutional membership (1 year)
□ $10 newsletter only. If you live more than 100 miles from San Francisco or Palo Alto.
"Up in Lights"

October 13, 2-5:30 pm. Rm. 117, Education Bldg., San Francisco State Univ.

Ylem Showcase, a slide and sound show of images by Ylem Artists
- curated by Janaya Donaldson and Shelly Rae
Neon neon artists Beverly Reiser and Kennan Herrick
The Artist and the Computer Paint System: artist Luz Bueno and
Harry Vertelney of ViaVideo
Light & Music Images: light artist H.J. Romano and composer John Ivens
Co-sponsored by Ylem and the SFSU Art Department
Free - bring friends, bring art to share.

Directions: Take Hwy. 1 (19th Ave.) to 1600 Holloway, find campus map display to locate Education Bldg.; or take Muni Metro M car from downtown.

Since people are apt to think in terms of "art" or "science", they may find Ylem's emphasis a bit odd. Yet, there is much engineering skill involved in many artistic processes, much factual observation in representational art, much math and computing in the creation of pattern. Conversely, among scientists and mathematicians, there is no verbal, even visionary thinking involved in problem solving and theoretical development.

Artists, like scientists, are driven to explore what has never before been sensed, known, or conceptualized. These ideas don't stay in the studio or science lab. Every thinking person feels a need to know where he or she fits in the order of things. The sum of this process, which now includes computing, art and science, is an important aspect of what we call civilization.

Ylem's reason for being is to help this process along. There is a restless curiosity about these connections in the world at large, like static electricity in the atmosphere looking for a spot to strike. Judging from the number and variety of inquiries Ylem gets for exhibits, access to equipment, names of specialized artists and researchers, the group has become a lightning rod for this free-floating public interest. It is gratifying to feel that it is performing a public service by its work.