MY SUMMER AT COMPUTERCAMP:
COMPLEAT CATALOGUE DeRAISONNE
By Peter Thompson

INTRODUCTION

This catalogue is a thesis written after 14 weeks in what was then (1985) a state-of-the-art computer environment in Toronto. I, like most, tend to universalize my subjective experience; this tendency is exacerbated by the self-mirroring qualities of computers. I emphasize that the experiences embodied in this catalogue are both historically situated and are *subjective* thrashings which say more about me as an individual in 1985 (and perhaps about me as a generic example of "right-brained artist-type") than they say objectively about a computer graphics environment. They also say a lot about the the anti-intuitive graphics interfaces we all suffered with back in the '80's. The pictures painted in this catalogue are work-ups from *experiential snapshots.* The snapshots are framed from a second point of view besides the subjective: my knowledge of the students at a specific inner-city open-admissions college in Chicago, and a contemplation of the attitude upon which a relationship between those students and the study of computer graphics might be based.

This catalogue has no beginning or end; it can be started anywhere. The alphabetical structure is for convenience, only. The close of each entry, the *referral*, is the structure for progression and meaning. The catalogue form evolved into a tool for the contemplation of mutually referring problems with few neat solutions.

ABRASION

7/21/85. Chicago, on R & R. The whoosh of a police car moving past the bedroom window towards the lakefront. 6:20am. Then a second whoosh.

--Are we QUITE sure we know where we're going? booms the following car by loudspeaker. Doorbell. It's Jose who wants to wash my car --'cept its only got 2 tires.

--How many?

He holds up two fingers. I run outside barefoot. And there it is, on its front rotors in the glass with only the body shape of the '72 Chrysler saving the pried rear tires. Bolts, hubcaps strewn on ground by the abandoned building. Two two cars in front, also

tireless. A clean sweep. A man beckons from across the street at the 2nd floor window.
--Jose, I think we're going to find out about the tires.

We enter the building and the apartment of a Phillipino man in an undershirt on a rataan chair.
--Last night eight black guys do that to your car. They all the friends of the guy who live in the basement of building. All drunk, you know. Bad boys, you know. I call police but they no come.

Later I run into the teenage daughter of my Greek landlord who has returned from Housing Court.
--It's the seventh time they've let him off!
--Who? I ask.
--The guy who owns the building by your car. We had him this time but the judge just asked him if he'd fixed the violations and he said yes and we said that's not true and what about the drug dealer in the basement. That's the Janitor he said. And we said but the building is *abandoned* there's nothing to *janitor*. The judge told us to be quiet and gave a little speech on Justice and let him off.

Necessary abrasion. The abrasion most of my students live with. One important avenue to *content* in art. A resource not acknowledged, let alone mined, within the Sheridan computer graphics environment.

See **Prinzhorn Collection, R & R, Validation, Wounds.**

BALANCE

According to Heidegger, *die Wage*, in Middle German, was the balancing device for measuring quantities. The word has fallen out of use in German and has migrated to English. It shows up in the word "wager"--a situation where one extends oneself into an environment at some risk, but hoping to gain. The act of balancing is an act of being at risk between two poles and in continual response to them. It is easy to go to one or other pole, but hard to stay in balance. (Concerning the necessity of both poles, a quote from a Parkinsonian patient: "There's a famous essay entitled 'Gravity and Grace'. One could write such an essay from the vantage-point *we* have. You cannot be graceful if you're too heavy and inert. You cannot be graceful if you're too light and flighty. You need the *right* amount of gravity in order to have grace." [AWAKENINGS, page 290--see **Bibliography**]).

By extension, it is difficult but *necessary* to occupy the position of balanced left and right brain functioning when teaching. Given, for example, a Columbia College student body of right-brain functioning individuals who are street-smart but educationally disadvantaged, it would be dangerous to teach computer graphics as it has been taught this summer: as *machines* taught to *operators*. The danger in this approach lies in its tacit denial of the complete human being. It can occasion the *regressive coping behaviors* I have experienced this summer, and which are embodied in this catalogue.

See **Coping Behavior, Hablewitz Benchmark, Orange Grove Paradox, Queening/Kinging, Validation.**

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COCKROACHES

Their presence in the Oakville apartment feels like home. I trapped one inside a glass and shimmied it when I washed dishes. He ran around in circles inside that glass for a week. Punishment. Later, I realized that I visited upon him my own sense of being in a computer belljar, an environment within which I ran in circles and armed myself with psychic defenses.

See **Abrasion, Dreams, Psyche, Self-Portrait.**

COMMUNAL LEARNING

Andre Vaudrain is a fellow student whose mind is mated to the Images II computer. He loves it and loves to explain it. I love it but need it explained. He knows it well because it is similar to the Artronics system upon which he makes his living. Questions help him articulate what he already knows. He ends up knowing everything better. I end up knowing it at all. We thank each other after every session. Mutual teaching through *pairing*.

The student body at Columbia College is over 40% black and Hispanic. In the both communities the vital arts are those which have a *communal base :* mural painting, gospel and rock music, dancing. An open admissions college with such a constituency would be wise to stress the communal in its teaching. The lack of such a base is a major reason why there are so few black and Hispanic fine and commercial artists and why so few do well in the fine and commercial arts as students. The problem is how to provide access: communal learning is an avenue to be explored--especially when designing the curriculum for graphics
computers which tend to be single-user machines as they gain in sophistication. Computers like the Macintosh or Commodore Amiga. A file server would also allow for communal messages and the spirit of dipping into a communal well.

See **Balance.**

CONTEXT

7/16/85. Show-tell of work by students. The work is presented in silence or computer techniques are referred to. Mr. King, the head of the Sheridan computer graphics program, enters, interrupts Brian Robinson's presentation and announces that he will be giving presentations to international computer conferences and wants slides to show. Anyone who wants to, give him slides and he'll choose what he wants to show.

The unstated criterion for selection: how the *techniques of the computers* are displayed to best advantage. Advantage to whom, I ask myself--and remember times when I have made similar invitations. Each started with the person. I interviewed the artist about her concerns and how those concerns were translated into the forms and

techniques evidenced in the work. The work was always presented *with* this context. *Always.* Without the foundation of openness towards the human maker, and then building upon that foundation with specific knowledge of the person and of the work, the solicitation and showing of student work, while outwardly to their benefit, is a form of exploitation. This attitude must be avoided in teaching, and especially in the teaching of machine-intensive technologies which tend to place the human being in a secondary role, anyway.

See **Creativity with Technology, Validation.**

COPING BEHAVIOR

There are two kinds: progressive and regressive. Progressive coping occurs when the new environment is understood and integrated. Regressive coping occurs when the new environment is experienced as hostile. In such circumstances, a retreat is hastily beaten to old patterns of thought and behavior.

My experience this summer has been a combination of both, with marked emphasis on the regressive.

See **Balance, Orange Grove Paradox, Summation, Validation.**

CREATIVITY WITH TECHNOLOGY

Creative activity occurs in response to specific contexts. I wilI speak here from the context of my *personal experience* as an artist. At the same time, I want to place that personal experience within the larger history of imaging technologies. The specific technological wave I speak of has broken, and receeded, and can now be reflected upon with some clarity. The specific incident is this:

The first West Coast workshop in the creative uses of electrostatic machines was organized in 1975. It was supported by the head of a major corporation who, by personal order, had a roomful of copiers and facsimile machines delivered to the site. The imaging supplies never showed up. At the end of the two weeks, the workshop had evolved to this: one group of artists operated in the midst of the unplugged technology by verbally speculating on its uses. The other group gradually slipped away from the speculations and returned to their techniques of choice: mainly photography and printmaking. Then, on the next to last day, the supplies arrived. Both groups reconvened and work began. By that afternoon all but one of the electrostatic machines had broken down.

There are three issues couched within this story which I want to address. **The first issue is access to technology.** The free access to the machines was arranged through the good offices of the workshop leader who had successfully cultivated the business executive over the course of several years. Why was the executive willing to donate his technical goods? Because he hoped that the artists might come up with creative uses of his technology profitable to his business. At least that is what the workshop leader said.

And it could have been true, but that is the great exception. *The rule* is exemplified by the actual reason the supplies didn't arive on time: the executive's request for supplies were held up by middle-level managers who balked at sending free supplies for the purpose of the potential creative interlock between artists and technology. The supplies were finally sent in order to receive a tax write-off and to avoid possible bad publicity.

That is the rule. If you want access to state-of-the-art technology for non-commercial purposes, you must be connected to a university, be well-off, or have highly-developed diplomatic skills. State-of-the-art technology costs money to make and to make available. Technologists design it for and want its access limited to paying commerical customers. When C. Peter McCulloch, Chairman of the Board and Chief Executive Officer of the Xerox Corporation, states in his preface to ELECTROWORKS, that "Technology and art need not be strangers, nor at odds with one
another", he does not mean that technolo*gists* and art*ists* need not be strangers--rather, he means that technology *makes* the new imaging and sound options which artists *use*--and that relationship is mediated by money. That relationship is generally minimal, because the production of works in the arts and humanities is a cottage industry with pocket money only. Artists, it must be admitted, are also prone to insensitivity to the demands on business. We are quite capable of repeatedly returning a work to be redone, insisting on paying only for the final work, and then further insisting that the rejects be returned to us free. The commercial world has been burned by artists and now wants currency in exchange for access. What can pass for access-currency is sometimes negotiable. When the Xerox 6500 Color Copier first came out, a colleague of mine wanted to have a book produced on it. The cost of the book was many times more than she could pay. She slept with the salesman and he produced the book, free. In multiple. In general, a creative tool for a non-commercial artist is that technology which industry no longer needs and has discarded; if industry *does* need it, the artist must be prepared to go the distance.

The second issue of my story is the inability of the <u>technology</u> to go the distance. The electrostatic machines broke down after a half day's work. The more sophisticated the artistic technology, the better you get to know your serviceman. And the more it costs. Maintainance agreements are an absolute *must*--but maintainance agreements can cost more than the technology itself. And when you personally run out of money or when your administrative dean strongly suggests that you look for a different creative tool, you have two options: look for that different creative tool (meaning one that is less technologically sophisticated), or find ways to use it in its broken state. My experience leads me by choice to technologies which function in their broken states--not only to avoid downtime but because broken tools can subvert the often limited purposes for which the tools were designed. *In general,* the early versions of technological products are the most dependable and seem to offer the most slippage, the most opportunity for direct creative intervention.

The third issue in the story concerns the two groups at the workshop: the speculating group was predominately male, and group which returned to hands-on

work was predominately female. I've seen that happen repeatedly and have asked myself why this should be. I think the answer has something to do with the technology: as its sophistication
increases it tends to demand that the user withdraw from relationship with the world and give primary loyalty to the needs of the technology itself. *In general,* women *don't* find this a creatively congenial environment, and men *do.* This issue of the disparity of the sexes, races, and economic classes in regards to technology is a reality-- and one easy to overlook. After talking to Robin King, I will venture that the unstated title of the 14 week seminar is "The Humanities and Creativity with Technology." The topic could be restated with perhaps greater psychological and experiential accuracy as: ***whose*** humanity and ***whose*** creativity are served by ***which*** technologies? When stated in this way, Technology looses its capital "T", and can be seen as an optimal action to be taken with a tool on behalf of one's self in relation to the lives of other people.

What is central to creativity with technology is ***not*** the use of the information systems which the Sheridan Computer Lab has in abundance, but, rather, the premise that each person has a story to tell, and that the action of telling increases both self and community awareness. Rapid-feedback information systems greatly increase the kinds of action with which a person must deal, and it's at this point that we experience two dangers: mistaking the "actions" of the machines for our own, and limiting our actions to a prolific-but-sterile exploration of the methodology of information systems. It is important that we take on the difficult responsibility of bringing our actual concerns into relationship with this increased feedback. And that is done *away* from the technology; that is done by reflecting on the meaning of what has been created, and on the meaning of what it was we wanted to tell. The spector of the media junkie--addicted to the technology and detached from what it was he or she wished to say--can become an embodied reality in any of us who deal in rapid-feedback information systems. When that happens, the technology has *closed down* human and creative possibilities rather than enhanced them.

See **Context, Hysteric/Obsessive, So What?, Validation.**

DREAMS

One dream, a reaction to the learning environment, formed the basis of much of my creative work on the Images II system. I chose to base my work on the content of the dream because it was a *real* issue, one that came out of the *abrasion* between the system and myself. It would be smart for a teacher of computer graphics to build upon such a felt meta-issue. (See **Self-Portrait**).

Of the dreams I have notated during the process of learning computer graphics, the following characterize my experience of computers in this specific environment as mirrored back to me by my psyche:

6/17/85. Fragments relating to unsolveable computer problems. (Note: insomnia started around this date).

6/20/85. Overcast, cold and abandoned area with water swirling. On the inside of a power cage, hanging from the grill, a tiny baby who has climbed up on the grill to take refuge from the waters. I approach the power cage and pull the baby off. It is a runaway baby, convulsing with cold, and malnourished to the point where its skin hanging slack in folds. I wrap it in a blanket and say "I will adopt you". (Note: in dreams a child is often an image of the self-- the felt principle of our subjective unity. In this environment, my self is dying of cold and hunger. It runs away and seeks a power source. See the accompanying drawing I did of the child on the night of the dream).

6/24/85. I select some African music at a bazaar and want to hear it played. It plays on a record player made of water. Each time I reach down to put the record on, the water lowers and disappears. (Note: the dream presents an image of the frustration of Tantalus).

7/2/85. Floating submerged supplies down a river in Vietnam. The supplies float 6 inches under the surface in order to be camouflaged from the eyes of an ever-present but unseen enemy. I walk on top of the valuables and herd them. (Note: the dream presents an image of defense against a potentially lethal environment).

7/14/85. Unsuccessful tries to get the AVL Starburst computer to make the Tree of Life. (Note: the Tree of Life is an archetypal image of a unitive relationship between the Earth, from which the Tree receives its nourishment, and the Cosmos, which it touches).

7/17/85. Unsuccessful tries to save a picture in the Primordial Clay Source Buffer. (Note: I had just read an article in the SCIENTIFIC AMERICAN which posited that the source of life was clay rather than water).

7/23/85. Below a multiple but totally empty freeway network: a small area of original woods somehow left growing after all the freeway construction. I contemplate the trees. I fear that saying anything about the woods will hasten its destruction from an environment which does not value it.(Note: the isolated untouched landscape, an image of the self, is similar to the image of the child in the dream of 6/20).

See drawing next page, **Abrasion, Psyche, Self-Portrait.**

EFFECTS

The world of computer graphics seems contained within 5-second to one-minute segments on demo tapes. Demo tapes are assortments of "effects"--bits and pieces illustrating computer technique. Research and development. Too soon to speak about "art" or to expect it. The desire for it--that is, a desire for the deepening of meaning and context--never goes away and erupts when it is too long ignored. Witness Siggie's outburst "so what?--it's nothing but effects!--what does it all mean?" at the end of a quest lecture . In teaching entry-level computer graphics, students must be encouraged

to chew off a project which they can actually finish and present as an entity, not an effect on a demo tape.

See **Power, Validation.**

EMBODIMENT

I am aware of an increasingly strong pull away from physical activity, something second nature to me. I've heard it said that Orthodox Judaism makes it mandatory for men to marry. It further mandates the frequency of their sexual lives: laborers once a week (because they are already physically active), and scholars once a day--this, in order to ground the scholars' mental activities in mutuality and flesh. The issue of embodiment, of balancing the headiness of the computer environment, needs to be addressed in the teaching and practice of computer graphics.

See **Hysteric/Obsessive, Rosebush Syndrome.**

EPIPHANY

Greek. Literally, "to show forth". Word used to describe those rare experiences where the reality of the world and of one's experiences within it evidence themselves.

See **R & R.**

HABLEWITZ BENCHMARK

7/20/85. Received letter from Jeanette Hablewitz, former student and my chief teaching assistant for 3 years. She hitchhiking to southwest and, eventually, to Mexico with her lover who was raped in May. Reports her second tatoo of bird, heart, moon. I never remember her hands without ink. Her hair looks Rastafarian. Fired from waitressing because of hands and hair. One of the greatest life-fact, content-based, continual and intuitive female makers I have taught. Powerful command of techniques--all of them tactile. For two years I couldn't perk her interest in computer graphics. Even of the Macintosh after seeing what it could do. Not immediate enough, not tactile enough. And, she suspects, a medium which generally allows human content to fall through the cracks. Nothing I have seen in the teaching of computer graphics this summer will contradict her suspicion. For planning purposes, I will use Jeanette Hablewitz as the model of a type of student and artist. Problem: how to design a computer graphics program which will allow her to use her strengths. The Hablewitz Benchmark of curriculum planning and program success.

See **Balance, Creativity with Technology, Communal Learning, Context, Hard/Soft Mastery, Queening/Kinging, Second-Self, Validation, Wounds.**

HANDEDNESS

I worked the graphics tablets with my right hand which, for most left-handers, is controlled by the visual, spatial, primarily non-verbal left-hemisphere. Extreme confusion. Changed to left hand. Easier and more precise understanding of decisions to be made and of the acts to be made upon them. Tentative conclusion: when teaching

computer graphics, bring up the issue of selecting abstractions from a menu and its possible relation to handedness.

HARD/SOFT MASTERY

THE SECOND SELF: COMPUTERS AND THE HUMAN SPIRIT, by Sherry Turkle. A series of case studies on computers as self-mirroring devices. Each person's comportment toward the computer mirrors their style of accessing and dispensing meaning. The computer, however, does tend to encourage what Turkle calls "hard mastery": left-brained, sequential processing, obsessiveness, lack of concern with human relationships, a narrowing of focus, disembodiment.

The computer is an "object-to-think-with"; and since many people think in ways other than those required by hard mastery, Turkle gives case studies of people whose uses of computers can be termed "bricoleur" or "soft mastery"-- styles characterized by a subjective, relational approach. The sense of immediacy is important for soft mastery; too much structure gets in the way.

"The conventional route to mathematics learning closes doors to many children whose chief way of relating to the world is through movement, intuition, visual impression, the power of words, or of a beat". (THE SECOND SELF, p. 122). This characterization is a general description of Columbia College students and their relatedness to the world. They tend to be Soft Masters by nature. Up to the most advanced and graduate level computer graphics, therefore, it would be wise to choose hardware and software which allow their soft master qualities maximum play: Macintoshes and the like, IBM-PC based paint programs, user-friendly animation.

HEALTH

Started the summer session tired. Not just "tired", but an eight year accumulation of Tireds. Add to that the actual physical environment of the computer lab: loud ventillation system circulating air between 67-72 degrees. The temperature, because of the air circulation, probably has a wind-chill factor. I, like others, wear a wool hat, one or two sweaters and a nylon jacket. Then to this add the alternation between the lab and the summer heat, and one woman develops pneumonia and drops out. For me, weeks of generalized weakness and lungs filling with fluid. Seven pound weight loss. Insomnia. Sleeping pills prescribed for second time in my life. Valium derivitive. Nine weeks straight--every night. Feeling drugged and addicted. After three weeks of antibiotics not working, I get X-rays. Bronchitis. New antibiotics. Fly home for R & R. See three doctors. New prescriptions. Accupuncturist says --Your heart pulse is almost non-existent.

See **Dreams, Environment, R & R, Sensorium.**

HYSTERIC/OBSESSIVE

The obsessive-compulsive mind-set is encouraged by computers. Obsessive-compulsive behavior in this society is predominately a male disease, but one *rewarded* by the society. The predominant female disease is hysteria (with its major symptoms being passivity and depression), which is *not* rewarded by the society. Most of the people in this summer session seem to be obsessive-compulsive, including the females. I would bet that the great majority of women here are male-identified. Such *seems* to be the case: some still wear their secretarial high heels and most *seem* out of touch with their sexuality. My guess is that there are few women here who are in touch with their psychic and physical strengths as females. (Note added as a symbolic illustration from Week Five: a woman student said to me concerning her husband and (in her words) his ill-treatment of her as an artist and as an independant being: "He's a *real* Male Chauvinist Pig. But please don't get me wrong--I love him *dearly*.") Problem: how to design a computer curriculum which does not require obsessive-compulsive behavior and male identification.

See **Creativity with Technology, Hablewitz Benchmark, Hard/Soft Mastery, Queening/Kinging, Rosebush Syndrome.**

IDEAL EDUCATION

6/12/85. I ask New York computer graphics guru Judson Rosebush to outline the ideal education of a computer graphics artist, and he responds:

Geometry
Algebra
Trigonometry
Computer Programming (language like "C" or APL)
Knowledge of computer loops and arrays
Graphic Arts fundamentals (paste-up, layout, spec of type)
Mechanical drawing
Logic
Photography fundamentals
Video fundamentals

Most of the above are Hard Mastery subjects. This education could more accurately be called "training". Problem: how to train and still educate.

See **Hard/Soft Mastery, Rosebush Syndrome.**

IMAGES II COMPUTER GRAPHICS SYSTEM

A system of staggering potential.

See **Virtual-s.**

INTENTION

My letter of intention, as part of the application to the Sheridan Computer Graphics Lab, ended: "As artist and educator, I am particularly interested in how computers enhance or diminish certain kinds of creative processes."

See all entries.

JOBS

In actuality, not now the Bright Young Thing for Artists I had hoped. A fellow student, best on the Videotex systems, was just hired to do freelance Telidon pagemaking for $4.75/hour. According to another freelancer, production houses hire you for cheap as guinea pigs to find program bugs. You know when that happens because your image explodes, etc., which means that you have to keep long hours to meet deadlines. Production houses are now firing Videotex workers in Canada because of lack of work.

In terms of the Genigraphic computer system--long the standard slide maker in the computer graphics industry--one faculty member, who makes his living on the Genigraphic, says he is *sick* of it and that many artists can only take a maximum of two years on it before burning-out and getting out of the business.

See **Power.**

MEANING DEFERRAL

One student, Francine Gitelman, quoted a person from Lucasfilm whom she had met at the SIGGRAPH Conference --If we had 30 Crays, we could do what we *really* want to do. This deferral to the technological future is so ubiquitous it becomes almost transparent. The Macintosh with its 32 bit processor which two years ago was a capability to be found only in minis and mainframes, is now spoken of as "cute". Its processor is, so I'm told, 5-10 times more powerful than the DEC PDP-11's processor.

Artists like Sonia Sheridan have jawed on for years about the duty of artists to be on the "cutting edge" of technology and to work side by side with scientists and technologists to influence the way technology will develop. Poo. Economics influences the way technology will develop, not artists. Plus, most artists simply don't have the technical training to even begin to contribute meaningfully. The history of past artist-technologist collaboration (including Sheridan's) is not terribly exciting (see the ART AND TECHNOLOGY catalogue from the Los Angeles County Museum which thickly documents artist failure after aftist failure--even more accurately, human relation failure after human relation failure.

According to my subjective experience, most meaningful work is done by *trough* people, not *crest* people--people who use technology when it has already been used to the point where it now has culturally-prescribed uses to work against, and when the technology has settled to the point of affordability. It is precisely at the point of "cuteness" where the door offering daily in-home use by real people, opens. It is at this low-end level that the Columbia College computer graphics curriculum must be based.

See **Creativity with Technology, Effects.**

ORANGE GROVE PARADOX

I was born in Southern California and grew up in Orange County when it still deserved its name. When we drove to Santa Ana or to Los Angeles we passed Orange Groves. You could see them coming: lovely lots of them. And I knew how they were to be appreciated. They were to be seen in the alternation of the following two ways: as the car sped by you looked ahead and took it all in as "Orange Grove Blur", and then you suddenly turned your head right and looked down the rows and saw "Orange Grove Order". You knew both were true at once, tried to get them to meet, and couldn't--but *could* get them to *alternate quickly*.

See **Balance.**

POWER

OWNING THE DATABASE.

7/12/85. In his lecture, Judson Rosebush mentioned a new area of conflict in artist/client relations: where the actual work, paid for the by client, resides. In the product, one would think--but no, the product is itself just the means by which you have created a software program, a database, to make it. The product is now, in a sense, the by-product. Smart clients want the database as proprietary. Be sure, Rosebush says, that you as artist attempt to retain the rights by contract.

WRITING THE PROGRAM

8/2/85. Glen McQueen, 3-D animator from New York Insitute of Technology, in his guest lecture mentioned the seller's market for computer graphics programmers in "C". --They're in incredible demand, and they make absolutely *incredible* money. They're the Kingpins of the Industry.

PRINZHORN COLLECTION

In the earlly 1900's, Hans Prinzhorn collected some 6,000 expressive pieces produced by the insane. A collection totally unique in the world because the contemporary method of treatment makes a large *undrugged* population of the insane absolutely impossible to find. The collection somehow survived the Hitler era and, later, bureaucratic maltreatment through ignorance. When the curator of the Krannert Art Museum arranged for its shipment to the U.S. last year, no major museum would touch it. No major art periodical would review it. *Only* small university teaching museums contracted for it.

Perhaps a hint of the reasons for the curatorial and reviewer reticence can be found in the circumstances of the actual exhibition: when Mary and I entered the University of Chicago Museum, we felt an intensity on the part of the viewers the likes of which we had never before experienced. People dragged other people across rooms to "see this!", people *actually* read and viewed the works, people walked with hushed smiles

of amazement--in short, it was a sacral environment, the closest thing to a secular cathedral I have experienced. Why would such a miracle be turned down by major museums (especially since every place of exhibition broke attendance records) and reviewers? Because, I think, of the richness of the human content evidenced through a poverty of technical means: the real issues of their makers' daily and mental lives expressed on paper bags, newspapers and toilet paper with crayons and pencils. Great formal inventiveness by people with no formal art training. Authentic. The computer graphics curriculum must be built upon a loyalty to this attitude.

See **Effects.**

PSYCHE

The psyche does not use precise steps and computational strategies. The Digging for Water Syndrome: when deprived of one's basic psychological nourishment, one digs in the environment for it. The longer one digs the thirstier one gets and the more all-encompassing and exclusive and frantic the digging becomes. The challenge: to create a computer graphics environment which provides the necessary psychological nourishment.

--*Do with me as thou wilt. Wait and see*--said by my wife of Psyche, the First Cause of my insomnia, Wed. 4:20am, 7/24/85. My birthday.

See **Dreams, Health, Self-Portrait, Telephone, Validation, Wounds.**

QUEENING/KINGING

Feeling horny and in the need of a little fantasy, I walked to Smith's Books in Oakville Center and purchased CLARA BIRCH, an anonymous 19th century erotic novel re-published by Grove Press. The following passage is on page 73:

This then was 'queening' , when the female so subjugates the male in shameless fashion and asserts her full authority over him by thrusting the most 'shameful' part of her anatomy over his face, keeping it there the while that he gasps for breath....

Queening--and, by extension, its polar opposite, Kinging--as the state when one worldview dominates its opposite. In such a state there is no dialogue of equals, only an operating of the one upon the other. This operation strips the other of power and self-worth. In turn, the accumulation of power goads the operator into a state of self exaggeration and blindness to values other than hers/his.

7/22/85. On R & R. The children bring home a videotape of THE KING AND I. Anna has the following dialogue with the King's Chief Wife:
--But, please tell me, why do you call me 'Sir'?
--Because *you* Scientific, not like lowly woman.

An example of Kinging through the mouths of women.

Computers seem to ally themselves naturally with the Scientific, the procedural, the left-brained. With archetypal male styles of thought. The challenge: to construct a computer curriculum and environment which do not King right-brained functioning.

See **Balance, Context, Dreams, Hablewitz Benchmark, Health, Rosebush Syndrome, Validation.**

ROSEBUSH SYNDROME

6/12/85. Guest lecturer Judson Rosebush, co-founder of Digital Effects, New York. Held up by faculty as example of success in the computer graphics field. Fast talker, brilliant sequential thinker, slovenly dresser, unbathed, a self-confessed obsessive addicted to perfection. After the non-stop lecture, Judson telephoned New York to give directions to his secretary. The pressures of the computer graphics business marries him to his occupation like a doctor--but without the deep human contact. That afternoon, Bob Edmonds drove him to Toronto. Of the drive, Edmonds said, "Did you see Judson's hand? It kept reaching
out to take control of my gear shift". That evening, at the Telidon User's Meeting, Judson gave a second lecture on the underground history of computers as *interactive* devices. Later, pursuing this subject, I asked him about time for the actual human interaction known as a *personal life.* --What personal life, he said.

Judson seems disembodied, solitary, and addicted to control. This assemblage of symptoms represents a distinctive form of ungrounded male behavior--one, by all accounts, very much in evidence at the SIGGRAPH Conference. An assemblage of symptoms is a "syndrome".

See **Balance, Hysteric/Obsessive, Hard Mastery, Queening/Kinging.**

R & R

(Note: the following account is from my diary. The intensity of the experience--almost tripping--mirrors the meaning-deprivation I had experienced over many weeks in the Sheridan computer graphics environment).

7/18/85. Thursday am. Computer animation by means of color cycling. Difficult for me. During class breaks I work on 10 megabyte hard disk with Macintosh. At lunch a student speaks about her marriage --My mother-in-law makes me call her Mrs--. After lunch pack in a frenzy for Chicago over the course of two hours. Totally untogether. Stomach in knots. Bus to airport three hours early. Exhausted. Cafeteria. Wait in line fiddling with sandals to keep head down to prevent fainting. Long wait but afraid to sleep else miss plane.

It isn't until the plane taxis that I realize I am past all the barriers between me and my wife and family which are under my control. I am now on the tarmac and there is no turning me back. Immediate release of stomach and gut. Smile extends to entire body. Going home.

Plane rises through dark cloud cover and emerges into a sunset raking fire across billions of cloud rivulets like surf. Later, through the clouds, a little farm suddenly revealed. I am on earth again and peering into the kitchen window --a woman, man and child. I see my own window from which I see the farm and know that I have *already* withdrawn upwards. I then notice the tiny patch of rust: oxidation --> structural integrity --> (breath) vulnerability --> (breath) fear --> (breath) Death.

Night falls. The vague blackness of water below. Lake Michigan, now. I am conscious of my breath and of seeing nothing that is not there. And the dark nothing that is. The approach of an amazing, glowing order: lines of light extending to the horizons. Major highways. Binary bit headlights traveling in all directions on missions --> the computer chip I held in my hand in the morning. The landing approach. The thoroughfares, sidestreets, headlights and buildings are more discrete, individual case, and less universal as we lower. Airplane speed in relation to the individual cases is suddenly a factor, no longer forgotten, and *immense.* Touchdown. Reverse blades. Slowdown to stop. Airplanes with headlights pass to a runway. Below my window, 3-foot lighted blue letters: INNER. Continued approach to the terminal. We pass scores of planes, boarding, deboarding, backing, taxiing. Second roll to a stop. Headlights pass on to other runways on their ways to other terminals. I think "Operating System"--and look up to the Control Tower. We start again. Below my window, 3-foot lighted blue letters: OUTER. Chicago.

I encircle the woman I love, she late and double-parked as usual. Perfect. Walk through the terminal hand in hand, wide-eyed. Maul each other in car. Ask and hear about her. Ask and hear about Vanessa, Colleen, David and Denise. Ask and hear about particular patients on the lock-up ward. Listen to myself tell about the plane trip. We turn off Highway 94 towards lakefront. Talking, laughing, hitting each other's legs. At Montrose feel the city picking up. Latinos, guys repairing cars on sidewalks, groups on steetcorners, whores. Stoplight at Broadway and Montrose. I look for the whore's car parked at LITTLE SICILY PIZZA. It's there, window half rolled down. In the darkness the top of her head, moving. Male hand reaches up from the car seat with coin between thumb and forefinger and lands it like an airplane on the thin edge of the window. A slow roll across. Slip off into darkness. Light goes green. Two blocks to home with children and garden blooming.

See **Epiphany.**

SECOND SELF

Seventh Week: called Robin King and asked him to recommend studies on computers and learning styles (this question came out of my learning difficulties). He said nothing is written except for a new book by Sherry Turkle, THE SECOND SELF: COMPUTERS AND THE HUMAN SPIRIT, which he has lent to Howard Simpkins. Contacted Howard, who brought the book. I devoured it during the breaks and lunches of the Seventh Week. It was the first mirroring of my learning experiences, and a comfort.

See **Hard/Soft Mastery.**

SELF-PORTRAIT

Dream 7/5/85. *I am back in school as an older student. Crowded halls. I enter an office to request an appointment with a teacher. I talk with his secretary--but then decide that I really have nothing to speak with him about. Pehaps I was looking for some kind of special recognition which I then back away from. In class we were given the assignment of doing a self-portrait. While walking in the school I discover an abandoned, small room and ask if I can use it for my self-portrait. Yes, I am told. The room is full of debris and plaster dust; one wall consists of built-in bookcases covered with debris. I begin the task of cleaning out the debris. I clean and wipe all the bookshelves. At the back of one shelf I find a fish hook and lure. I decide that the wall with the bookcases will be my 3-dimensional self-portrait. On the top shelf I place a framed picture of my head which stands upright, supported by a little foot or lean-to flap at the back. At the front of the wooden shelf, immediately below the picture of the head, and corresponding to my throat area, I stick in the fish hook so that the lure dangles below. The portrait head, the dangling fish hook lure at the throat and the empty book shelves together comprise my self-portrait. I next think about adding sound narration--a series of descriptive facts--but stop myself because that would be too close to the narration I did on my father: I've DONE that, and would be copying myself, falling back on something I knew.*

Two weeks later, Jim Sayers gave us the assignment of making a self-portrait on the Images II. I scanned in my face by video and then recreated the above dream with text. During the show-tell, the self-portraits were presented as if there were no content other than technique. The hyphen between Self and Portrait refer to a reciprocal relationship, and one to be taken seriously. I asked one woman who had presented her masked face on two separate occasions, why that was so. She was startled.
--I didn't notice.
--Six weeks ago you showed yourself masked.
--Did I? I don't know why.
--They might mean what they say.

My dream formed the basis of all the work I did on the Images II computer from July 20th to the end of the summer. I had finally found my content vis-a-vis the computer, and authentically generated in response to it.

See **Abrasion, Dreams, Psyche, Thesis.**

SENSORIUM

Terminal man: it is not until I leave that I take accurate notice of my energy depletion. My knees sometimes buckle and I can't walk straight for a few feet at a time--and I haven't been on the terminals for more than 4-6 hours at a time. I would characterize it as a "nervous crash"--mental exhaustion coupled with physical weakness, plus the reflex mental need for *additional* sensory input. Characteristically, I then return to the apartment and do the following kinds of simultaneous actions: with TV on, eat while writing in diary, interrupt diary to make other notations in my own writings,

continue to eat, drum heels on floor, walk to Macintosh with mouth full, select document and assign it to Imagewriter printer, return to table for next bite, change TV channels, call my film editor, while talking stir soup, etc. Then insomnia. One or two hours of sleep for *days* at a time. I become an intensity junkie easily; my body, however, cannot tolerate it like it could when I was twenty.

I therefore evolved the following *mandatory* self-protective devices: I set the alarm on my watch and, once every hour, walk outside, stretch, re-focus eyes, drink water, eat fruit. I am not always able to pry myself off the terminal in order to do this religiously--even though when I do, my productivity increases. Mental addiction. A syndrome to watch out for when teaching computer graphics.

SO WHAT?

6/29/85. During the showing of computer graphics slides from the SIGGRAPH Conference, an interesting reaction from fellow students: laughs, followed by comments:

--Yes, you, too, can make rock videos!
--Jacks and crystal are in this year.
--That's been done. You can see what style he's copying.
--That's right, fella, scan a photo and throw a filter over it!

And at the end of the session, the question:

--What's on the agenda, now?
--Well, we *could* see them over again.
--Do you want to see them again?
--Right, and go to sleep.
--Oh God, no!

This "So What" reaction surfaces regularly in the Lab. It is precisely at this point that a teacher must sit down with the student and, through listening and eliciticing, attempt to bridge the gulph between technique and content.

See **Creativity with Technology, Prinzhorn Collection, Summation.**

SUMMATION

7/30/85. Although I experienced both progressive and regressive coping in regards to learning the computer systems, the following statement by Goethe mirrors quite accurately my generalized subjective experience: "His gaze from going through the bars has grown so weary that it can take in nothing more. For him it is as though there were a thousand bars, and behind the thousand bars no world."

8/6/85. As the above summation evidences, I spent a large amount of energy in amazement at my left-brained difficulties, and therefore resisting immersion into the world of computer graphics. I did not surrender to it; instead, I flailed around, trying to breathe. It would have been easier had the computers resided in an environment which was genuinely human, but they did not and I therefore experienced them as harder than

perhaps they are. I now remember the words of my high school water polo coach who once said to me when I couldn't breathe --To get more air, breathe *out*.

8/21/85. ***Except for this additional note,*** the rest of this thesis was given to Bob Edmonds on 8/6/85--almost two weeks early--at director Robin King's request. Robin said he wanted to read my viewpoint before delivering an address concerning the adverse effects of the computer environment. So I did him that favor and finished early. Three weeks have gone by. *No response.* It is as if I had dropped the thesis down a hole. I was under the impression that "Person" was the first element in the Person/Process/Product/Environment quaternity of which he so often speaks. Evidently I misunderstood.

Bob Edmonds, however, did tell me that he (Bob) had skimmed it and that it was "unique". He was refering to the *form* of the thesis. The *content* was not acknowledged. The thesis describes a serious depression. When I receive such signals from a student, I reach for my telephone, for starters. To deal with the human consequences of teaching is part of the job description (it's called "Willingness to Deal" and is found under the heading "Taking People Seriously"). But, as one *teaches* what one knows, one *deals* with what one knows.

TELEPHONE

Toronto-Chicago: $290.54 bill for the month of June, $402.18 for month of July. In order of priority: calls to wife, children, psychoanalyst, film editor.

See **Health, Psyche, Validation.**

THESIS

Mandatory for computer graphics course. Diary of our own learning process. Terrific idea. The plain upon which we can see the forces of progressive and regressive coping sweep through, following word-flags. This image from Dante just came up and is an accurate psychological description of the Sheridan learning environment.

See **Self-Portrait.**

TITLE

The Sheridan teachers announce a competition for the best title for our diaries. Great idea: the process of titling encourages us to replay and give *metaphor* to our entire experience of learning computers:

My Summer at Computercamp: Compleat Catalogue de-Raisonne
Living Stone, I Presume: De-Briefings from the Interior
Bus Stop
Play It Again, Bob
The King and I
Uncle

TRICKLE DOWN TECHNOLOGY

The future seems brightest when one contemplates the increasingly high-quality uses of low-end hardware and software. The IBM XT or AT will support good paint programs in addition to the Createx software for Videotex. One has, in effect, a personally affordable complete production house. This will become increasingly evident during the next couple of years. This seems the way to go in terms of student access *plus* job opportunities. The differences between high and low-end computer graphics work, according to Judson Rosebush, will not be hardware, but style, service and fiscal responsibility.

See **Jobs.**

VALIDATION

7/15/85. TV documentary about anthropologist doing field work with a Bushman tribe over the course of many years. Footage of the tribal musician whose songs are made up anew each day and which mirror the tribe's daily experience. They are therefore ephemeral.

Years later, the anthropologist returns to site. Tribe gone. Waterwell rusted away. He tracks down the musician's son who now works in a mine for wages and speaks Pidgin.

--Where is your father and the others?
-- My father dead. Everybody (makes a gesture of throwing sand into the wind)....
--Do you remember your father's music?
--No. Why should I?

He shouldn't. It's over. The context for his father's music, the world of the Bushman functioning as Bushman, is destroyed and remembrances are reminders of this irretrievable loss. There are parallels between this story and the structuring of a computer graphics curriculum: 1) each computer system validates a specific kind of mental functioning, and *not* others; 2) what is *not actually validated* by the teaching environment will, like the son's memory, be *suppressed*.

See **Balance, Creativity with Technology, Context.**

VIDEOTEX

It seems to be primarily an animation medium existing in two modes: figuration and re-configuring. The two prefixes, *re-con*, refer to the process of experiencing the image after the actual figuration. The re-configuration functions somewhat like rhyme: a pleasurable experience which cannot be repeated often enough. The experience of figuration is sequential and so becomes a narrative form. Each element takes its meaning in relation to the forms with which it is configured, those showing before and those coming after.

VIRTUAL-S

The following are observations on the unique qualities of 2-D computer graphics paint and videotex systems as I have experienced them so far:

VIRTUAL MERGER. At the 1985 SIGGRAPH Conference, Thomas Lineham. referred to the fact that, for the first time in history, quantities have merged with qualities. Digital numbers stand for qualities and re-create them in virtual space.

VIRTUAL SPACE. The projected space out of which the computer operator constructs images--the space which, as someone said, "reminds you of something you've never seen". The mind can feel a particular attraction to the here/not-here paradox of the spectral screen and with the ways in which constructions appear, shift and disappear.

VIRTUAL LAYERS. Each element is a separate object which can be a part of another virtual object or have a file of its own to be called up and joined with others later. It can be called under or over presently-existing screen objects. When joined to the mapping system of the Images II--its ability to drop out a transparent color (take out a layer)-- the layering abilities are absolutely phenomenal.

VIRTUAL SIMULATION. The computer as cameleon: it behaves *like* other graphics arts tools.

VIRTUAL DECISIONS. The computer operator is rarely *commited* to any decision. There are few points of no return. Every decision can be reversed or altered. Related to the storage and retrieval of files.

VIRTUAL MUTUALITY. The computer operator's experience of the computer, in its hyper-interactivity, as a kind of second self to which one has an *actual* relationship.

VIRTUAL OBJECTS. What seems like an actual physical object is a combination of binary electrical impulses which the computer operator calls up, manipulates, stores, destroys at will. Related to virtual layers.

WOUNDS

In the ODYSSEY, on the voyage home. One of the crew sustains a wound, which festers. It smells so bad that the crew maroons the man on an island. Problem: he is their *navigator*. They eventually sail back for him.

This story used by Andre Gide as a parable of the artist in society. It also speaks of the human being in relation to his or her own experience. --Wounds are eyes that see, said someone.

See **Abrasion, Coping, Cockroaches.**