Computers, Pencils, and Brushes

Except for the absence of human sensibility, the computer is a most awe-inspiring machine. But the language of the computer is the language of technology, not the language of design. It is also the language of production. It enters the world of creativity only as an adjunct, as a tool — a time-saving device, a means of investigating, retrieving, and executing tedious jobs — but not as the principal player. In education this art versus production dilemma is inescapable. The moment the balance is disturbed in favor of production, the computer becomes a hindrance to invention and a barrier to the link between mind and work.

"Because the modern world lives by machinery," comments a distinguished educator, "it favors the mechanical in all things, whether all things benefit from it or not."[1] To the extent that the machine replaces the hand and prevents the student from practicing the manual skills, the computer is an intruder. To the extent that computer theory replaces, and is confused with, design theory, it is equally misplaced. The ambience of the art school is not the ambience of the computer environment. If computer skills are demanded in the the job market, students must, somehow, find time to learn these skills. Once students feel at home with design — and this takes a very long time — they are free to choose their tools. A Yale student once said, "I came here to learn *how to design*, not how to use a computer." Design schools take heed.

1. Jacques Barzun, "Middlemarch," *Begin Here* (Chicago, 1991), 28

In an even more serious vein, the author of *Technopoly* comments: "What we need to consider about the computer has nothing to do with its efficiency as teaching tool. We need to know in what ways it is altering our conception of learning, and how, in conjunction with television, it undermines the old idea of school.... New technologies alter the structure of our interests: the things we think about."[2]

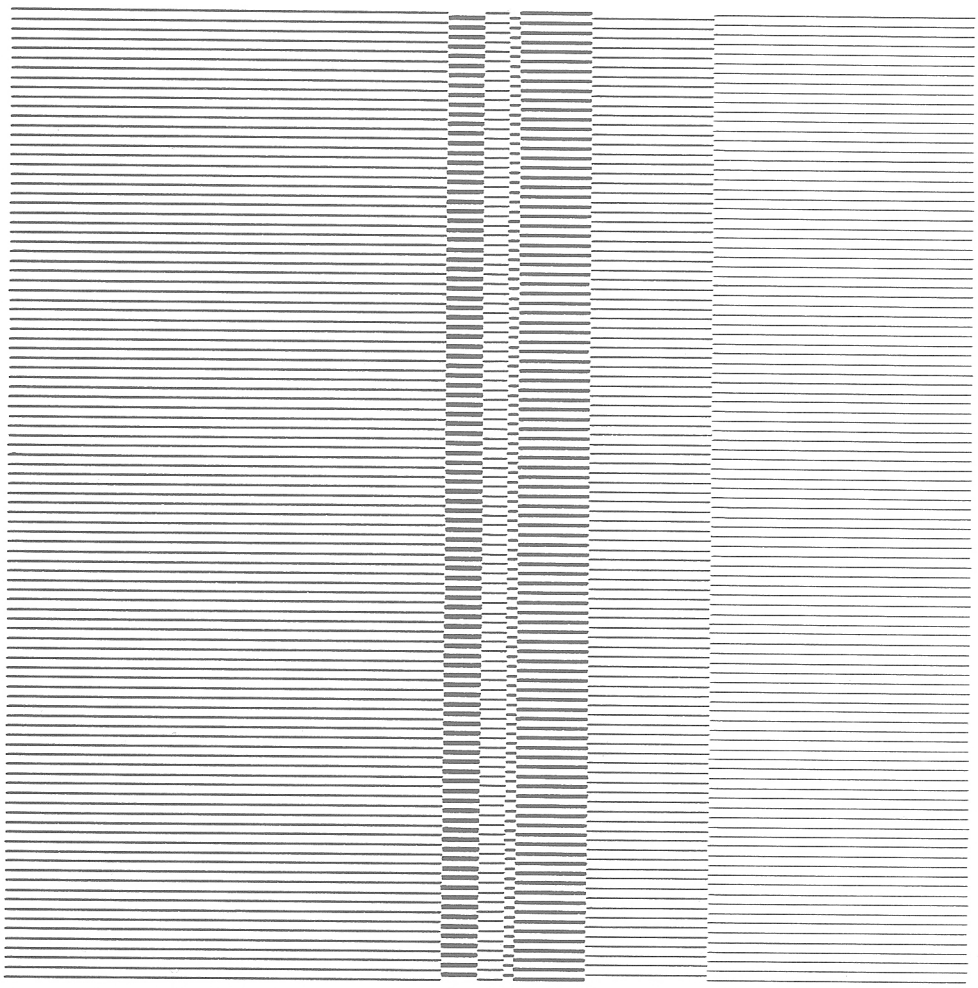
2. Neil Postman, "The Judgment of Thamus," *Technopoly* (New York, 1992), 19, 20

"It's only a tool, like a pencil or brush." This often-quoted remark is as seemingly innocent as it is disingenuous. Clearly the computer is more than a pencil or brush. For storing information, for producing intricate configurations and accurate diagrams, for eliminating the ennui of repetitive operations, and for doing things swiftly it has no equal. However, concepts and ideas spring from the mind and not from the machine. Without a knowledge of design, the computer (like the pencil) is more than useless, for it is capable of producing enough

superfluous material to create the illusion that one is inventing when, in fact, one is merely producing variations on a theme, often of nothingness. This problem is particularly irksome in the field of design education. The student who has been concentrating on learning the intricacies of the computer feels a sense of accomplishment once he or she has mastered the machine. This creates the impression that one is now a competent designer when, in fact, one has been conditioned to "see" (like Pavlov's dog) mechanics rather than aesthetics, speed rather than direction. All this means, of course, is that the student has not been deeply involved in the study of design. However, he or she now has the necessary qualifications to enter a design studio, with the prospects of winding up a second- or third-rate typesetter.

Because it confuses technique with form, discussions about whether the products of the computer are a legitimate art form are irrelevant. They act as a red herring to divert one from the real subject at hand, which is not technology but design. It is a truism that every technique yields its own unique mannerisms, but this has less to do with ingenuity than it does with the accidents of technology. The notion of the computer as a "creative tool" is misleading in that it implies that invention is a matter of pushing buttons and moving around a cursor. The kind of images that the computer can generate may also be misleading, in that they often *look* new; again, this conundrum is more a matter of technique than of substance. The phrase "the tool of the future" is equally suspect. It seems also to suggest that the hand and mind will eventually become atrophied. All in all, what these expressions have in common is that they promise more than they can deliver.

This is not to deny the real fascination computers hold for all of us; the prospect of sitting down to "play" with a machine is a heady one. But at the same time this play may sidetrack students from the real work of design, the step-by-step participation in the process of thinking through a problem. It may also deprive students of the drawing skills that develop only after hours and hours of practice, pencil or pen to paper.



This drawing and the one on page 185 were executed by students with ruling pen, straight edge, and compass. Peter Motel, Kunstgewerbeschule, Basel.

One wonders if what happened to handwriting with the invention of the typewriter will happen to other manual skills with the intervention of the computer.

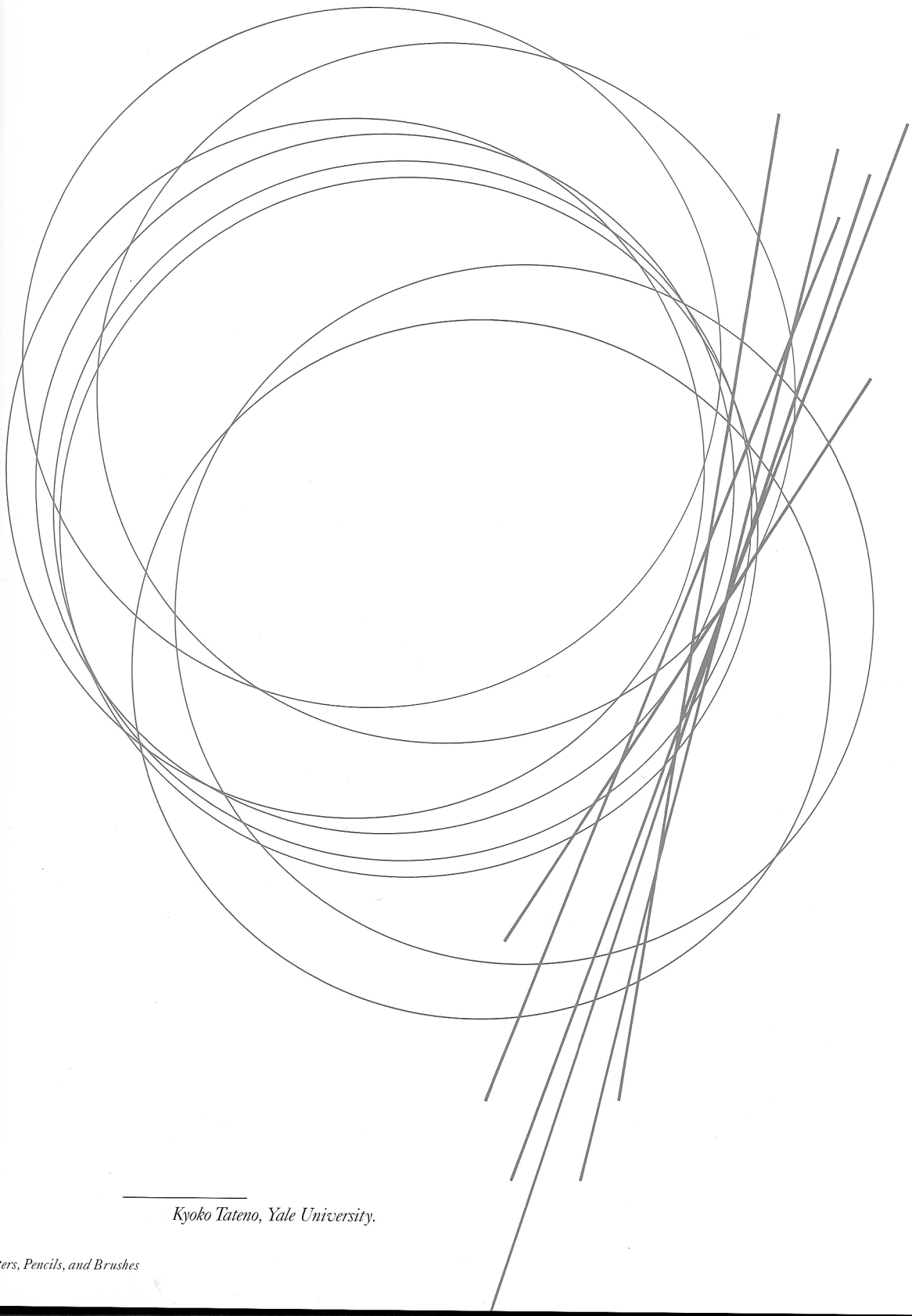
It would, obviously, have been faster and much easier to render these two drawings by computer. But this would have meant the loss of valuable practice and experience in the use of tools and materials. "Working out [the] steps by hand," says Jacques Barzun, "gives the mind that 'feel of the material' which is essential to mastery in any art or trade."[3] As for the sensibilities that flow "only through the sinews of unmediated experience,"[4] these too would have been lost to the workings of a moving cursor. Equally lamentable, the students would have been deprived of the pleasure of accomplishment.

For every competent designer, there is a host of competent computer operators whose numbers account for the kind of trendiness that is saturating printed media today. Of course, the computer, like any special tool, will produce visual effects not possible by other means. Inarguably, the virtue of the computer for the designer is the abundance of graphic possibilities it lays before him or her. In the hands of a thoughtful designer, this may be useful. Computers may even help in the creative process by suggesting visual possibilities unimaginable with other techniques, or by helping to solve problems *specifically designed* for the computer's capabilities. But this same virtue or potential is easily exploited for the sake of effect by designers who may or may not have learned the difference between an effect and its essence. The baffling complexity of much computer-generated design today is a testament to this learning gap.

When to use computers is certainly as important as how to use them. In the school environment, they should be a part of the curriculum but not *the* curriculum: nothing can replace the hand in the early stages of design education.

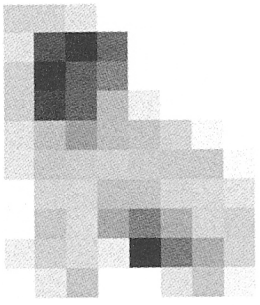
3. Jacques Barzun, "The Urge to Be Pre-Posterous," *Begin Here* (Chicago, 1991), 92

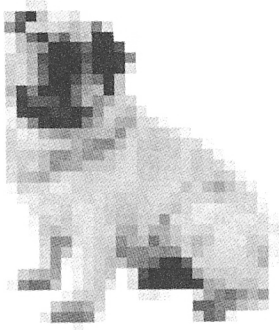
4. Bill McKibben, *The Age of Missing Information* (New York, 1992)



Kyoko Tateno, Yale University.

Yale University
School of Art Graduate Program:
1989-1990





One of the purposes of a professional education in the visual arts is to expose the student to a series of experiences similar to those he or she will confront in the daily life of an artist. At Yale, it is our intention to provide an educational context within which promising students with strong motivation and dedication can pursue their disciplines in depth. The essential experience of a student's two years here is likely to be found in the practical work of the studio, whether in the solitary exploration of the painter, sculptor, or photographer, or in the problem solving activity of the designer. Such work will be supported and enriched by knowledge and skill gained from formal studio courses within the School, and in academic courses chosen from the resources of the entire University. Each student is exposed to a wide range of aesthetic and critical positions, both through contact with the regular faculty and with the many visiting artists who are invited to the School each term. Our aim is to provide a visual education and to build—by rigorous study, challenge and discussion—aesthetic positions founded not on the fashions of the moment, but on each student's sense of history and firm personal conviction. What cannot be taught, but only recognized and supported, is creative energy and imagination. Such attributes are the student's own. — *David Pease, Dean*

M.F.A. Programs of Study:

The Yale University School of Art offers professional studies leading to the Master of Fine Arts degree. Men and women holding a Bachelor's degree from an accredited college or university or a diploma from a four-year accredited professional art school are eligible to apply to one of the following areas of study: graphic design, painting/printmaking, photography or sculpture. Normally the course of study is completed in two years.

The School of Art also offers a course of study for students in Yale College including a major in art in the areas of graphic design, painting/printmaking, photography, and sculpture. The instruction in these programs is provided by the faculty of the School of Art.

Who Can Qualify:

The University is committed to basing judgements concerning the admission, education, and employment of individuals upon their qualifications and abilities and affirmatively seeks to attract to its faculty, staff and student body qualified persons of diverse backgrounds. In accordance with this policy and as delineated by federal and Connecticut law, Yale does not discriminate in admissions, educational programs, or employment against any individual on account of that individual's sex, race, color, religion, age, handicap, or national or ethnic origin; nor does Yale discriminate on the basis of sexual orientation. University policy is committed to affirmative action under law in employment of women, minority group members, handicapped individuals, special disabled veterans, and veterans of the Vietnam era. Inquiries concerning these policies may be referred to Charles H. Long, Deputy Provost of the University, 118 Hall of Graduate Studies or Frances A. Holloway, Director of Affirmative Action, 80 Wall Street, 203-432-0849.

Applications:

For Preliminary Selection, applicants are evaluated by Admissions committees on the basis of a slide portfolio combined with academic records, recommendations, and statement of intent. All candidates for admission must apply to a specific area of study (graphic design, painting/printmaking, photography, sculpture). The application fee is $60 and applications for admission must be complete in all respects no later than February 1, preceding the September for which admission is sought. Applicants who have passed the Preliminary Selection will be notified by mail prior to March 1. At this time, for Final Selection purposes, applicants will be asked to send or deliver actual work and will be invited to schedule an appointment for an individual interview. Final notification of admission will be mailed in mid-April. Acceptance is not dependent upon the student's financial position.

Tuition:

The tuition for 1990-91 is under review and will be announced in the spring. The current tuition rate is $ 10,750.

Financial Aid:

The School of Art, in conformity with University policy, offers financial assistance to applicants only after the applicant has been accepted for admission and only if a GAPSFAS analysis is on file with the School. Assistance is based upon need and limited by available resources within the School. Although the number of students receiving financial aid varies each year, in 1988-89 approximately 80 percent of students in the School were receiving some form of financial aid. Tuition Scholarships, long term loans and employment opportunities are integral to the School's financial aid program. The School of Art offers a special program of assistance based on minority status through the Ford Foundation. While Foreign Nationals are not eligible for Federal loans or work-study programs, some University scholarships may be available.

Additional Resources:

Resources available to students who attend the School of Art include:

The Yale University Art Gallery
The Art Library which includes a slide collection and photographic archives
The Department of History of Art
The Yale Center of British Art and British Studies
The Audio Visual Center
The Art and Architecture Gallery in which student work is exhibited
The Beinecke Rare Book Library

Inquiries:

All requests for the current School Bulletin (which contains more detailed information) and application forms should be addressed to the Office of Academic Affairs, Yale School of Art, 1661A Yale Station, New Haven, Connecticut 06520.

An Open House introduction to the School at which representative members of the faculty will discuss the programs and visitors will be given a guided tour of the facilities will take place on Wednesday, 29 November, 1989. All prospective applicants are encouraged to attend.

School of Art Faculty 1989-1990

Graphic Design:

The graphic design program admits 18 students each year. They share two large design studios with related workshops and facilities for photography, letterpress typography, computer-aided typography, drawing, printmaking and bookbinding. Each student has a faculty advisor, but the entire faculty is available to all the students for criticism. Class work involves theoretical studies, work on applied problems and individual projects. Group meetings are held each term to give all the students and faculty members an opportunity to review the complete work of the term.

Faculty:

Greer Allen
Charles Altschul
Matthew Carter
Inge Druckrey
Alvin Eisenman, Director of Studies
Colin Forbes
John Gambell
Jane Greenfield
John Hill
Armin Hofmann
Dorothea Hofmann
Jan Murray
Christopher Pullman
Paul Rand
Douglass Scott
Bradbury Thompson
Edward Tufte
Min Wang

Painting and Printmaking:

Approximately 22 students are accepted by this department each year. Studies are based on tutorial contact and on formal class work. Students are exposed to a broad range of discussion with faculty and visiting artists. Group critiques are an important feature of the program. Each student is allotted a private studio. Printmaking equipment available includes two lithography and three etching presses. Students may concentrate in either Painting or Printmaking or both.

Faculty:

William Bailey
Frances Barth
Mel Bochner
Charles Cajori
Wiley Carr
Bernard Chaet
Natalie Charkow
Andrew Forge, Director of Studies
John Hull
Susana Jacobson
Richard Lytle
Catherine Murphy
David Pease, Dean
Andrew Raftery
Robert Reed
Richard Ryan
John Walker

Photography:

Graduate photography is a two-year program of independent study admitting a maximum of 7 students per year. Besides regular criticism from resident faculty, additional criticism is offered by visiting artists. Special technical instruction is available to interested students. Studio and darkroom facilities are provided.

Faculty:

Richard Benson
Susan Kismaric
Ted Papageorge, Director of Studies
Steven Smith
Nancianne Vizzini
Jo Ann Walters

Sculpture:

The two-year sculpture program is currently accepting 8 students a year. There is good studio space, adequate wood and metal working equipment. There are no casting facilities. There are periodic critiques by the faculty and the students are exposed to many distinguished visiting artists.

Faculty:

Alice Aycock
Erwin Hauer
Lucio Pozzi
Kathleen Schinert
David von Schlegell, Director of Studies

Visiting Artists / Lecturers:

The following are the visiting artists and scholars who participated in the programs of the various departments during 1988-89, offering individual critiques, workshop seminars, and formal lectures.

Vito Acconci
Dennis Adams
Laura Allsin
Avigdor Arikha
Luis Cruz Azaceta
David Berlow
Sigrid Bovensiepen
Ann Brazzell
Lowery Burgess
Gary Burnley
Tom Butter
Luis Cancel
Jackie Casey
St. Clair Cemin
Margot Clark
Kate Erickson
Lauren Ewing
Jim Ferris
Larry Fink
Karen Finley
Eric Fischl
Herb Fox
David Gibson
Helen Harrison
Newton Harrison
Rex Hennessey
Catherine Howett
Faith Hubley
Tehan Hue
David Ireland
Ronald Jones
Reed Kay
Susan Kismaric
Jeff Koons
Josef Koudelka
Gabriel Laderman
Eddie Lee
Donald Lipsky
Ellen Lupton
Danny Lyon
Sally Mann
Carlo McCormick
George McNeil
Judy Mems
William Mischell
Catherine Murphy
Eric Neudel
John Newman
Graham Nickson
Thomas Palmer
Gabor Peterdi
Lisa Pomeroy
Pike Powers
Lucio Pozzi
Aimee Rankin
Ed Rath
David Reed
Michael Roemer
Jeremy Gilbert-Rolfe
Michael Ross
Sal Scarpitta
Steve Sheehan
Elizabeth Sledge
Art Spiegelman
Robert Stackhouse
Joel Sternfeld
Fred Thurnz
Marcia Tucker
Meg Webster
Wolfgang Weingart
Henry Wessell Jr.
Stanley Whitney
Wolfgang Wodicka
Sylvia Woodard
Mel Ziegler

Design: Paul Rand Computer Image: NeXT Inc. Typesetting: PDR, New York City

I wonder if the fuss about computers in design schools may not simply be a decoy to show that the school is au courant; or does it indicate some other problem? The tangibles of computer technology are obviously easier to cope with than the intangibles of design.

The illustration at left was designed to poke fun at the computer, yet it would have been virtually impossible to accomplish without one. In contrast, the illustrations on this and the following page could have been accomplished equally well by hand or by computer, except that the latter would have been faster.