

# History of Computer Art

URL: [http://iasl.uni-muenchen.de/links/GCA\\_Indexe.html](http://iasl.uni-muenchen.de/links/GCA_Indexe.html)

## **Part IX: Net Art**

Seminar, 28<sup>nd</sup> April 2014

Danube University Krems

Department for Arts and Image Science

MediaArtHistories: Masters of Art

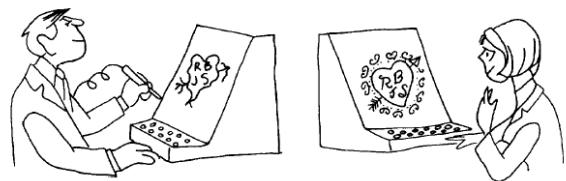
Thomas Dreher

URL: <http://dreher.netzliteratur.net>

# From Timesharing to the Internet



At a project meeting held through a computer, you can thumb through the speaker's primary data without interrupting him to substantiate or explain.



A communication system should make a positive contribution to the discovery and arousal of interests.

**Left:** Wilson, Roland B.: Cartoons for Joseph Carl Robnet Licklider's and Robert W. Taylor's "The Computer as Communication Device", 1968 (Licklider/Taylor: Computer 1968/1990, p.26).

Right, top:  
Baran, Paul: The Spectrum of System Connectivity, 1964  
(Baran: Communications V 1964, p.6, fig. 1).

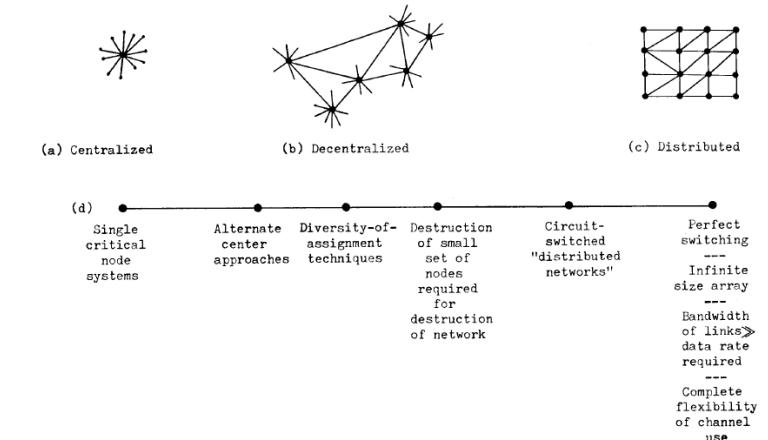


Fig. 1--The Spectrum of System Connectivity

Buckminster Fuller

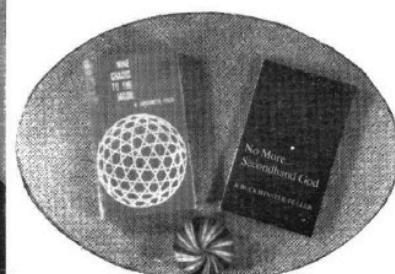
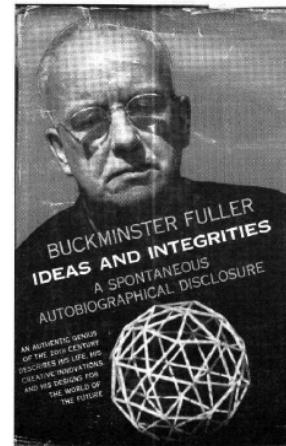
The insights of Buckminster Fuller are what initiated this catalog.

Of the four books reviewed here, *Nine Chains to the Moon* is his earliest and most openly metaphysical, *Ideas and Integrities* his most personal, *No More Secondhand God* his most recent, *World Design Science Decade* the most programmatic.

People who beef about Fuller mainly complain about his repetition – the same ideas again and again, it's embarrassing. It is embarrassing, also illuminating, because the same notions take on different uses when re-applied from different angles or with different contexts. Fuller's lectures have a raga quality of rich nonlinear endless improvisation full of convergent surprises.

Some are put off by his language, which makes demands on your head like suddenly discovering an extra engine in your car – if you don't let it drive you faster, it'll drag you. Fuller won't wait. He spent two years silent after illusory language got him in trouble, and he returned to human communication with a redesigned instrument.

With that, empirical curiosity, and New England perseverance Fuller has forged one of the most original personalities and functional intellects of the age.



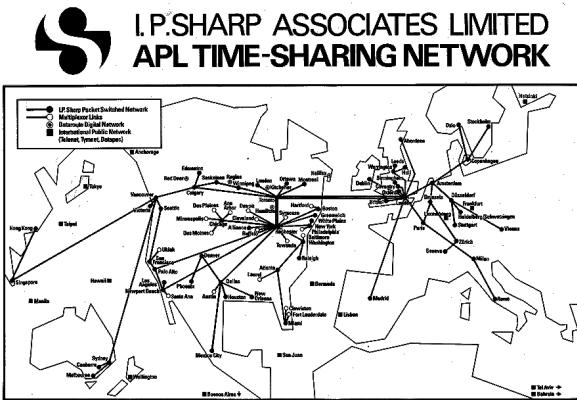
*Nine Chains to the Moon*  
Buckminster Fuller  
1938, 1963, 375 pp.  
**\$2.45**

*No More Secondhand God*  
Buckminster Fuller  
1963, 185 pp.  
**\$2.25** postage paid

both from:  
Soulé's Illinois University Press  
600 Grand  
Carbondale, Illinois 62903  
or  
Whole Earth CATALOG

Right, bottom: Brand, Stewart (ed.): Whole Earth Catalog. Fall 1968: Buckminster Fuller (Brand: Earth 1968, p.3).

# Networks of the Eighties



Left, top: Nodes of the I.P. Sharp Associates Network.

Image source: URL: <http://alien.mur.at/rax/ARTEX/ipsamap.html>.



Left, bottom: Adrian X, Robert: The World in 24 Hours. Österreichischer Rundfunk (ORF), Landesstudio Oberösterreich, Linz 1982: posting up of telefacsimiles from Tokyo, Frankfurt and Wien. Image source: URL: [http://alien.mur.at/rax/24\\_HOURS/LINZ/24-linz09.html](http://alien.mur.at/rax/24_HOURS/LINZ/24-linz09.html)

ASISTIS' ELECTRONIC EXCHANGE SYSTEM

DESCRIPTION

ACCEPT	ACCEPT AND ERASE ONE OR MORE INCOMING MSGS. (E.G., ACCEPT/234 432 WILL CAUSE THESE MSGS TO BE ACCEPTED AND ERASED).
ALL	DISPLAY ALL INCOMING, OUTGOING AND SAVED MSG NUMBERS.
CC	CARBON-COPY OPTION. '000,000' CC 234 SENDS A COPY OF MSG NUMBER 234 (WITH A NEW MSG NUMBER) TO USER CODES OF 2 AND QPO. NOTE THAT SINGLE QUOTES ('') MUST ENCLOSE THE RECIPIENT CODES.
DIRECTORY	PRINTS THE CODE, NAME AND A BRIEF DESCRIPTION OF EACH USER IN 'ARTEX'.
INCOMING	DISPLAY ALL INCOMING MSG NUMBERS.
OUTGOING	DISPLAY ALL OUTGOING MSG NUMBERS.
PRINT	DISPLAY A SPECIFIC MSG. (E.G., PRINT 234 WILL CAUSE MSG NUMBER 234 TO BE DISPLAYED).
READ:	DISPLAY ALL INCOMING MSGS. THERE WILL BE A PAUSE BETWEEN EACH MSG. WITH A PROMPT (?) FOR ACCEPTANCE OF THE MSG. TO BE ANSWERED WITH Y (YES) OR N (NO).
SAVED	DISPLAYS ALL SAVED MSG NUMBERS.
SEND:	PROMPTS FOR CODE(S) OF RECIPIENT(S) (TO:), FOLLOWED BY A PROMPT FOR THE MSG (}):. TO END MSG PROCEDURE TYPE STOP OR ENTER 'SPACERETURN' AS INPUT. TO SEND THE MESSAGE, ENTER SEND OR SE.
TRANSMIT	SIMILAR TO CC (ABOVE) BUT DOES NOT INCLUDE COMPLET DATA OF THE ORIGINS OF THE MESSAGE.
UNREAD	DISPLAY ALL INCOMING, OUTGOING AND SAVED MSGS BY NUMBER AND CODE OF SENDER OR RECIPIENT.
USERS	DISPLAY ALL VALID USER CODES.
WHOIS	PRINTS A DETAILED DESCRIPTION OF THE USER SPECIFIED. (I.E. WHOIS 'JKA' WILL DO THIS FOR THE USER WITH THE COD
WITHDRAW	DELETES YOUR MESSAGE(S) WITH THE SPECIFIED NUMBER(S). (E.G., WITHDRAW 56 58 WILL DELETE THE MESSAGES 56 AND 58 FROM YOUR OUTGOING OR SAVED LIST). 'WITHDRAW' IS THE ONLY WAY TO DELETE A 'SAVED' MSG.

\* MESSAGES MAY BE 'SAVED' BY USING THE 'CC' OR 'TRANSMIT' FUNCTION, BY SENDING A COPY OF THE MSG TO YOURSELF. THIS WILL CAUSE THE MSG TO APPEAR WITH A NEW NUMBER ON YOUR 'SAVED' MSGS LIST.

AT ACTION PROMPTS (?), YOU CAN ENTER THE FOLLOWING UTILITY COMMANDS:

HELP OR HE - WILL CAUSE A LIST OF CORRECT RESPONSES TO THAT PROMPT TO BE DISPLAYED.

STOP OR ST - WILL MOVE BACK TO THE PREVIOUS PROMPT, OR EXIT THE FUNCTION IF THIS IS THE ONLY PROMPT.

Right: User manual for ARTEX in the I.P. Sharp Associates Network, November 1982.  
Image source: URL:<http://alien.mur.at/rax/ARTEX/artxguide82.html>

# Roy Ascott: La Plissure du Texte, 1983

FROM FRONT TO NEXUS SENT 05.04 12/12/1983  
LA PRINCESSE.

FROM FRONT TO NEXUS SENT 06.21 12/12/1983  
LA PRINCESSE  
LE FIL DES JOURS TISSAIT SA TOILE. ET DU ROYAUME DE MENTHE NE SUBSISTAIT  
PLUS QUE DESOLATION. LEUR PRINCESSE ETAIT PARTIE ET LA BETE FURIEUSE DE  
NE N'AVOIR POINT PAS TROUVER CHLOROPHYLE ET AVAIT DETRUIT LE VERT ROYAUME  
VERT DE GRIS SOUVERAIN DU ROYAUME S'ETAIT TOURNE VERT D'ESPOIR VERS SON



Tom Klinkowstein and Greg McKenna at a terminal for the I.P. Sharp Associates Network in La Mamelle, San Francisco.

Image source: URL: <http://alien.mur.at/rax/ARTEX/PLISSURE/sf1.html>

## Text contribution (detail) from Vancouver for La Princesse.

Source: URL: <http://www.normill.ca/Text/plissure.txt>

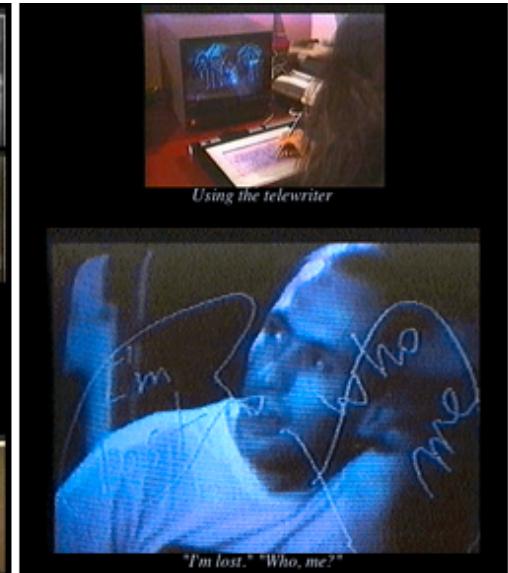
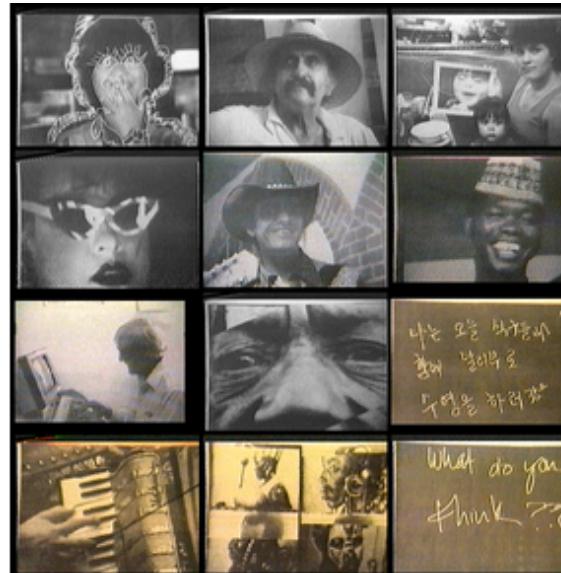
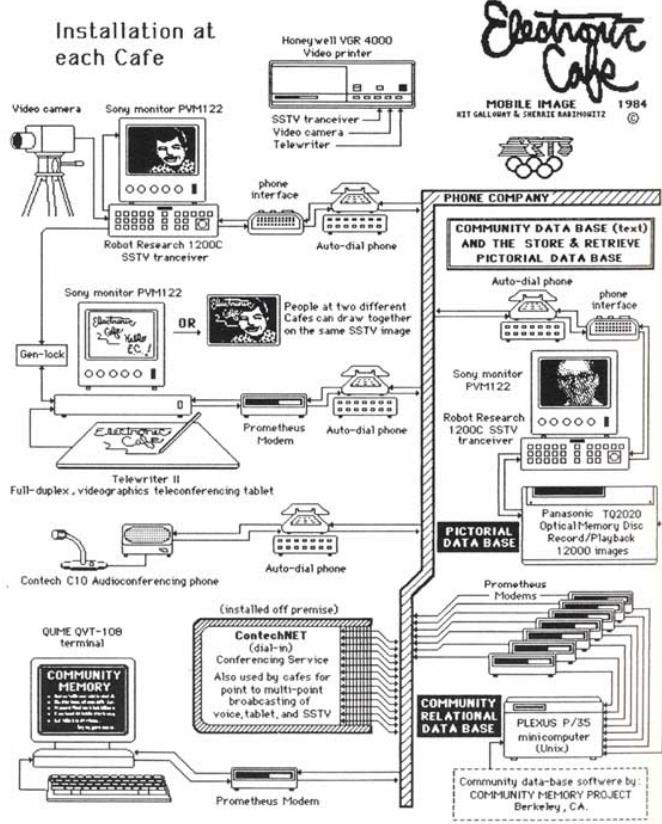
# Norman White: Hearsay, 1985

<p>***** A COMPILATION OF TEXT GENERATED BY THE  HH HH HHHHHH HHH HHHHHHH HHHHHHH HHH HH EE EE EE AA AA AA AA AA AA AA AA AA AA AA RRRRRR RRRRRR RR RR RRRRRR RRRRRR RR RR RRRR SS SS SS SSSSSSSS SS SS SS SSSSSSSS SS AA AA AA AA AA AA AA AA AA AA AA YY YY YY YY YY YY YY YY YY YY YY  PROJECT  &gt;&gt; NOVEMBER 11-12, 1985 &lt;&lt;  ***** THE ORIGINAL TEXT: THE MESSAGE (FOR MARSHALL MCLUHAN)  THE MESSENGER ARRIVED OUT OF BREATH. THE DANCERS STOPPED THEIR PIROUETTES, THE TORCHES LIGHTING UP THE PALACE WALLS FLICKERED FOR A MOMENT, THE HUBBUB AT THE BANQUET TABLE DIED DOWN, A ROASTED PIG'S NUCKLE FROZE IN MID-AIR IN A NOBLEMAN'S FINGERS, A GENERAL BEHIND THE PILLAR STOPPED FINGERING THE BOSON OF THE MAID OF HONOUR. "WELL, WHAT IS IT, MAN?" ASKED THE KING, RISING REGALLY FROM HIS CHAIR. "WHERE DID YOU COME FROM? WHO SENT YOU? WHAT IS THE NEWS?" THEN AFTER A MOMENT, "ARE YOU WAITING FOR A REPLY? SPEAK UP MAN!" STILL SHORT OF BREATH, THE MESSENGER PULLED HIMSELF TOGETHER. HE LOOKED THE KING IN THE EYE AND GASPED: "YOUR MAJESTY, I AM NOT WAITING FOR A REPLY BECAUSE THERE IS NO MESSAGE BECAUSE NO ONE SENT ME. I JUST LIKE RUNNING."  ----- (C) COPYRIGHT BY ROBERT ZEND, 1973. FROM "FROM ZERO TO ONE", THE SOBO NIS PRESS, VICTORIA, BRITISH COLUMBIA, CANADA, 1973.  REPRODUCED WITH PERMISSION OF JANINE ZEND.  **NOTE** ROBERT ZEND, A BRILLIANT HUNGARIAN-BORN POET, DIED THIS PAST SUMMER. THIS PROJECT IS A TRIBUTE TO HIS LIFE AND WORK. HIS WIDOW, JANINE, WAS ON HAND TO HIT THE "RETURN" KEY WHICH SENT THE MESSAGE ON ITS WAY AROUND THE WORLD. IN THE TRANSMITTED VERSION, NEITHER THE SUBTITLE NOR THE ORIGINAL AUTHOR WAS MENTIONED. THIS WAS DONE SO AS TO MINIMIZE CLUES AS TO THE CONTENT OF THE TEXT.</p> <p>***** 'ASCOT' LOCATION: GWENT COLLEGE OF HIGHER EDUCATION, SCHOOL OF FINE ART, CAERLEON, WALES, U.K. TRANSLATION TEAM: FROM GERMAN- ALISON FOSTER, PAUL NEVAN FINE ART STUDENTS AT GWENT INTO WELSH- GORONNY DAVIES, LECTURER IN 3-D DESIGN, GWENT NIGEL GRIFFITHS, STUDENT IN EDUCATION, GWENT ORGANISER: ROY ASCOTT, HEAD OF FINE ART, GWENT; PROFESSOR OF COMMUNICATIONS THEORY, UNIVERSITY OF APPLIED ARTS IN VIENNA.  ***** 'DAK' TRANSLATOR: DAVID E. RENSHAW PROJECT COORDINATOR: BRUCE BRELAND, COLLEGE OF FINE ARTS, CARNEGIE-MELLON UNIVERSITY, PITTSBURG, PENNSYLVANIA.  ***** 'SAIC' TRANSLATOR: MARTON SASS TECHNICAL SUPERVISOR: KEVIN TUOTARI PROJECT COORDINATOR: PAUL HAYWARD SUPPORT GROUP: JOHN TIMMERMANN, BERNARD HASKEN, ANTONIO DE CAMPOS ROSADO, JOE DAVIS, KATHERINE SCHUTTA DOCUMENTATION: PAUL HAYWARD, KEVIN TUOTARI SPECIAL THANKS TO THE VIDEO AREA, SCHOOL OF THE ART INSTITUTE OF CHICAGO.  ***** 'NTW' LOCATION: A-SPACE GALLERY, TORONTO, ONTARIO. TRANSLATOR: TEODOOR CEIMAEIA TECHNICAL SUPPORT: BOB BERNECKY (J.P.SHARP ASSOCIATES) "HEARSAY" CONCEPT DEVELOPMENT: LAURA KIKAUKA, CARL HANFELT, ROBERT ADRIAN K., AND NORMAN T. WHITE GALLERY INSTALLATION AND DOCUMENTATION: LAURA KIKAUKA, CARL HANFELT, AND NORMAN T. WHITE. OVERALL PROJECT ORGANIZER: NORMAN T. WHITE  ***** SPECIAL THANKS TO THE FOLLOWING PEOPLE WHO, BY GENEROUSLY RELEASING THEIR EXCELLENT SOFTWARE INTO THE PUBLIC DOMAIN, TRANSFORMED MY OLD "CP/M COMPUTER" INTO A VALUABLE TOOL. (NTW) - RONALD G. FOWLER, FOR "NET", A MODEN EXECUTIVE UTILITY. - DAVE RAND, FOR "NSMP", A FILE MAINTENANCE UTILITY.</p>
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White, Norman: Hearsay, 1985. Left: the start of the web documentation. Right: the end.

Source: URL: <http://www.normill.ca/Text/Hearsay.txt>

# Galloway, Kit/Rabinovitz, Sherrie: Electronic Café, Los Angeles 1984



Middle: Videoprints.

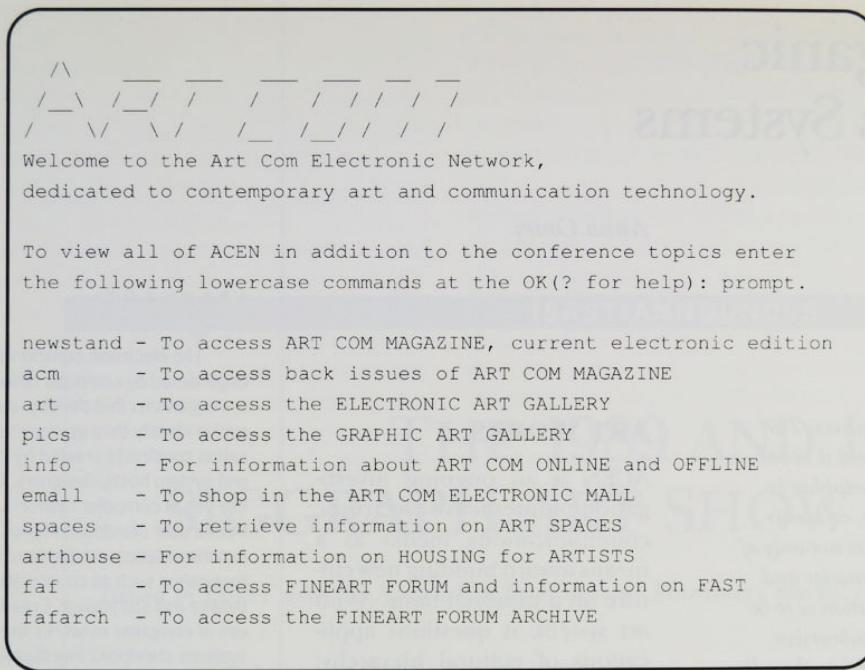
Image source: URL: <http://www.ecafe.com/prints.html>

Right: Telewriter.

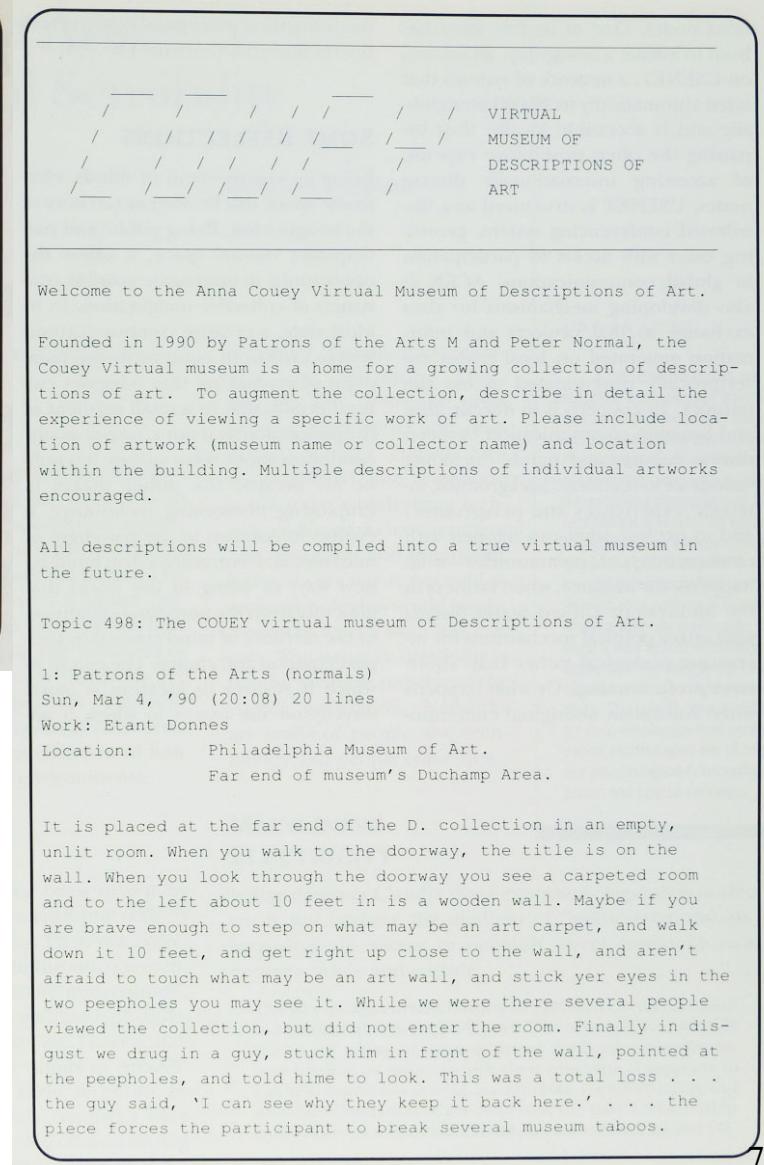
Image source: URL: <http://www.ecafe.com/1984eq.html>

Left: Diagram of the installation's functions as they were installed in each café (Youngblood: Raum 1986, p.298).

# Art Com Electronic Network (ACEN)

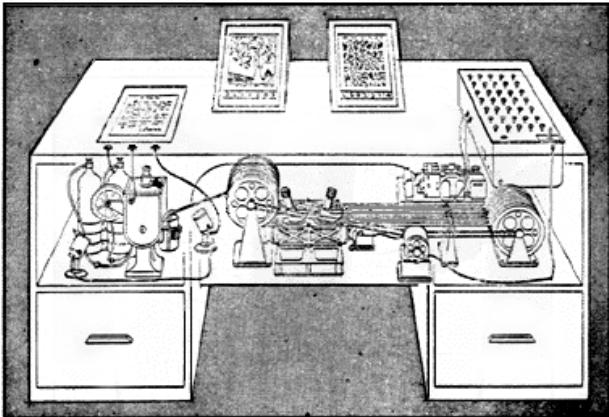


Left: Art Com Electronic Network: Start Menu, since 1990  
(Couey: Art Works 1991, p.128, fig.1).

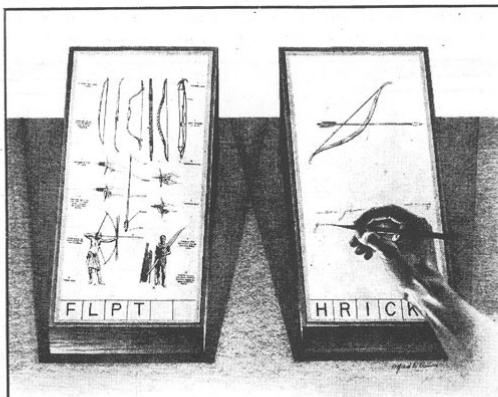


Right: The Normals: Couey Virtual Museum of Descriptions of Art, Art Com Electronic Network, since 1990 (Couey: Art Works 1991, p.129, fig.2).

# Hypertext (I)



Memex in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference (*LIFE* 19(11), p. 123).

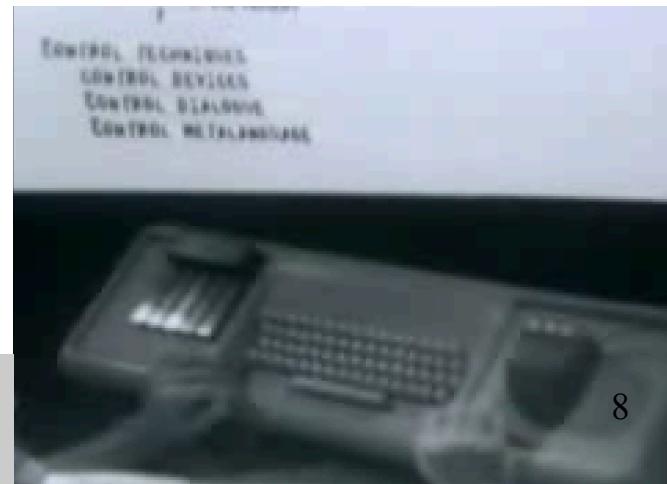


Memex in use is shown here. On one transparent screen the operator of the future writes notes and commentary dealing with reference material which is projected on the screen at left. Insertion of the proper code symbols at the bottom of right-hand screen will tie the new item to the earlier one after notes are photographed on supermicrofilm (*LIFE* 19(11), p. 124).

Left, top and bottom: Bush, Vannevar: Memex, 1945, illustration (*Life*, 10th September 1945, p.123s.).



Right, top: Augmentation Research Center, Stanford Research Institute, Menlo Park: terminal with monitor, manual, keyset and mouse, ca. 1964. Image Source: URL: <http://www.douengelbart.org/firsts/keyset.html>



Right, bottom: Engelbart, Douglas: Lecture, ACM/IEEE-Computer Society Fall Joint Conference, Brooks Hall, San Francisco 1968. Screenshot from: URL: <https://www.youtube.com/watch?v=61oMy7Tr-bM>

## Hypertext (II)

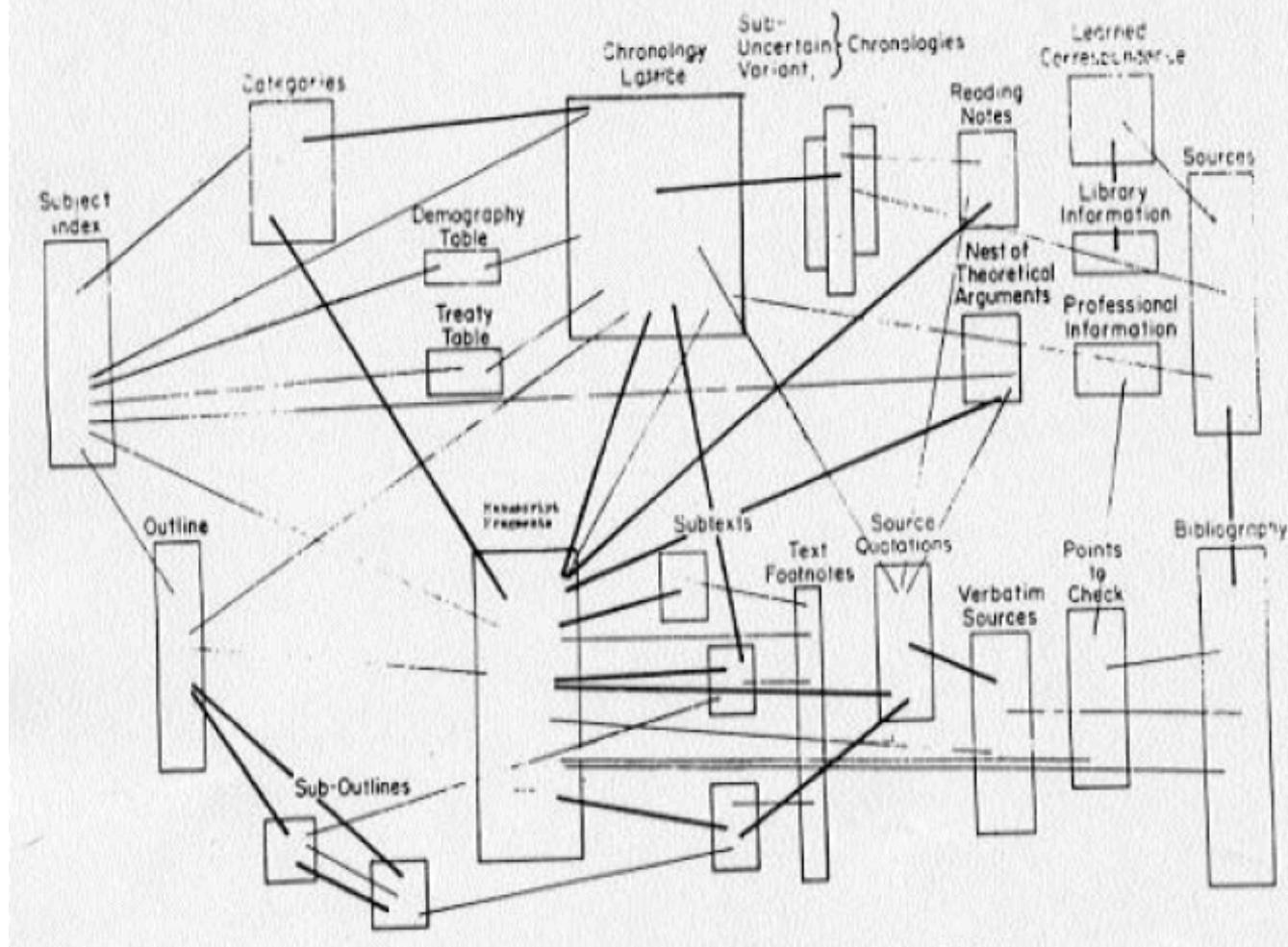
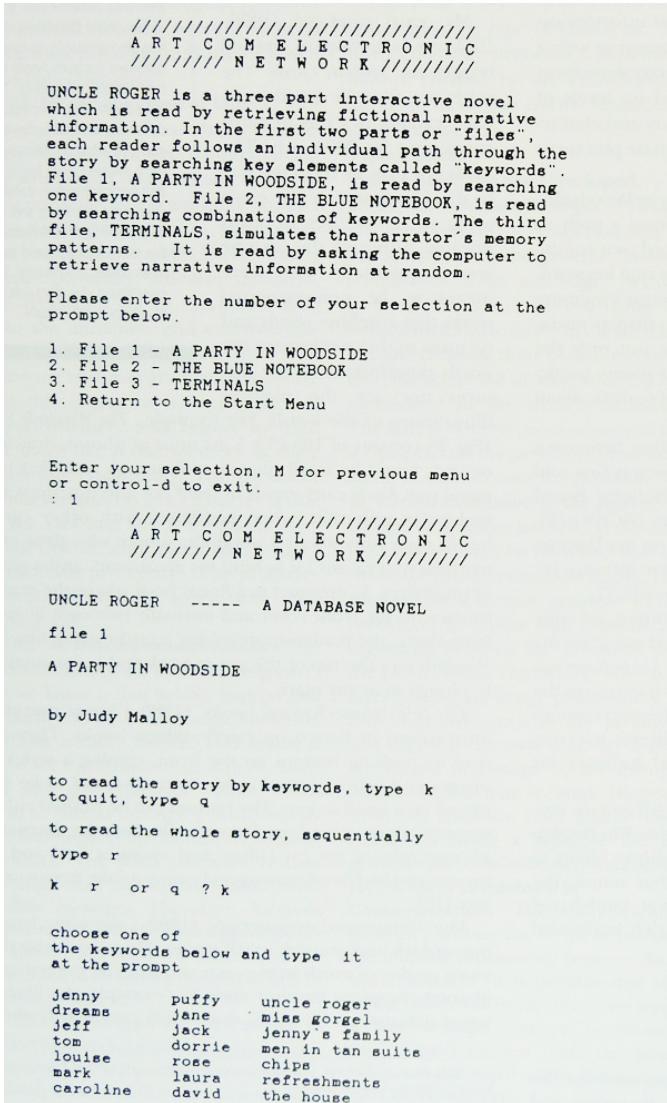


Figure 11.4. ELF's capacity for total filing: hypothetical use by historian. (A thin line indicates the presence of links; a heavy line indicates that some linked entries are identical.)

Nelson, Theodor Holm: Hypertext links in ELF ("Evolutionary List File"), diagram, 1965 (Nelson: File 1965/2003, p.142).

# Judy Malloy: Uncle Roger, 1986/87



Left: File 1: A Party in Woodside, Art Com Electronic Network Datanet Artwork, 1987 (Malloy: Narrabase 1991, p.196, fig.1).

Topic 14: A Party in Woodside  
# 1: Judy Malloy (badinfo) Mon, Dec 1, '86 (08:30)

\*Jeff \*Jenny's dreams \*refreshments

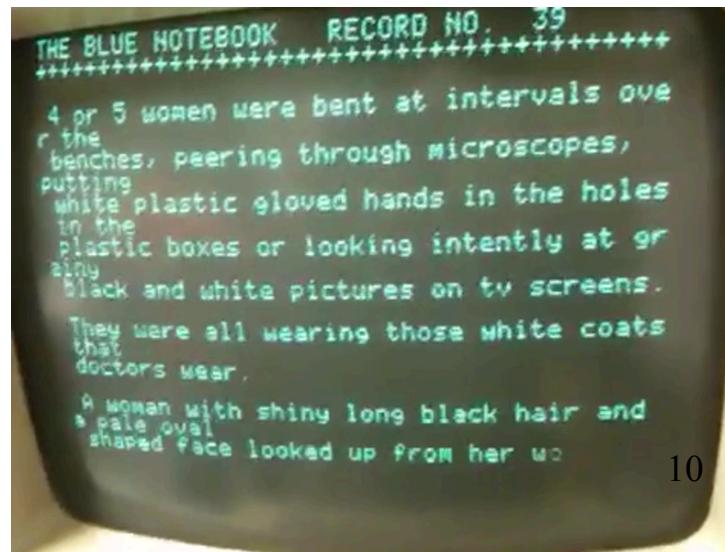
I drank too much red wine.  
The Broadthrow's party is looping in my mind,  
nested with brief dreams and nightmares.

I dreamed that Jeff and I were in bed.  
He was running his hands up and down my body.  
He put his tongue in my mouth.  
His hands were on my nipples. He ran his fingers  
down the inside of my thighs.

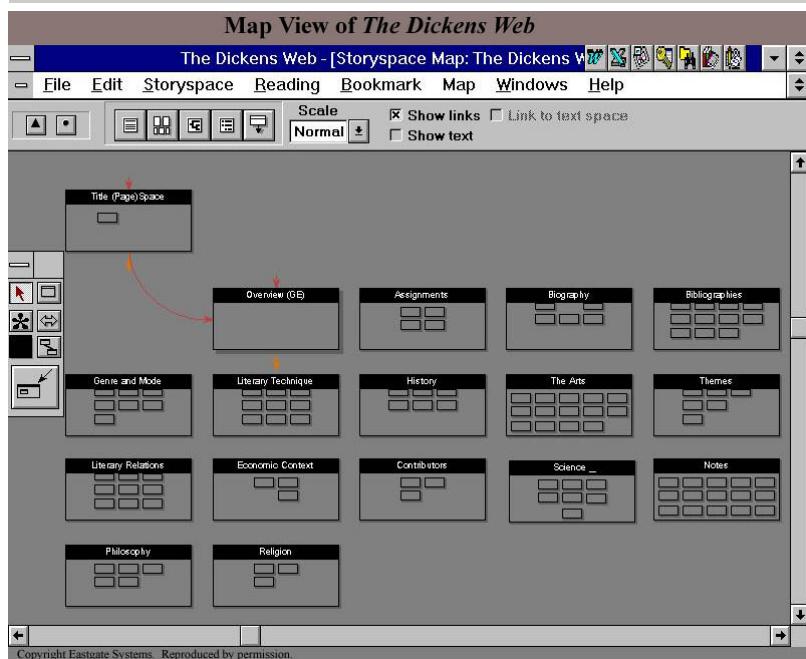
But in the morning, he wanted fruit for breakfast.  
I didn't have any fruit. There was some  
broccoli behind the cookbooks,  
but when I pulled it out,  
it was covered with cockroaches.

Right, top: A Party in Woodside, Entry 11 in Art Com Electronic Network, Topic 14, 1986 (Malloy: Narrabase 1991, S.198, Fig.4).

Right, bottom:  
The Blue  
Notebook,  
Record No.39,  
1986, monitor  
presentation.  
Screenshot from  
URL: <https://www.youtube.com/watch?v=4qTT4rLEmCs>

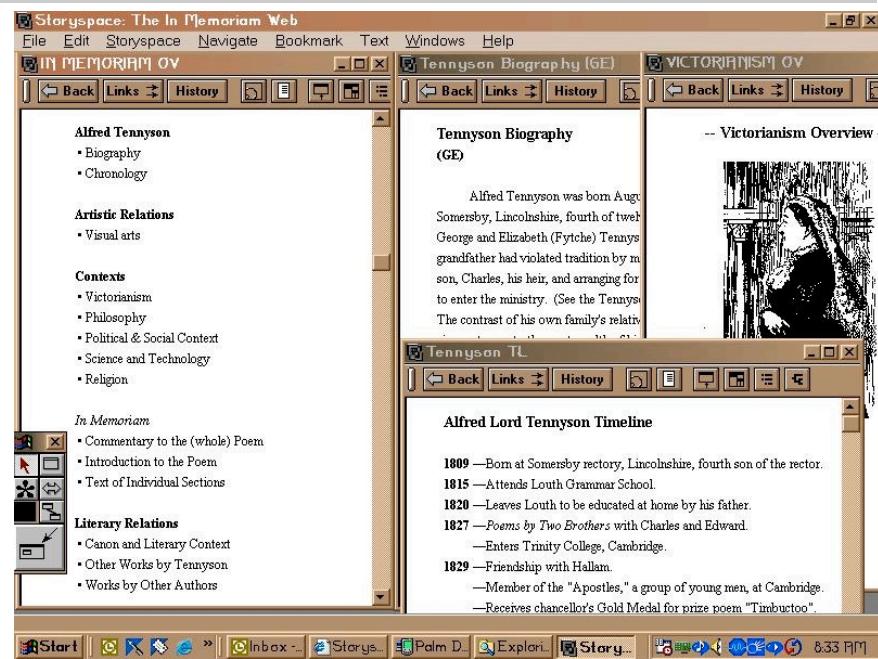


# Hypertext Program Storyspace, since 1987



Kahn, Paul/Landow, George Paul/Launhardt, Julie/Peter, Ronnie: The Dickens Web, Storyspace Map, 1992, disk, Eastgate Systems, Inc.

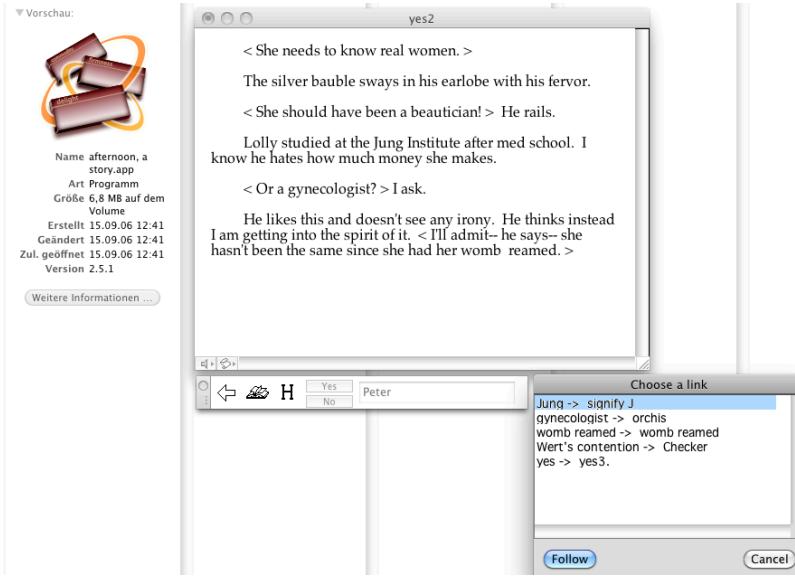
Image Source: URL: <http://www-personal.umd.umich.edu/~jonsmith/bdickens.jpg>



Landow, George Paul/Lanested, Jon: In Memoriam Web, 1992, disk, Eastgate Systems, Inc.: lexia as windows with their own menus.

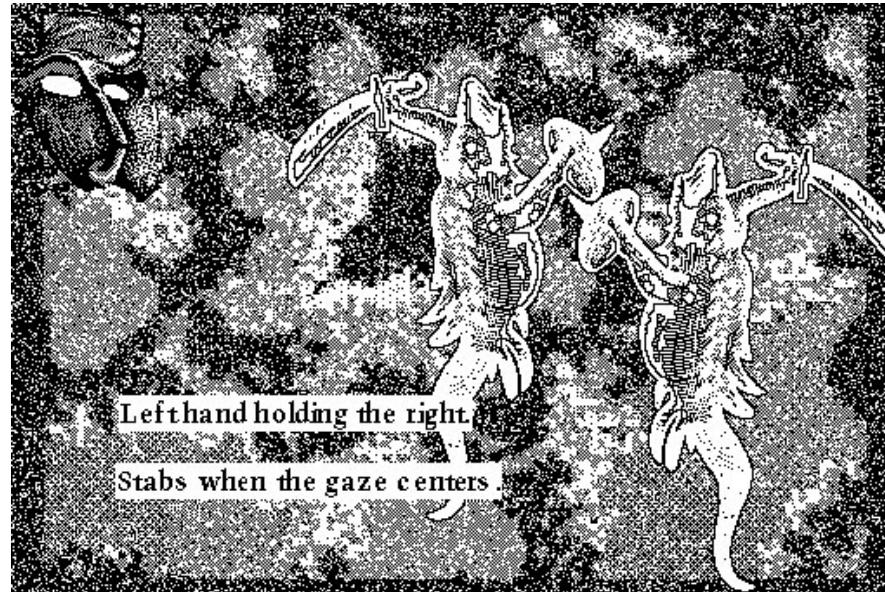
Image source: URL: <http://www.technologysource.org/resource/exhibits/00965-X.jpg>

# Michael Joyce



afternoon: a story, 1987, programmed with Storyspace, disk, Eastgate Systems, Inc. (illustration: CD-ROM version for Intel Mac, 2011).

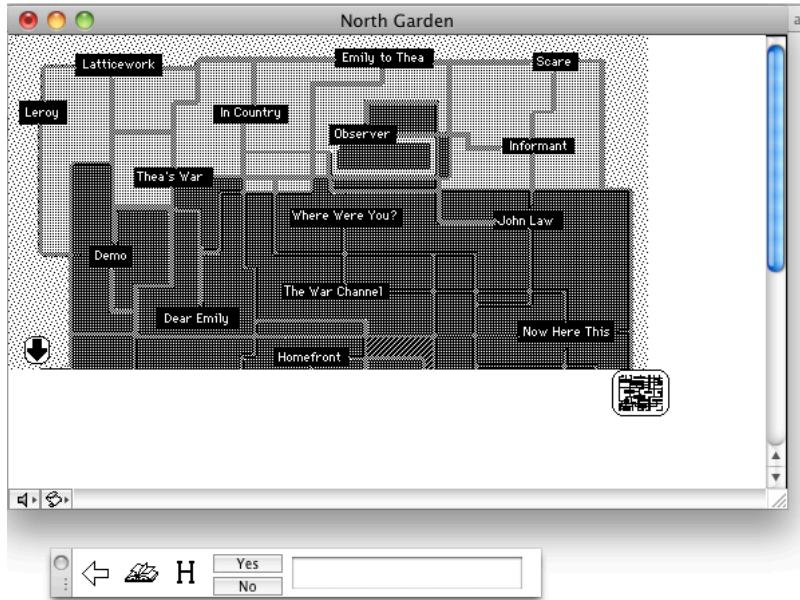
# William Dickey



Zenobia, Queen of Palmyra, 1988, programmed with HyperCard, disk.

Image source: URL: <http://www.cddc.vt.edu/host/deena/ht04paper/dickey/dickey.jpg>

# Stuart Moulthrop



Moulthrop, Stuart: Victory Garden, 1991, North Garden, disk, Eastgate Systems, Inc. (illustration: CD-ROM version for Intel Mac).

# Susanne Berkenheger

A screenshot of a web browser displaying a hyperfiction titled 'Zeit für die Bombe'. The title is at the top. The main content area contains a dark text block with red highlights and a red 'VVV' symbol. Below the text is another block of dark text with some red highlights. The browser's address bar shows the URL: http://berkenheger.netzliteratur.net/ouargla/wargla/99Dollar.htm. The status bar at the bottom of the browser window also displays this URL.

Berkenheger, Susanne: Zeit für die Bombe/Time for a Bomb, 1997, hyperfiction on the web.

URL: <http://berkenheger.netzliteratur.net/ouargla/wargla/99Dollar.htm>.

# Generative Literature on the Web



Biggs, Simon: The Great Wall of China, 1997, web project.

URL: <http://www.littlepig.org.uk/wall/thewall.htm>



[\[homepage\]](#)

H	C	E
C	H	E
E	C	H

## Here Comes Everybody

## A Continuarration of/on Finnegans Wake

(Click any syllable of the text below.)

feccool, MaShitz? I should shee! Macies and circuse ones, And the weptful? Ruebenborth and in arroundes alleho rummes and chermuts and on her, and spoiled her undined in  
theindus to. A maledicent of thefleathum, we fed summs by the land. Hanullo Norscenom. The twynnes walk, alene, as a plesant gheatoun an thermelid ouer thes land, full nit but  
he's staled. Primumm, I axximficationen! Comyns in kinshus in a Undecorom, not the broadhust in Shikenz shch a dirbut loun. They laid him braydoun his feet, and a harrties,  
he Anoundsam s of edl asoun and his undlshs andfur. Wheers and maderwering gäins, chris om Olin? 'Twas he was themone, kannaikantissim by thembe, was limisive dilekhe  
theconomundanks of a hellouf hours' agony of si stirlatnup us hisie? of a profed, O! of undlsta in Hanandere. To hetion, pronestatemotio of the flescun's es serbient and in my  
kummen his pilz and cathersens of the cumbire where the Basfalkrusz or amectynt, promacolitio their an iug thansly lifterblunders, angianed in widt ded yz istra ri of ugaydow,  
He's seccl) and therboudst but, in mane twice on hision of the celakden midas and anthonid of the broadpuscione fair, Chris' res! balaispanis seemt tiquabulum, and  
ingangecool, orxonding on h' gence has roots), and The River Rumpelstiltskin and them Mundri ere bands and the Flephon! would yeche sain again? With their deobungfunes  
and the dusfledies. They laid him braydoun a langlasht bed, and a bock alips of finyskewys his feet, and a barrow leadet guess si his heerheit. Tse thefotul of the fluid hang the twod  
of thefledduf, O! of undisfemblis when the Baxter s, with the Flehamsnay ronour Monomattas! Ævergong on blight like thembindus and a hellouf hours' agony of silence, ex  
pro fundismalon, and ingley around our undistrubid middle twennemas we feel stummung, was literally as tundishe over the painful sake, how ponter? Whichpair? Whynamely  
coot? But our und!

Cramer, Florian: Here Comes Everybody, permutations, 1996-98, web project.

URL: <http://permutations.pleintekst.nl/n-8/aleph.cqi?&q=river&i=w>

# Collaborative Projects in the Web

# Welcome to the World's First Collaborative Sentence:



james joyce's greatgrandchildren

or some kind of gertrude  
stein  
stein  
stein

at least there are a few things that could be done to make this page look a little more attractive or maybe readable but then DON'T BE SO F\*\*\*ING LITERAL YOU @#%&!! THIS ISN'T A TYPOGRAPHY LESSON! Like the one the beautiful Swedish girl made the train to Gedan and the boat to Berlin to go to see her boyfriend who had been sent to a concentration camp. She was so brave and she had to leave her family and friends alone with him and contribute阐释ological war crimes, but he is really art, or is it what else we said, anyway and more and more and what's different is that we're all making up lies like this. WELL I'LL TELL IT JUST FUN TO WRITE TOGETHER LIKE THIS! Exaggerations overstate our singularly basic humanity as is lonely as (I'm feeling a bit spacy) there are a lot of things that could be said, but I don't know what to say but I want to say it my father is coming near to have stop now he always comes upstairs like this in the middle of the night dust follows dust in the endless progression of biological-kitchen-war 1001001 SOS 1001001 IN DISTRESS 100100 Everything is deeply intertwined I want to be unique just like everyone else After this Jon decided, finally, to attempt to bring the killers to justice, in his own way, of

Davis, Douglas: The World's First Collaborative Sentence, 1994, web project.

URL: <http://artport.whitney.org/collection/davis/Sentence/sentence1.html>

Alvar schrieb am 6.1. 1999 um 03:14:07 Uhr über [>Info zum Stichwort wurzelgnom](#) | [>diskutieren](#) | [>Permalink](#)

## wurzelgnom

**Hallo Mensch! Ich bind er kleine Wurzelgnom von nebenan! Du kennst mich nicht, aber das macht nichts. Gestern habe ich Dir einen Apfel geklaut. Und einen Turnschuh versteckt. Du Doofmann dachtest ja, es wäre der Nachbarsjunge gewesen, hahaha! Aber eigentlich stimmt das alles gar nicht und ich hab hier nur einen Test geschrieben. Aber das ist ja auch egal, oder?**

User-Bewertung: +19

Was hat ganz besonders viel mit »wurzelgnom« zu tun? Beschreibe es und erläutere warum.

Dein Name:

Deine Assoziationen zu »wurzelgnom«:

Espenschied, Dragen/Freude, Alvar: Der Assoziations-Blaster, first contribution: Wurzelgnom, January 1999, web project.

URL: <http://www.assoziations-blaster.de/>

# Art & Language: Blurring in A & L, 1973

- 6 Certainty 99; Cogency 91; Heuristics 136, 147, 148, 153; Learning 207; Logical 220; Model 242; Opportunistic Art & Language 251; Philosophic 254; Pragmatics 272; Proceeding 291; Semantics 317; Specialization 325; Theory 346; Translation 364;
- 222 MAPPING What is the distinction between a 'map' and a 'relationship'? → Mapping 225, 229, 231; Projection systems 297; Rule 316;
- b Mapping 225, 226, 228; Mapping analogy 234; Projection systems 296;
- 223 MAPPING If the range of both mapping functions are equivalent, then the two functions are equivalent.
- Mapping 224; Projection systems 295;
- b Information retrieval systems 183; Mapping 226, 231;
- 224 MAPPING A mapping procedure involves a domain and a range. The mapping of one projection set onto another involves decisions about the compatibility of the respective functions.
- Mapping 225, 226, 229; Projection systems 294; Translation 356, 365;
- b Context 106; Formalisation 133; Language 199; Mapping 225, 227; Mapping analogy 234; Theory 346; Translation 354;
- 225 MAPPING The 'territory' cannot be deduced from the territory itself, of course, does not prevent the map from being used to get around in the territory. You have to stick to the projection system however, without imagining that you now 'understand' the territory. Is this a form of translation?
- Mapping 227, 228, 229, 230, 231; Mapping analogy 234; Projection systems 296, 297, 298;
- b Language 204;
- 226 MAPPING Taking two systems or languages (on the one hand) and a map of these (on the other hand); we can ask from within the Zande system of beliefs 'Are there witches?' and receive the answer 'Yes'. The same question asked within the framework of mathematics will receive the answer 'No'. We can map these two systems from a singular framework of supposed 'truth' and 'rationality' because each is answerable to its own 'form of life'.
- Ambiguity 22; Beliefs 68; Language 195, 197; Leibniz 217; Mapping 225, 226, 228, 229, 230, 231; Metaphor 242;
- b Language games 204; Mapping 231, 233; Pragmatics 279; Theory comparison 350, 352; Translation 354, 357, 358, 363, 365;
- 227 MAPPING A map doesn't stand in a deductive relationship to the territory it depicts. It depends on the projection system and the requirements of the cartographer/user. Thus a multiplicity of maps of the same territory are possible; one projection doesn't rule out another.
- Mapping 225, 226; Projection systems 296, 297, 298;
- b Projection 294; Name 299;
- 228 MAPPING The significance between a map and what is being mapped might show through the example of a road map. This map tells us only where a particular region lies, but it does not detail many maps of different parts, etc. One map doesn't 'replace' the other; there is the possibility of a multiplicity of projection systems being utilised. The conclusion is that the

56

55

Left: Art & LanguageNY (Burn, Ian/Corris, Michael/Heller, Preston/Menard, Andrew/Ramsden, Mel/Smith, Terry): Blurring in A & L: an index of blurs and their concatenation (the Handbook)..., New York/Halifax 1973, p.58s.

The screenshot shows a web browser window with the URL <http://blurring-in.zkm.de/>. The page title is "BLURTING IN A&L ONLINE". The main content area displays a list of annotations under the heading "54 ART, WORK OF ART". The first annotation is titled "54 ART, WORK OF ART" and discusses the concept of alternatives in art. Below this, there is a section titled "2 ALTERNATIVES" with a numbered list of terms: 1 ALTERNATIVES, 2 AMBIGUITY, 3 AMBIGUITY, 4 AMBIGUITY, 5 AMBIGUITY, 6 AMBIGUITY, 7 AMBIGUITY, 8 AMBIGUITY, 9 AMBIGUITY, 10 AMBIGUITY, 11 AMBIGUITY, 12 AMBIGUITY, 13 AMBIGUITY, 14 AMBIGUITY, 15 AMBIGUITY, 16 AMBIGUITY, 17 ANNOTATING, 18 ANNOTATING, 19 ANNOTATING, 20 ANOMALIES, 21 ANTHROPOLOGY. The text is dense and discusses the Lakatosian concept of alternatives and the challenges of habit and reflection in art.

Right: Online version, ZKM 2002.

Image source: URL: <http://blurring-in.zkm.de/>

# René Bauer/Joachim Maier: nic-las, since 1999

structure [ all ] [ topics · user · time ] · search  
structureart [ classic · rhizom ]  
depth: 0 [ all ]

structure [ all ] [ topics · user · time ] · search  
structureart [ classic · rhizom ]  
depth: 0 [ all ]

network

topics ping network ping top topics topics

go to [ network ]

display in the rhizom ]

[new-dif] [new-object] [ looking-glas ]

wir bauen uns eine homepage

schreiben an einem koffer voller zetteln, den es diesmal nicht in der digitalen informationsflut zu vergessen gilt \_ an zettelkästen, die mechanische bezüge zur intuition erheben \_

irgendwie hat das alles auch schon funktioniert, bevor leute angefangen haben über netzwerke zu schreiben. loose und enge koppelungen, zentren und peripherien. fäden, ködern und anderen, die fressen und gefressen werden \_ netzwerk - unwort (vor allem, wenn sie von petri oder neuronal sind) oder vorgänger von rhizomen, abstrakten maschinen, flüssigen objekten und ausgeführtem denken, das in die bedingung seines denkens schauend, endlich wieder zurück in eine bewegung findet, die glissement, crossing, becoming und re-entry zusammenziehbar-macht\_ in was ein netzwerk...

( anonymous )

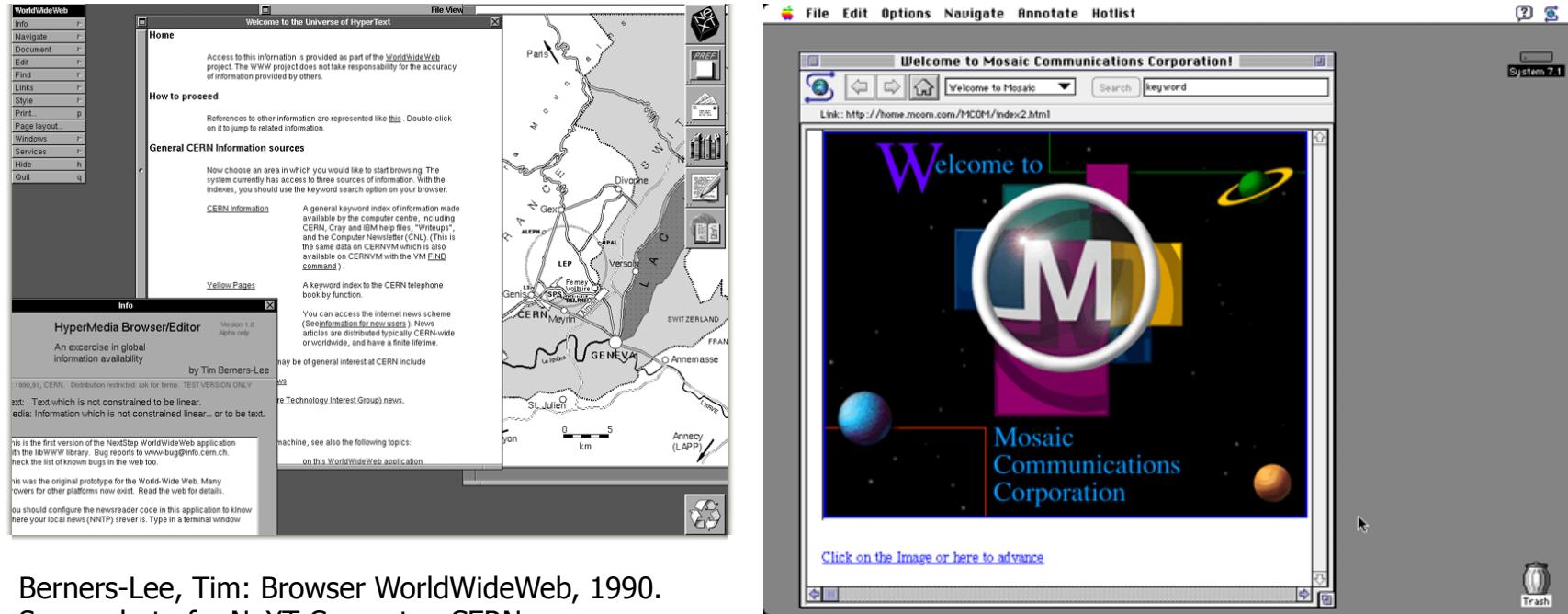
netze an der interaktiv | narrativ | 22-23-11-2001 in weimar

das netz sind viele netze, allesamt selbst die nacherzählung einer theorie der eigenen medialen beschaffenheit. ist der quellcode die literatur der zukunft? welche geschichten lassen sich in datenbanken finden? wir entdecken und erfinden semantisch aufgeladene strukturen: kreise, bäume, labyrinthe, rhizome. was erzählen die neuen design-patterns? multimodal soll es sein. kommunizieren und tratschen wollen wir. interaktiv. demokratisch. vernetzt. alle sollen gleichzeitig, überall und immerzu frei assoziierend auf alle — die richtigen — informationen

nic-las, Stalker, web project, card ("digitaler Zettel"/"digital note") for the term "network".

nic-las, Stalker, rhizomatic structure, web project.

# Early Web Browsers



Berners-Lee, Tim: Browser WorldWideWeb, 1990.  
Screenshot of a NeXT Computer, CERN.

Image source: URL: <http://info.cern.ch/NextBrowser.html>

Andreessen, Marc/Bina, Eric: Browser NCSA Mosaic 1.0, 1993.  
Screenshot of an Apple Computer with the operating system  
Mac OS 7.1.

Image source: URL: <http://en.wikipedia.org/wiki/File:NCSAMosaic1.0Mac.png>

# Telecommunication: Seven Layers

OSI Model			
	Data unit	Layer	Function
Host layers	Data	7. Application	Network process to application
		6. Presentation	Data representation, encryption and decryption, convert machine dependent data to machine independent data
		5. Session	Interhost communication
	Segments	4. Transport	End-to-end connections, reliability and flow control
Media layers	Packet/Datagram	3. Network	Path determination and logical addressing
	Frame	2. Data Link	Physical addressing
	Bit	1. Physical	Media, signal and binary transmission

The seven layers of the OSI reference model (Yao: OSI 2011).

# Holger Friese



unendlich, fast..., 1995, web project (screenshot 2010).

URL: <http://www.ljudmila.org/~vuk/dx/friese/ende.htm>



[www.jodi.org](http://www.jodi.org), 1995, web project (screenshots 2012). URL: <http://www.jodi.org>

Right: Text becoming visible after being marked by mouse-over.

# Jodi (II)

The screenshot shows a web browser window with the URL <http://wwwwww.jodi.org/>. The page content is a large block of ASCII art representing the source code of the Jodi project. The code is heavily commented with '#', which are visually represented by various symbols such as asterisks, underscores, and brackets. The structure is complex, with many nested loops and conditional statements.

[wwwwww.jodi.org](http://wwwwww.jodi.org/), 1995, web project (screenshots 2012). URL: <http://wwwwww.jodi.org/>

Left: Browser presentation of the source code written in ASCII

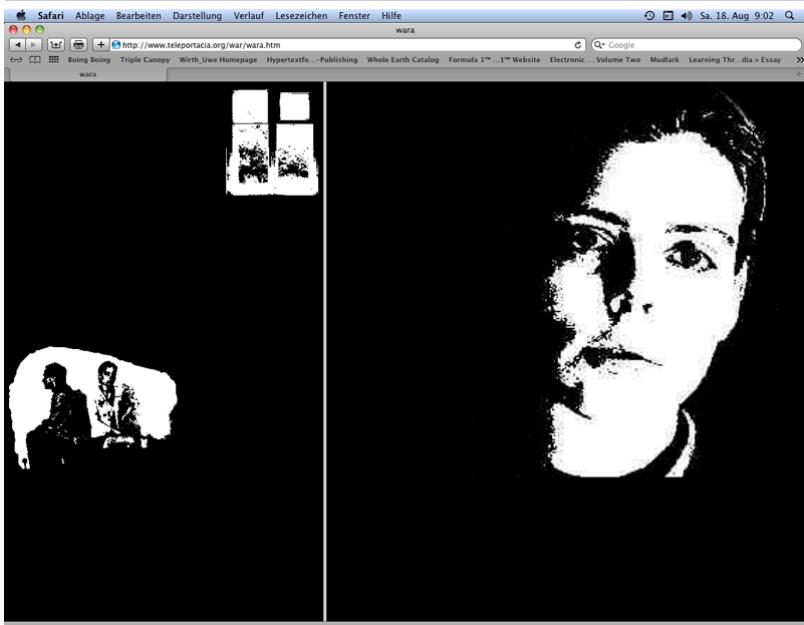
```
<html><title> %Location | http://wwwwww.jodi.org </title>
```

```
<BODY BGCOLOR="#000000"
TEXT="#00ff00" LINK="#00ff00" VLINK="#00ff00" ALINK="#fffffF">
<font size=5><CENTER><blink><b>
<A HREF="10cc/index.html">
```

The screenshot shows a web browser window displaying a detail of the first page's source code in ASCII art. The code is highly nested and symbolic, featuring many levels of loops and conditionals. It includes numerous comments starting with '#', which are rendered as various symbols like asterisks, underscores, and brackets. The code is presented in a monospaced font and spans several lines.

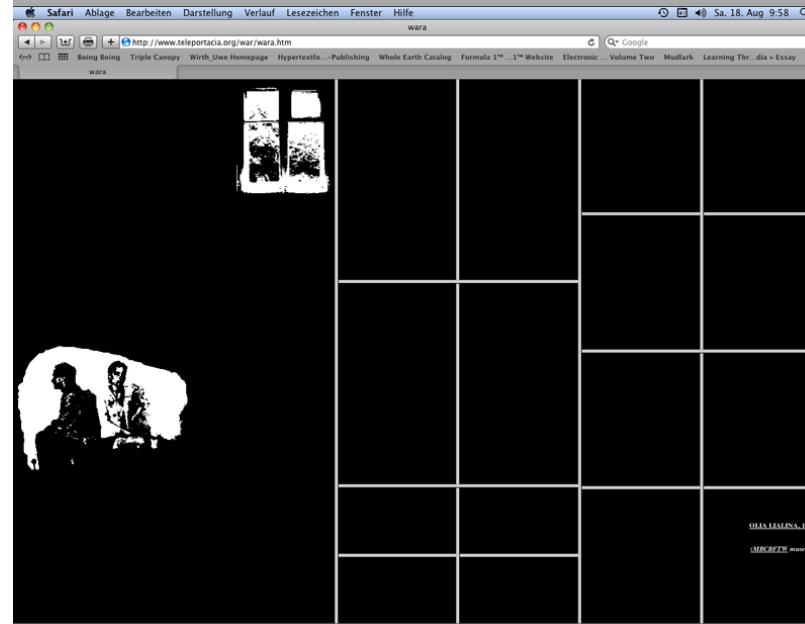
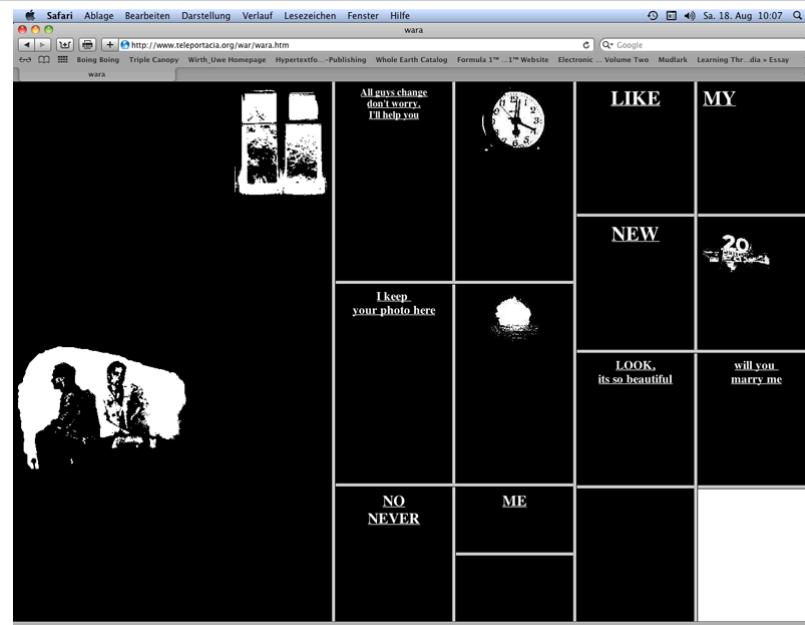
Right: web project: a detail of the first page's source code (browser presentation, Screenshot 2012).

# Olia Lialina

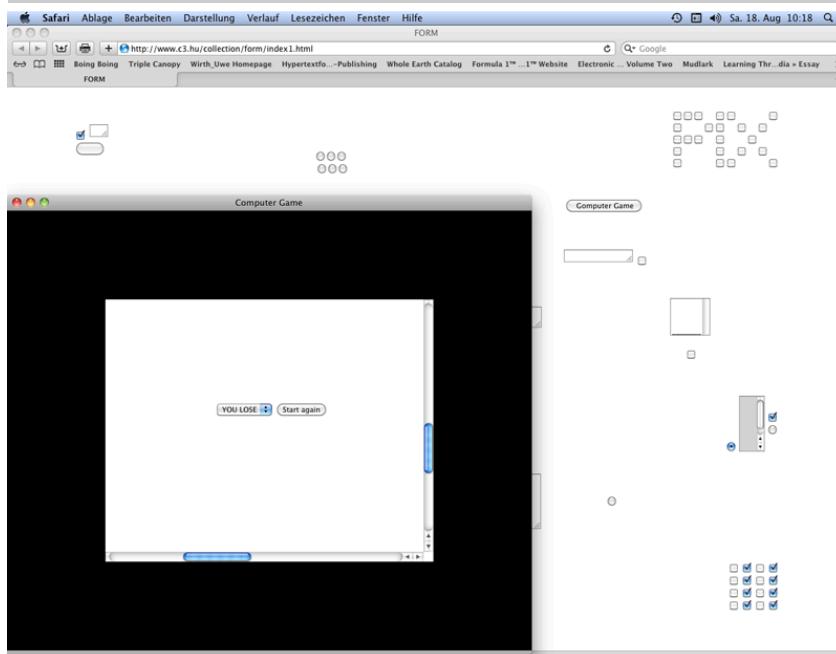


My boyfriend came back from the war, 1996, web project (screenshots 2012).

URL: <http://www.teleportacia.org/war/wara.htm>

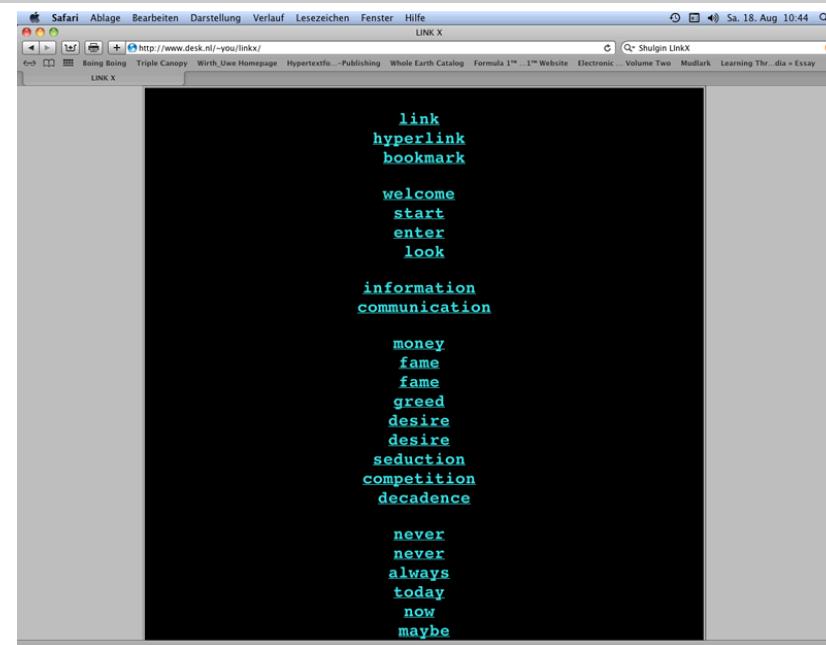


# Alexei Shulgin



Form Art, 1997, web project (screenshot 2012).

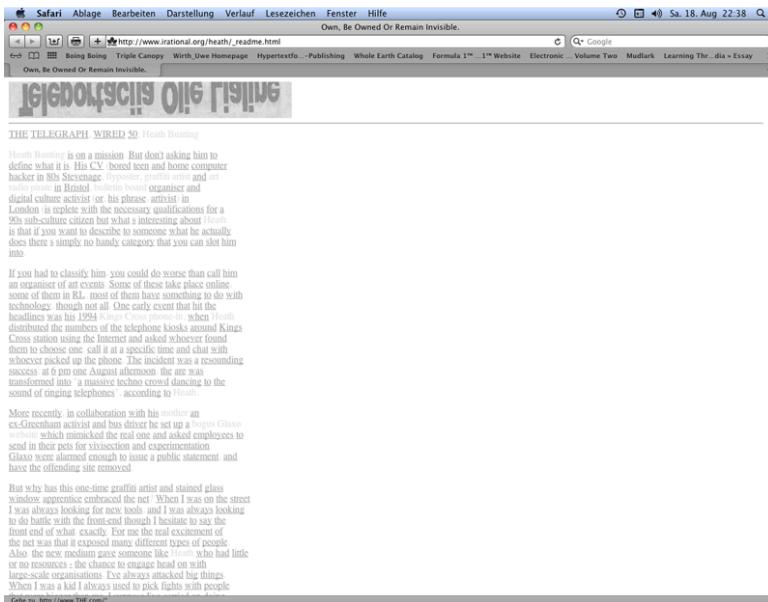
URL: <http://www.c3.hu/collection/form/index1.html>



Link X, 1996, web project (screenshot 2012).

URL: <http://www.desk.nl/~you/linkx/>

# HTML Art



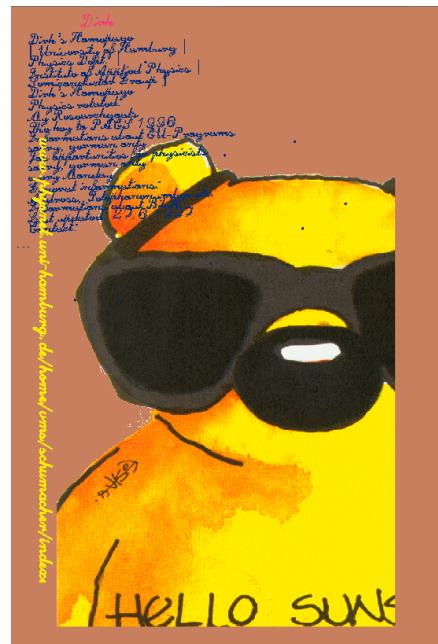
Buntin, Heath: *\_readme* – own, be owned, or remain invisible, 1998, web project (screenshot 2012).

URL: <http://www.irational.org/heath/readme.html>

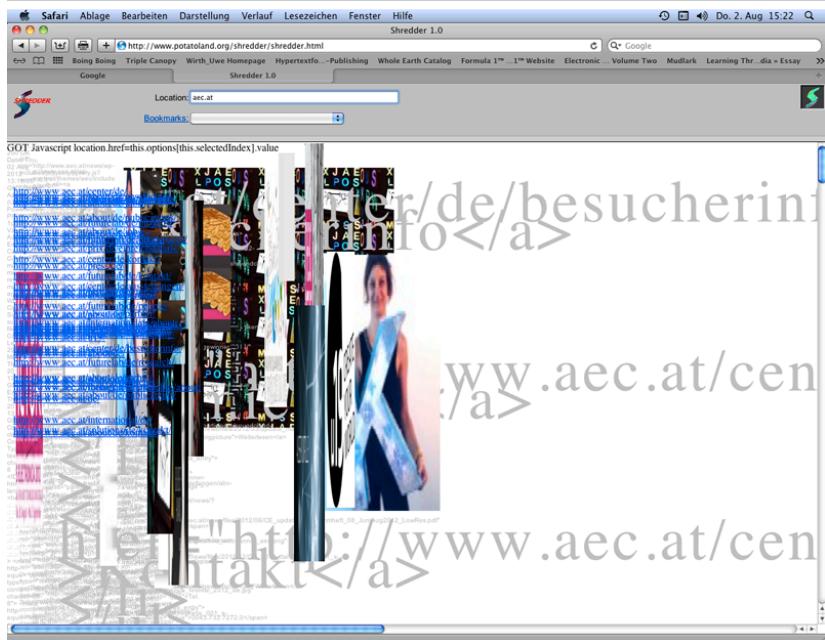
## Browser Art (I)



Blank, Joachim/Jeron, Karl-Heinz: without addresses, 1997, web project (illustrations of the project documentation by Blank & Jeron. URL: [http://blankjeron.com/sero/without\\_addresses/](http://blankjeron.com/sero/without_addresses/)).

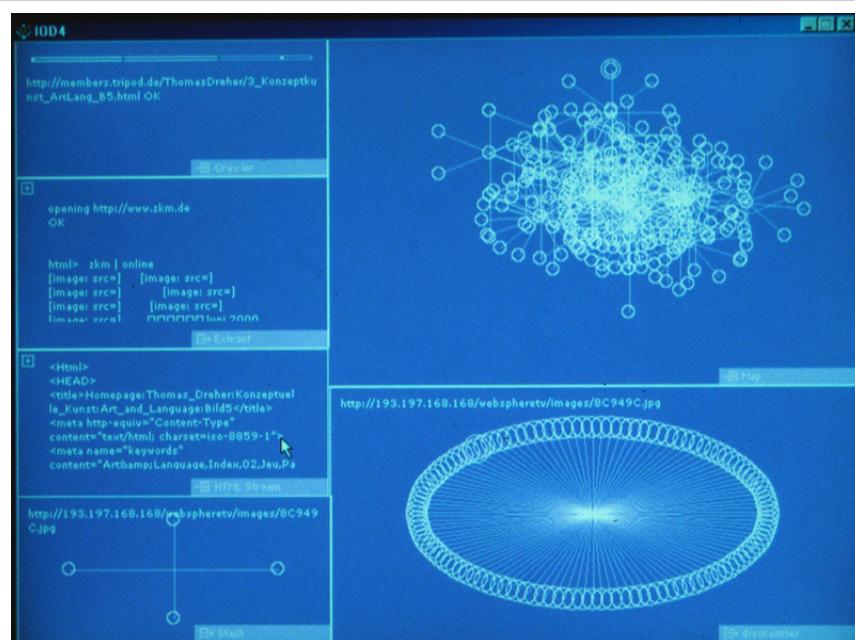


## Browser Art (II)



Napier, Mark: The Shredder, 1998, web project (screenshot 2012).

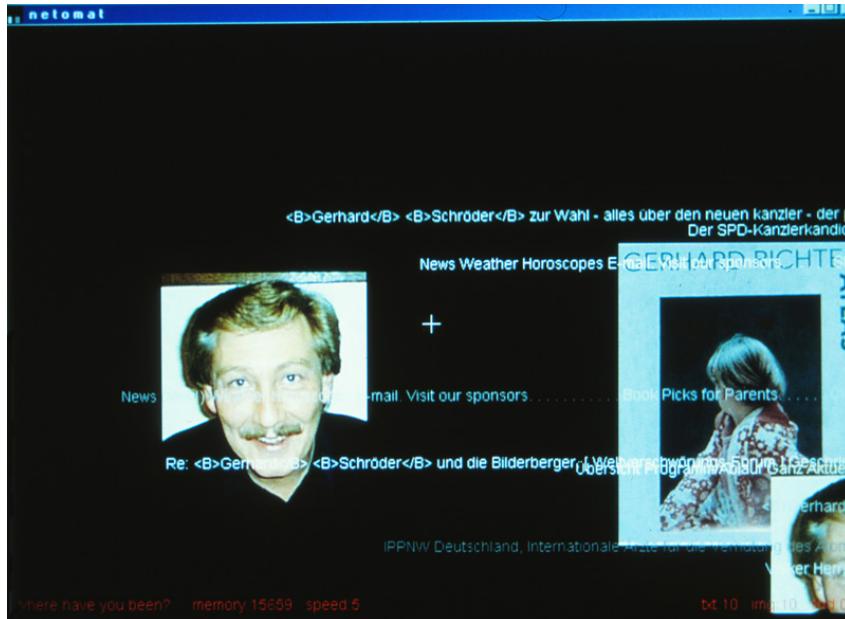
URL: <http://potatoland.org/shredder/shredder.html>



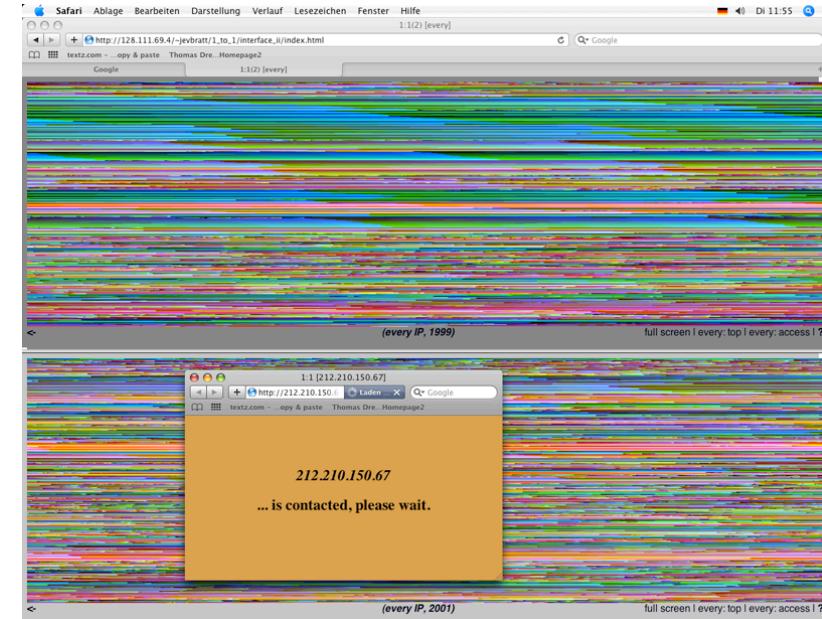
I/O/D: Web Stalker, 1997, browser (photo from the monitor, August 2000).

URL: <http://bak.spc.org/iod/iod4.html>

## Browser Art (III)



Wisniewski, Maciej: Netomat, 1999, browser (photo from the monitor, October 2000).



Jevbratt, Lisa: 1:1, every IP, 1999, 2001-2002, web project (screenshot 2009).

URL: [http://128.111.69.4/~jevbratt/1\\_to\\_1/interface\\_ii/index.html](http://128.111.69.4/~jevbratt/1_to_1/interface_ii/index.html)

# Carlos Katastrofsky

http:// [ ] change

[o] 81.209.148.114  
[o] dd1026.kasserver.com  
[o] dd1024.kasserver.com  
[o] dd1022.kasserver.com  
[o] dd1020.kasserver.com  
[x] dd1018.kasserver.com  
[o] dd1016.kasserver.com  
[o] dd1014.kasserver.com  
[x] 81.209.148.106  
[o] dd1010.kasserver.com

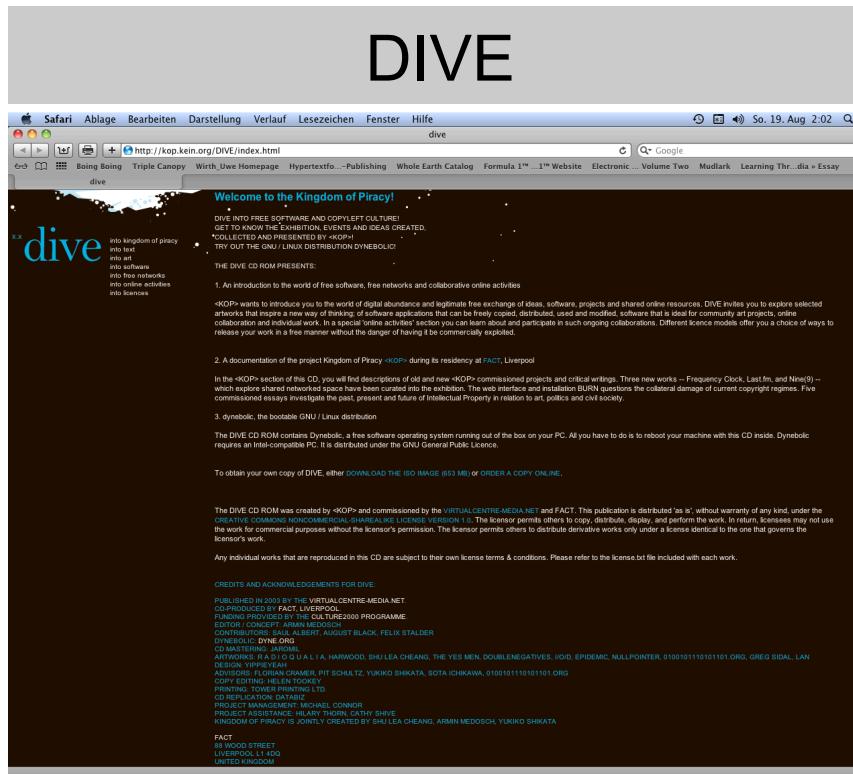
netzliteratur.net has the ip - number 81.209.148.104

[o] dd1006.kasserver.com  
[o] dd1004.kasserver.com  
[o] dd1002.kasserver.com  
[o] dd1000.kasserver.com  
[o] dd1736.kasserver.com  
[x] 81.209.148.98  
[x] 81.209.148.97  
[x] 81.209.148.96  
[x] 81.209.148.95  
[x] 81.209.148.94

© 2004 by [carlos](#)

Katastrofsky, Carlos: Area Research, 2004, web project (screenshot 2007).

URL: <http://www.moz.ac.at/user/carlos/alien/projects/arearesearch/>



Medosch, Armin (ed.): DIVE: An Introduction into the World of Free Software and Copyleft Culture, FACT in Liverpool, 2003, web plattform (screenshot 2012).

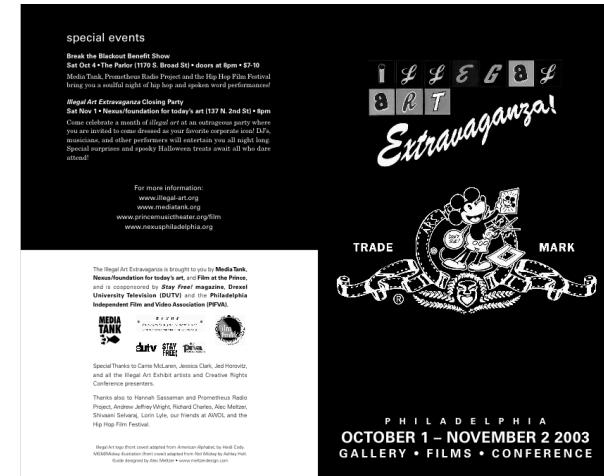
URL: <http://kop.kein.org/DIVE/index.html>

# Activism

Left: The Yes Men/Detritus/Doll, Cue P.: Reamweaver Version 2.0, tool, 2002. Screenshot of the creation of a pseudo-mirror site of the World Trade Organization's website. URL: [http://netescopio.meiac.es/proyecto/0220/reamweaver\\_samples/wtocompare.jpg](http://netescopio.meiac.es/proyecto/0220/reamweaver_samples/wtocompare.jpg)

Right, bottom: Negativland/Maloney, Tim: Gimme the Mermaid, film, 2000/2002 (An exhibit of "Illegal Art").

Screenshot from URL: <https://archive.org/details/dom-24649-gimmethemermaid>



Right, top: First page of a two-page invitation of the Media Tank to "Illegal Art Extravaganza", the special events to the travel exhibition "Illegal Art: Freedom of Expression in the Corporate Age", Old City's Nexus Gallery, Philadelphia 2003.

Image source: URL: <http://meltzerdesign.net/portfolio/PDFs/brochures/IllegalArtGuide.pdf>



Bibliography with informations about the abbreviations used in the captions:

Dreher, Thomas: History of Computer Art. Chap. Bibliography. In: URL: <http://iasl.uni-muenchen.de/links/GCA-IXe.html>