tendencije 5

galerija suvremene umjetnosti

t-5

tendencije 5
konstruktivna vizuelna istraživanja
kompjuterska vizuelna istraživanja
konceptualna umjetnost

zagreb, 1. VI—1. VII 1973.

galerija suvremene umjetnosti

t-5

tendencies 5
constructive visual research
computer visual research
conceptual art

zagreb, june 1 — july 1, 1973

organizacija i realizacija
organisation
galerija suvremene umjetnosti,
galerije grada zagreba, zagreb
tehnički muzej, zagreb

međunarodna manifestacija
t-5
tendencije 5

održava se pod pokroviteljstvom
dra IVE PERIŠINA
predsjednika izvršnog vijeća sabora
socijalističke republike hrvatske

the international event
t 5
tendencies 5

is held under the patronage of
Dr IVO PERIŠIN
president of the executive council of
assembly of the socialist republic of croatia

međunarodna manifestacija t-5 održava se u povodu dvadeset pete godišnje skupštine međunarodnog udruženja likovnih kritičara (a. i. c. a.) u zagrebu.

the international event t-5 is held on the occacion of the twenty-fifth annual assembly of the international association of art critics (a.i.c.a.) in zagreb.

organizacioni odbor
organisation committee

predsjednik

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motivi koji ovaj put pokreću organiziranje manifestacije pod starim naslovom »tendencije« mnogo se razlikuju od onih koji su nas pokretali i vodili u realizaciji prijašnjih istoimenih akcija. izložbe koje će biti otvorene, debata koja će se voditi i publikacije koje će biti štampane imale bi nam poslužiti da dinamičnije pregledamo iskustva koja su se akumulirala, da se uoče problemi koji su se pojavili, da ocijenimo pojedine napore, pojedinačne i opće trendove u radovima i — situaciju u kojoj se nalaze istraživači i sredine u kojima djeluju. rezultati analiza izložbi, ishod debate i sadržaji publikacija željeli bismo da nam budu pouzdana baza za nove napore. jer, pitanja koja su se postavila na prvim »novim tendencijama« nisu riješena niti su nestala, nego se pred nama postavljaju sve ozbiljnija i fatalnija.

debata će se voditi pod naslovom »racionalno i iracionalno« u vizuelnim istraživanjima. taj radni naslov treba shvatiti uvjetno. u našem prijedlogu racionalno i iracionalno nemaju značenje termina koji se isključuju, ne znače ekstremne položaje neke metode, a najmanje su to principi koji se jedan drugome suprotstavljaju kao »dobro« i »zlo« u mitovima svih vrsta. organizatori manifestacije t-5 ne žele da debata pod predloženim naslovom bude »akademska« i »apolitična«. naprotiv, treba nastojati da se u njoj pojave što je moguće jasnije polarizirana gledišta. tako će se, nadamo se, u neposrednom susretu ili srazu ideja stvoriti temelji za zaključke koji bi u slučaju klasičnih diskusija izostali. uvjereni smo, naime, da ne treba suprotstavljati samo cijele sisteme, nego u otvorenoj dilemi, međusobnom ogledanju i direktnom sukobu različitih gledišta valja očekivati konkretne idejne vrijednosti. nadamo se također da će sažeti način debatiranja, bez epskih opisa apstraktnih predodžbi i reprezentativnih i autoritativnih deklaracija, neutralizirati opasnosti dominacije osobnih interesa.

izložba na kojoj će sudjelovati istraživači u oblasti konstruktivnih vizuelnih programa pokazat će jesu li te oblasti iscrpljene ili se u njima još može naći dovoljno aktualnih zadataka i — postoji li istinska općedruštvena potreba rješavanja tih i takvih zadataka ili se u komercijalnoj potražnji ogleda samo iluzija o potrebitosti napora te vrste. pokaže li se da postoji filogenetička veza između konstruktivističkih istraživanja i vizuelnih istraživanja pomoću kompjutera, i potvrdi li se dosad nejasna pretpostavka da se ideje novih tendencija nastavljaju (bar u svojim posebnim implikacijama) u sistemima ideja koje su se razvile prilikom upotrebe elektronskih računara, onda to može biti potvrda naše koncepcije manifestacije t-5.

t-5

In organiziting the event under the old title of "Tendencies" we have been motivated by completely different considerations from those which led us to organize earlier events under the same title. The exhibitions which will be held, the debates which will be conducted and the publications to be produced, will give us a dynamic survey of the experiences which have accumulated, will help us to understand the problems which have cropped up, to evaluate certain efforts, and the individual and general trends in the works. In addition they will give us a picture of the general position of the artist-explorers and of the environment in which they live and work. The results of the analyses of exhibitions, the outcome of debates and the contents of publications will, we hope, be used as a reliable basis for new efforts. For, the problems which cropped up at the first «New Tendencies" have not been resolved, nor have they disappeared; they have now become even more significant and more fateful.

The title of the debate will be "the rational and the irrational in visual research". This working title should be regarded as conditional. In our proposal the rational and the irrational do not have the connotation of terms which mutually exclude one another, they do not denote the extreme polarities of a certain method, and least of all are they principles opposing each other like the ideas of "good" and "evil" found in all kinds of myths. The organizers of the event T-5 do not want the debate under the proposed title to be "academic" or "a-political", but on the contrary, they want it to bring forth clearly polarized attitudes. In this way, we hope that the direct exchange or confrontation of ideas will enable us to reach certain conclusions which could not be arrived at through discussions of the traditional kind. We are, in other words, convinced that one should not limit oneself to the confrontation of systems in their entirety, but in an open dilemma, through competition and through direct confrontation of given attitudes one can expect to arrive at new values and ideas. We also hope that by keeping debates within limits, uncluttered by epic descriptions of abstract ideas and representative and authoritative declarations, we will entirely reduce the danger of the domination of personal interests.

This exhibition, in which explorers in the field of constructive visual programmes will be taking part, will show whether these fields have been exhausted or whether a sufficient number of current task still remains to be fulfilled; and also — whether there is a general public need felt for the accomplishment of these tasks or only an illusion as to the need for efforts of this kind, created through commercial demand. If a philogenetic link is

onaj dio izložbe koji je posvećen vizuelnim istraživanjima pomoću kompjutera imao bi pokazati da u toj oblasti nema krize motivacija i metoda, nego da postoje jedino kritične situacije u odnosu prema takvim istraživanjima, jer ono što su rani predstavnici novih tendencija mogli reći o »umjetnosti« i društvenom položaju i zadacima istraživača, to se neočekivano izrazitije pojavilo u vizuelnim istraživanjima pomoću strojeva. vjerojatno će izložba kompjuterista biti još jedna dobra prilika da se ponovo razmotre problemi koji su nikli nakon ekspanzije gledišta teorije informacije.

izložbu primjera »konceptualne umjetnosti« (ili: istraživanja) ne treba prije početka debate stavljati u poziciju dijametralno oprečnu konstruktivizmu i kompjuterskim istraživanjima. ne treba smetnuti s uma da se tumačenja i temeljne izjave više predstavnika konceptualnih istraživanja umnogome poklapaju bar s dijelom izjava i programa predstavnika konstruktivizma. također ne treba pomišljati da se metode konceptualista mogu uvijek svesti na takvu obradu podataka u kojoj nema racionalne kontrole tokova procesa. (jesu li svi tokovi procesa istraživanja pomoću kompjutera u cijelosti racionalno kontrolirani?) kao što je slučaj s konstruktivistima i kompjuteristima, tako je i u primjerima konceptualnih istraživanja: posljednje konzekvencije, pa i pretpostavke od kojih se polazi, nisu uvijek i za svakoga prihvatljive. ali, one postoje. i — kako nisu nastale bezrazložno, nego imaju svoj izvor i djeluju, to nam dostaje da ih razmotrimo, shvatimo i ocijenimo. to nam je u našim angažmanima prijeko potrebno.

radoslav putar

found to exist between constructivist research and visual research by means of computers and — if the assumption, rather unclear until recently, is confirmed that the ideas of the New Tendencies are being pursued (at least in their special implications) within the system of ideas which have developed with the use of computers, then this will be an acknowledgement of the general framework of our event T-5.

That part of the exhibition dealing with visual research by means of computers should show that there is no crisis of motivation and method in this field, but only critical situations in relation to such research. For, whatever early representatives of the New Tendencies could have said about "art" and the social position and the tasks of artist-explorers, could now be said to exist to a larger and quite unexpected degree in visual research by means of computers. The exhibition of computerists will probably be another occasion to re-examine the problems which have sprung up after the dissemination of information theory attitudes.

The exhibition of works representative of "conceptual art" (or: investigation) should not be diametrically opposed to constructivism and to computer research before the debate even begins. One shouldn't forget that the interpretations and fundamental statements made by a number of representatives of conceptual investigation largely coincide, at least with some of the statements and programmes of representatives of constructivism. Nor should one think that the methods of conceptualists can always be reduced to such data processing in which there is no rational control over the process. (Are all the stages in the computer research process totally rationally controlled?) As in the case of constructivists and computerists, we find in examples of conceptual investigation that the final consequences and even the initial assumptions are not always acceptable to everyone. There assumption do, however, exist. And, as it is not without reason that they have come into being, for they have their source and impact, it is, therefore, sufficient for us to examine, understand and evaluate them. In our commitments this stands out as a necessity.

Radoslav Putar

konstruktivna vizuelna istraživanja

constructive visual research

Već smo navikli na priznanja koja dolaze naknadno, s određenim zakašnjenjem. Mogli bismo reći da se to sada odnosi i na NOVE TENDENCIJE. U posljednje vrijeme o njima se sve češće piše. Spominju se različitim povodima, s razlogom, ponekad s nostalgijom, ali nerijetko i bez opravdanja. Ipak, u svakom slučaju s mnogo većim poštovanjem i simpatijama nego u doba kad su se NT kao pokret rađale. Ako su simpatije očito porasle, ne bi se moglo reći da je poraslo i razumijevanje suštine toga pokreta, karakterističnog za kraj šestog i prvu polovicu sedmog decenija. Čini se. dva su razloga tome: prvo što pokret NT danas već povijesti pripada i ne ugrožava više ničije interese, ne remeti utvrđene odnose, ne unosi zabunu među kritičare, ne izaziva revolt dijela publike, i drugo, jer još uvijek o pokretu cjelovita studija nije napisana. Brojni sačuvani dokumenti, izjave, komentari, svježa sjećanja samih sudionika na prve susrete i mladenački bučne rasprave kao da nisu bila dovoljna podloga za smirenu analizu i objektivnu ocjenu. Iako, su mnoga djela već odavno našla svoja mjesta u muzejima, a rezultati vizuelnih istraživanja pripadnika NT ušli u naš svakodnevni život (na malim ekranima, na filmu, u kazalištu, na plakatima, omotima knjiga, oglasima), čini se da je potrebna ipak nešto veća vremenska distanca da bi se moglo svestrano ispitati porijeklo ideja, njihov kasniji odjek i utjecaji, sagledati svi početni poticaji okupljanja i motivi zajedničkih nastupanja. Kad za to dođe vrijeme, trebat će na mnoga pitanja dati jasan odgovor. Prije svega je li to uopće bio pokret? Ako jest, koje mu bijahu značajke, tko je uistinu njemu pripadao? Gdje su njegovi počeci a gdje su mu granice? Zašto i kada započeše unutarnja razmimoilaženja? Pogotovo ona o kojima je Alberto Biasi govorio 1968. (na međunarodnom kolokviju u Zagrebu), ustvrdivši čak da su NT praktički prestale postojati već 1965. Da li baš 1965, ili ipak nešto kasnije? Zar upravo one godine kad se u Brezovici okupio dotada najveći broj sudionika, kad je A. A. Moles uvjerljivo razlagao mogućnosti primjene teorije informacije i Neumann-Morgensternove teorije igara te upozorio na korisnost upotrebe kompjutera u daljnjim vizuelnim istraživanjima? Naravno, u sklopu tih pitanja trebat će utvrditi i ulogu i značenje manifestacija održavanih u Zagrebu od 1961. do 1969.

Iako su ta pitanja upućena budućem povjesničaru, ipak ne bismo smjeli odgađati s odgovorima bar na one probleme koje su NT u sebi nosile od samog početka. Među njima je jedan od osnovnih bio i ostao problem postupka pri sastavljanju programa i načina utvrđivanja kriterija za iznalaženje optimalnih rješenja pri izboru struktura s najvećom količinom estetskih informacija.

Idući tragom ispitivanja vizuelnih percepcija mnogi su autori stvorili dosad brojne vlastite sisteme zasnovane na

We know that recognition usually comes late; it seems that it is now finally being accorded to the NEW TENDENCIES movement. More and more is being written about it; it is mentioned on various occasions with approval and even nostalgia, but very often with no true understanding. It must be said, however, that the movement is receiving much more attention now than at the beginning, although many people tend to misunderstand the spirit of the movement which is characteristic of the late Sixties and early Seventies.

In many ways the movement is already a part of history. It is not felt as a threat to anybody's interests, it does not unsettle the existing pattern of relationships, it no longer intrigues the critics, the public has largely got used to it, but as yet nobody has made a comprehensive study of the movement. The many documents, statements, commentaries, the lively accounts of the early days and their noisy quarrels are still waiting to be analyzed "in tranquillit" and to be assessed fairly. Many New Tendencies works have long ago found their place in museums, the results of the movement's experiments have become a part of our everyday existence (on television, film, in the theatre, on posters, bock jackets and advertisements). Perhaps time is still needed to achieve a full study of sources and ideas, of the movement's later development and influence, of the motives that brought the members of the group together, etc.

Many questions will have to be answered in the course of this study. Was it a movement at all? If so, what were its characteristics? Who belongs — or belonged — to it? What were its sources and limits? When did it begin to disintegrate? What were the problems that Alberto iBasi spoke of at the international meeting in Zagreb in 1968 when he affirmed that the New Tendencies had ceased to exist as a movement as early as in 1965? Was it in 1965 or a little later? Did the movement begin to disintegrate in the very year of the Brezovica meeting (the largest up to that time) when A. A. Moles spoke so persuasively of the need to apply the theory of information and the Neumann — Morgenstern theories, and of the need to use computers in further research? It will also be necessary, of course, to study the role and importance played by the manifestations held in Zagreb from 1961 to 1969.

Apart from these questions which are for the historian, we should at least try and solve some more immediate problems present from the beginning. One of the most pressing problems regards the procedure of setting up the NT programme and of formulating more precisely criteria that would allow us to select those structures which contain the greatest quantity of aesthetic information.

kombinatoričkim principima. Bez obzira na to jesu li do njih dolazili spontano ili s određenim namjerama, ovisno ili neovisno jedan o drugome, s jasnim ciljem ili samo sa željom da se zadovolji znatiželja koju potiče na početku svaka igra neizvjesnošću ishoda, svi su se oni našli na području kombinatorike i računa vjerojatnosti. Iza svake vizualizirane strukture, sastavljene od niza istovjetnih ili različitih elemenata, raspoređenih u nizovima ili redovima, postojala je uvijek i numerička struktura, po kojoj se veoma jasno moglo raspoznati je li riječ o sistemu permutacija, kombinacija ili varijacija. Ovisno o vrsti kompleksija bilo je moguće odmah utvrditi i točan konačan broj svih mogućih struktura koje je svaki od tih sistema dopuštao. Kako su, međutim, u pravilu to bili veliki brojevi, zbog memoriranja iskazivanih u faktorijelima ili potencijama, problem izbora izbio je normalno u prvi plan interesa. Nametnulo se ne samo pitanje kako utvrditi redoslijed toka struktura, nego još važnije, kako razdvojiti estetski relevantne od banalnih, a između estetskih relevantnih one najvrednije. Postoje li, kažimo otvoreno, matematička pravila kao rješenje, osim zakona vjerojatnosti? Pravila koja bi nas približila formuliranju objektivnijih kriterija? Ili se ponovo suočavamo s onim »vječnim« pitanjem prijelaza Nebića u Biće?

Nataložena iskustva posljednjeg desetljeća nisu mala, ali nisu ni ispitana. U ovom trenutku, kad se još uvijek nalazimo na pragu vizuelnih istraživanja s pomoću kompjutera, ta iskustva mogu postati višestruko korisna. Spomenimo samo da je Almir Mavignier, zahvaljujući vjerojatno poznanstvu sa Sigridom Quarchom, već 1961. započeo kontinuirano ispitivanje permutacionih sistema i dalje ih nastavlja. Vasarely je 1966. objavio numerički program slike »Boglar«, a Enzo Mari program jedne od svojih struktura nastalih 1963, dok je Le Parc to učinio 1970. publicirajući svoj numerički sistem boje iz 1959. Bili su to poticaji za nov način analize njihovih djela, koji bi trebalo primijeniti i na ostale pripadnike te porodice.

Budući da je tema ovogodišnjeg susreta »racionalno i iracionalno u suvremenoj umjetnosti«, smatrali smo korisnim izložiti djela tih umjetnika kako bismo spomenute probleme još jednom istakli.

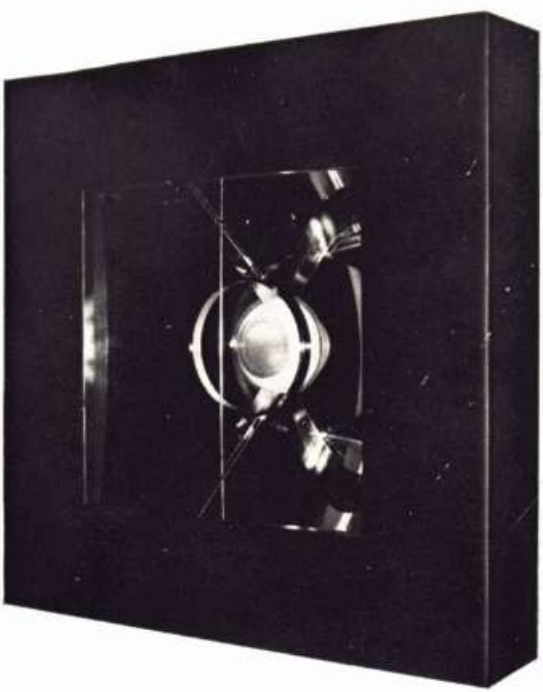
To što se neki od pozvanih nisu odazvali, a neki od prisutnih napustili prije započeta istraživanja, samo potvrđuje složenost zadatka.

Božo Bek

In their research of visual perception many authors have created their own systems based on combination principles. Regardless of whether this was achieved spontaneously or consciously, independently or in association with collaborators, with a clear aim in view or only for the fun of seeing how the game would end, all the authors had to face the problem of combinations and of the probability calculus. Behind each visualized structure composed of a series of identical or different elements, there was always a numeric structure clearly indicating whether they were dealing with the system of permutations, combinations or variations. This enabled authors to determine quickly the exact and final number of all the structures allowed by each system. As they were dealing with great numbers as a rule (expressed in factorials or powers), the problem of selection became dominant. They had to decide not only in what order the structures would have to be arranged, but more important still, how the aesthetically relevant ones could be distinguished from the banal ones, and the most valuable ones from all the rest. Let us ask openly whether any mathematical rules have been found yet as solutions to this problem apart from the calculus of probability — any rules that would help us to formulate more accurate criteria? Or are we confronted again with the "eternal" question of the point at which Non-Being becomes Being? The experience accumulated during the last decade is considerable, but is still unexplored. At the moment, when we are all standing on the threshold of computer research, this experience may become extremly useful. Let us mention here that Almir Mavignier, probably as a result of meeting Sigrid Quarch, began a serious investigation of permutation systems in 1961, and is working at it still. Vasarely published the numerical programme of the "Boglar" painting in 1966, Enzo Mari the programme of one of his 1963 structures, while Le Parc did the same with his 1959 numerical colour system in 1970. All this led to a new analysis of their work and should now be applied to others as well. Considering the theme of this year's meeting — the rational and the irrational in contemporary art- we thought it would be useful to exhibit the works of these artists in order to stress once again the importance of the problems we have just mentioned.

The fact that some of those invited have declined the invitation, while some of those who have accepted it have abandoned the research they began in this field, only stresses the complexity of our task.

Božo Bek



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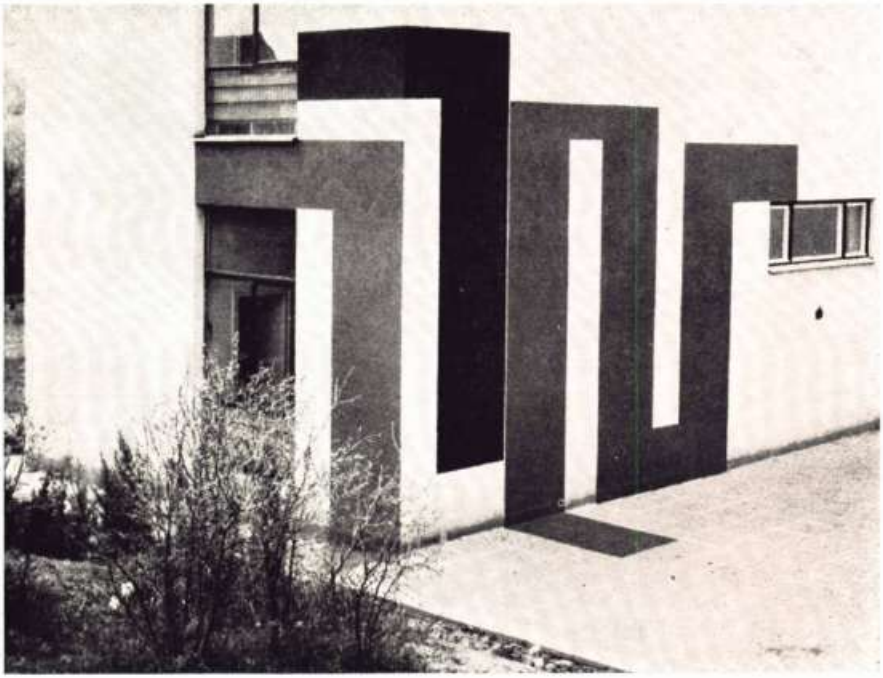

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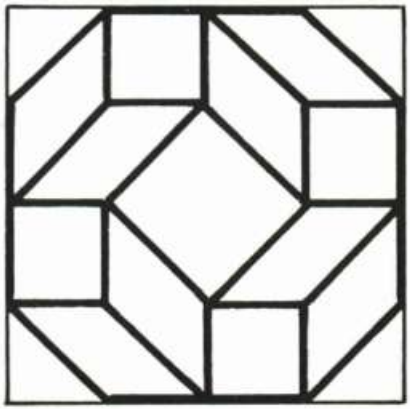
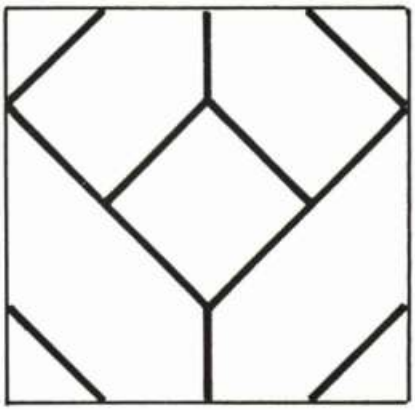
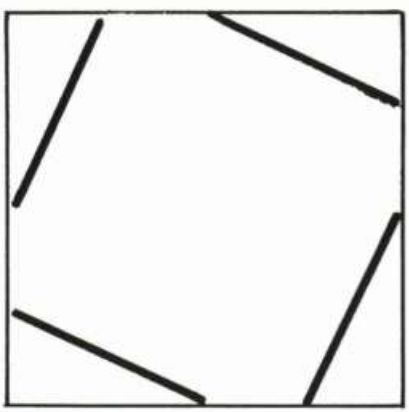
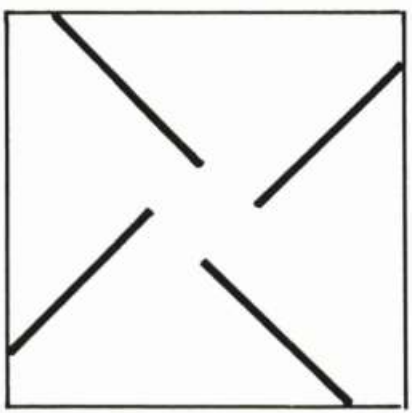
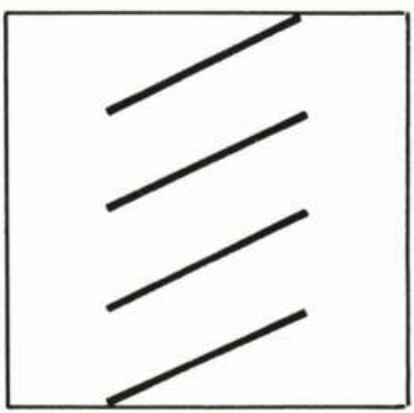
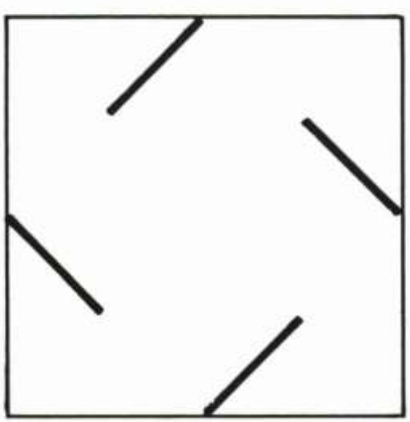
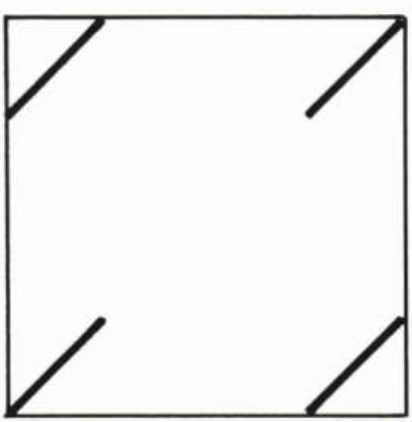
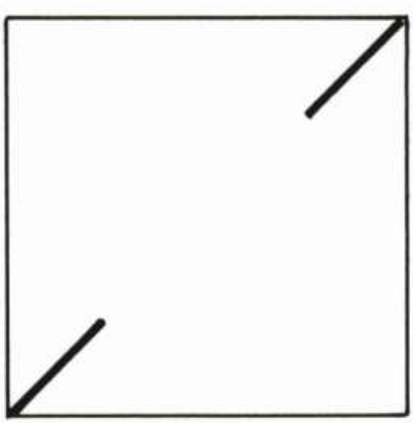
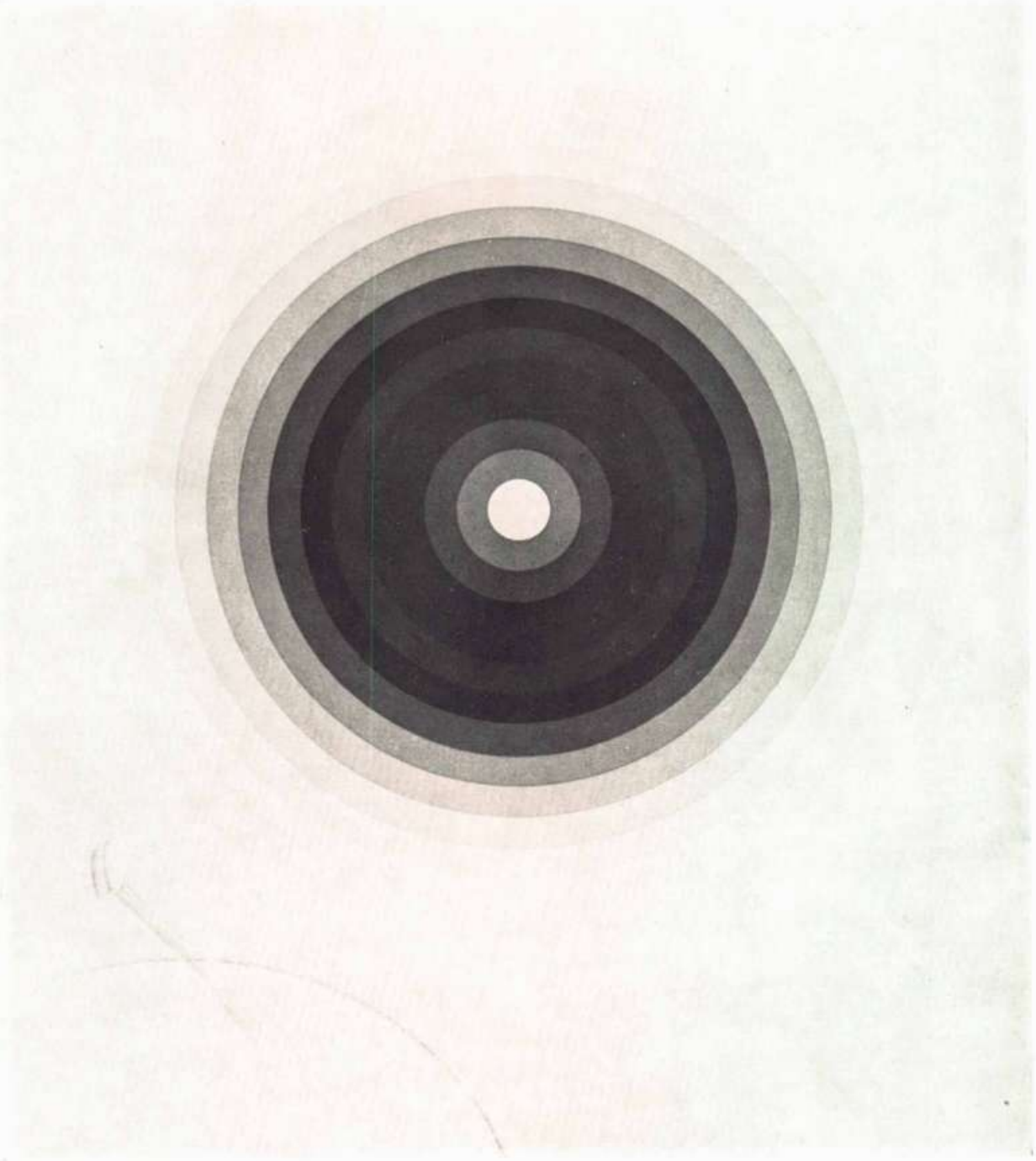
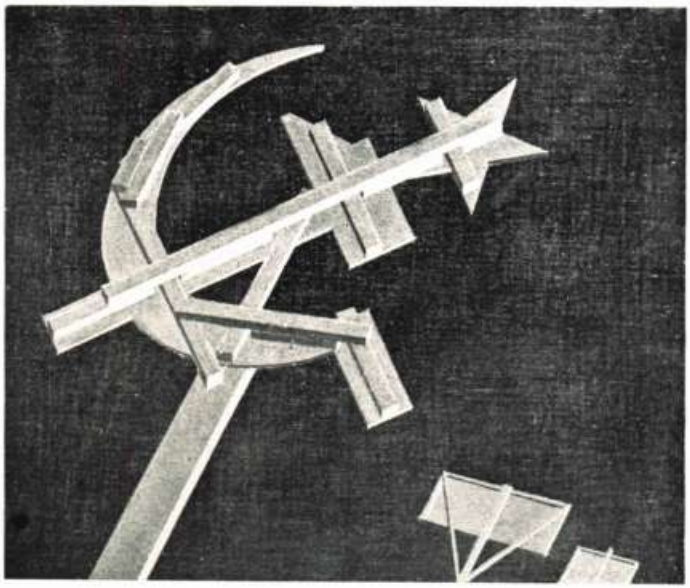


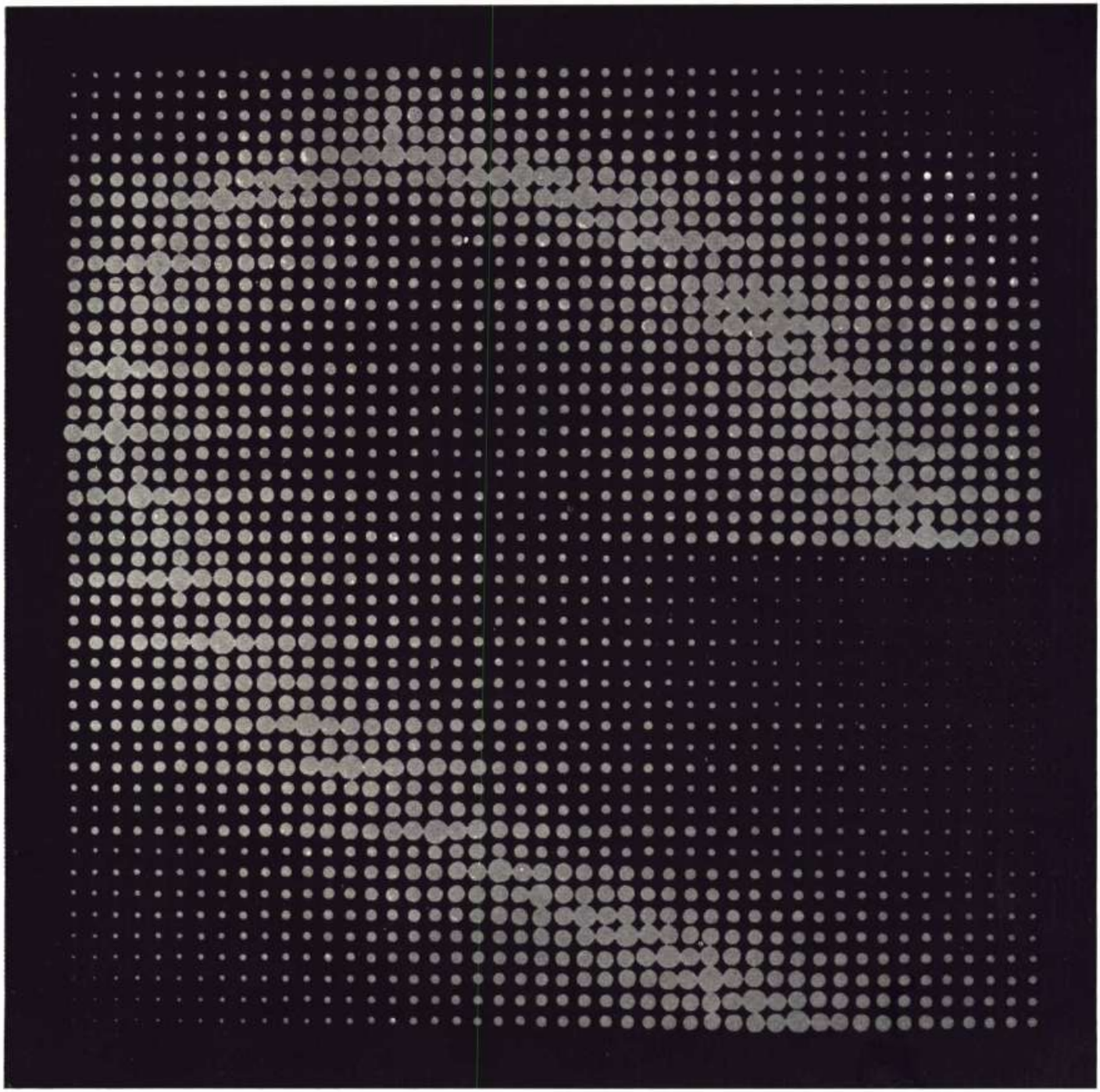
dobrović



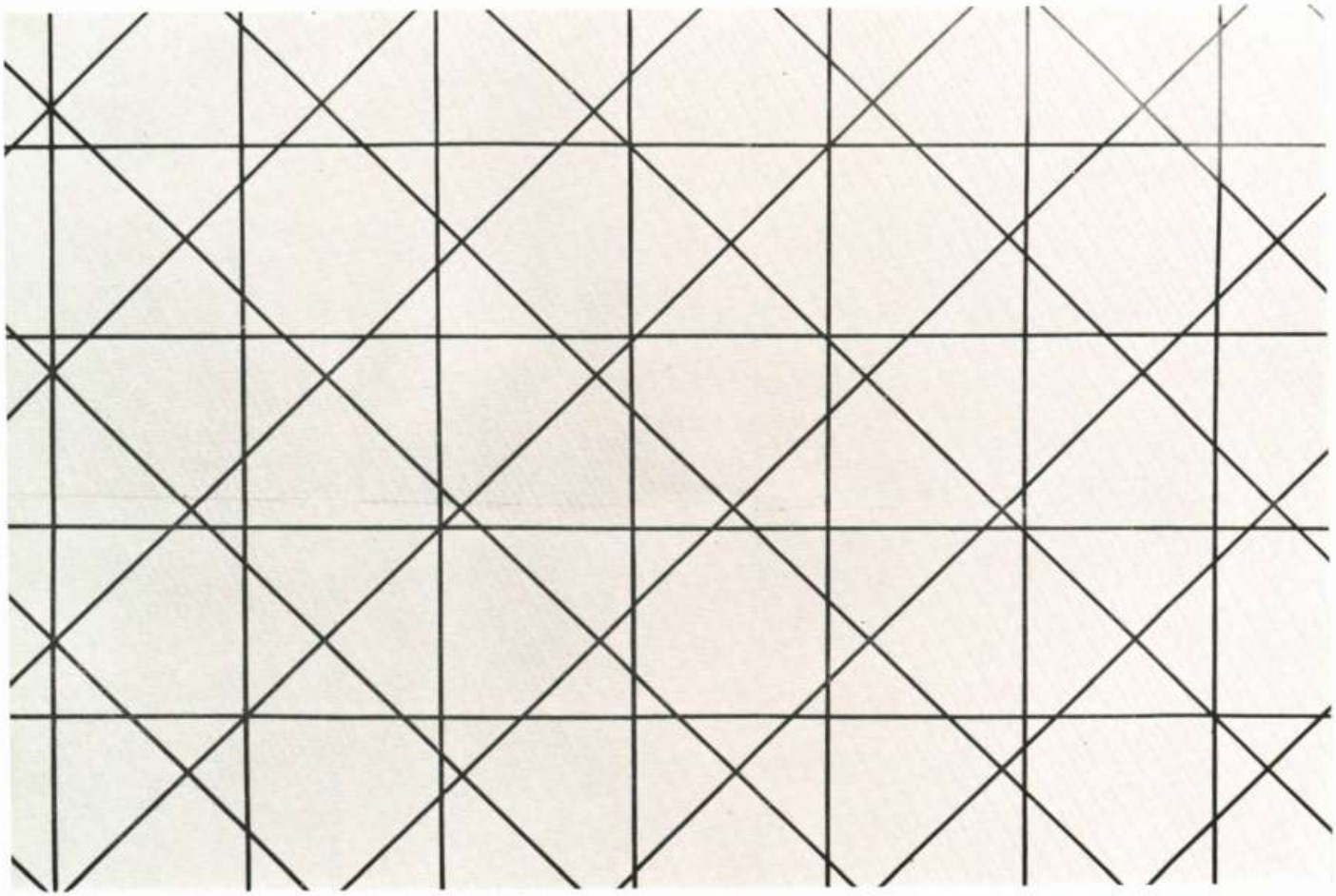
le parc, 2



mari, 2, 1, 3



mavignier

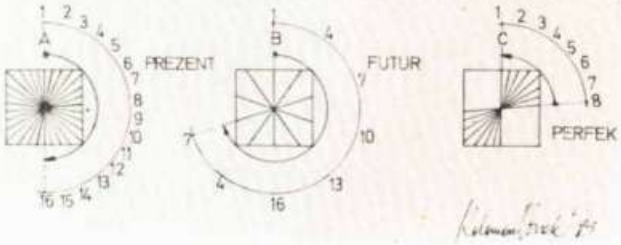


PROSTORNO-VREMENSKI PRIKAZ REPERTOARA:

	E1	E2	E3	E4	E5	E6	E7	E8
1°	1	3	5	7	9	11	13	15
2°	2	4	6	8	10	12	14	16
3°	3	5	7	9	11	13	15	2
4°	4	6	8	10	12	14	16	3
5°	5	7	9	11	13	15	2	4
6°	6	8	10	12	14	16	3	5
7°	7	9	11	13	15	2	4	6
8°	8	10	12	14	16	3	5	7
9°	9	11	13	15	2	4	6	8
10°	10	12	14	16	3	5	7	9
11°	11	13	15	2	4	6	8	10
12°	12	14	16	3	5	7	9	11
13°	13	15	2	4	6	8	10	12
14°	14	16	3	5	7	9	11	13
15°	15	2	4	6	8	10	12	14
16°	16	3	5	7	10	11	13	15

VIZUELNI PRIKAZ:

REZULTANTA A: STATIČNA PERCEPCIJA ZA 16°
— " — B: PERCIPIRANO U KRETANJU OD E1 DO E8 ZA 8°
— " — C: PERCIPIRANO U KRETANJU OD E8 DO E1 ZA 8°



PROSTORNO VREMENSKA PERCEPCIJA

USLOVI:
1. OBLEKAT PERCEPCIJE KINEMATIČAN
2. PERCIPIJENT U KRETANJU

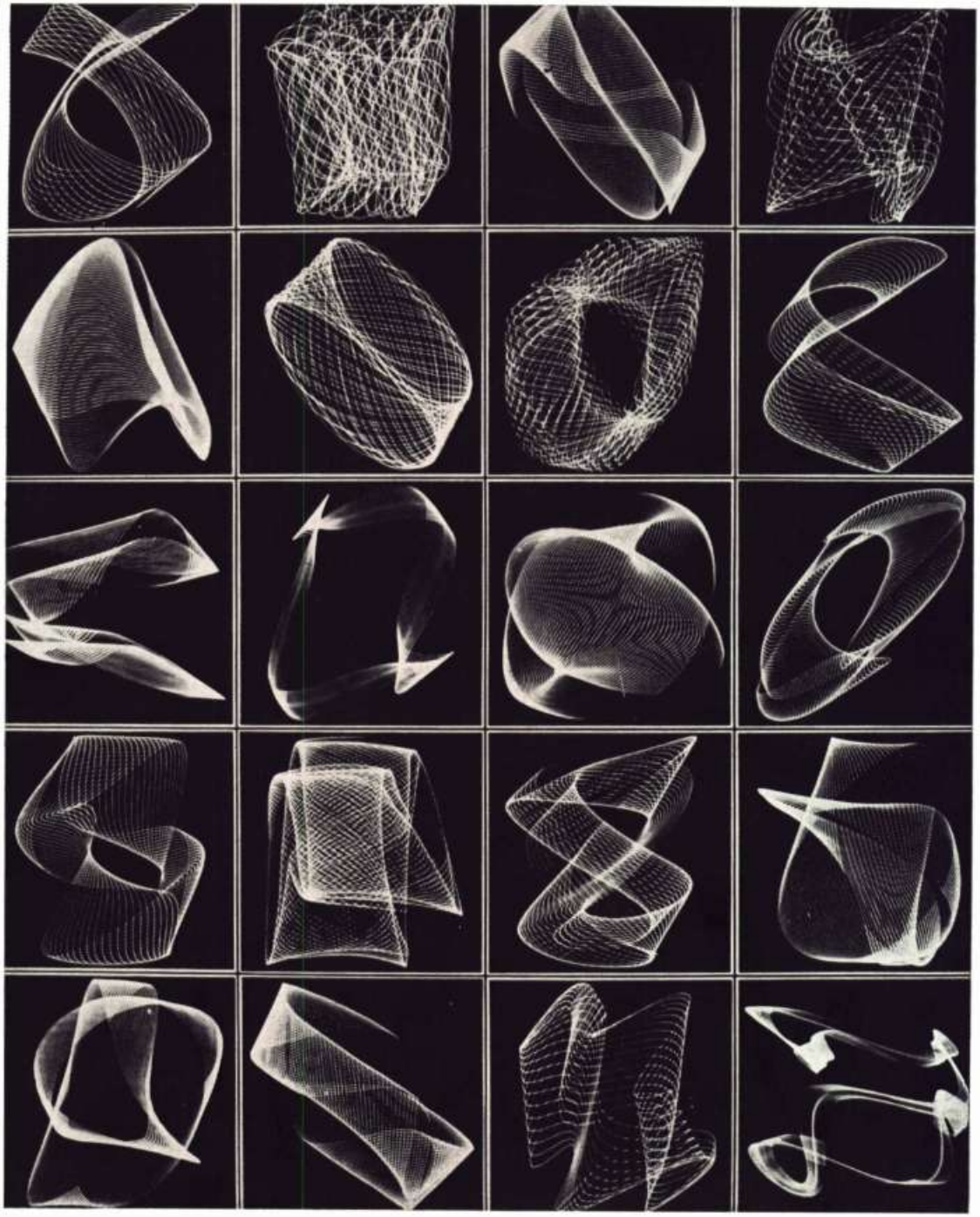
KINEMATIČKI PROGRAM:

STAVREMENA PROJEKCIJA NA 8 EKRANA

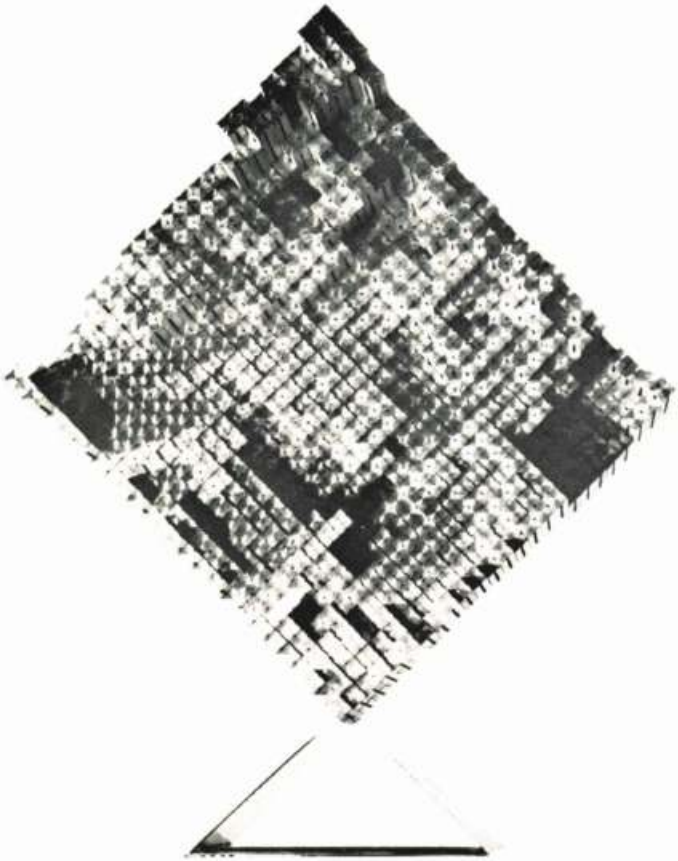
STARTNE POZICIJE REPERTOARA

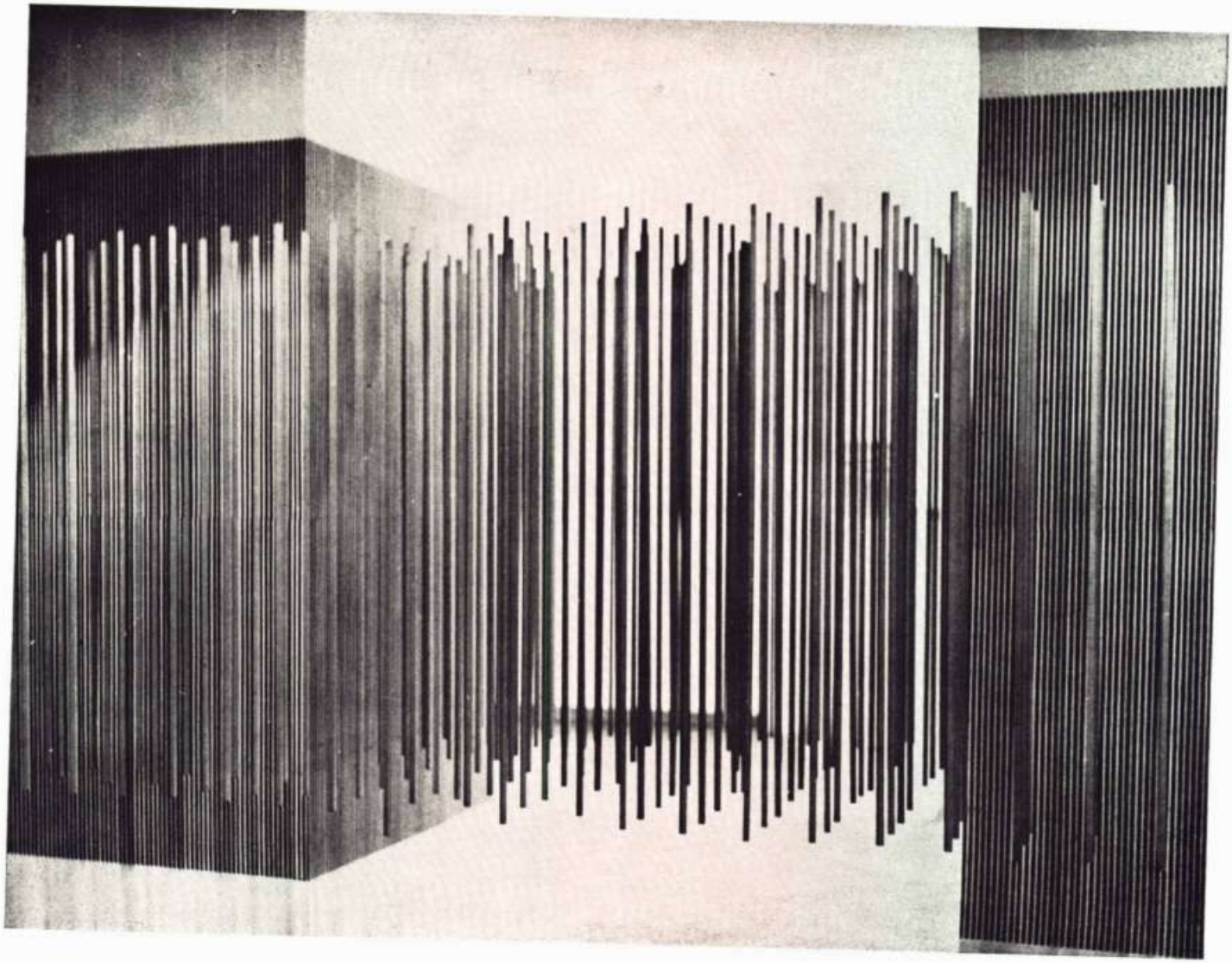
novak

ГЕНПЛАН "ИСКУССТВЕННОЙ КИНЕТИЧЕСКОЙ СРЕДЫ-ВЫСТАВКИ"
МАСШТАБ – 1:20
УСЛОВНЫЕ ОБОЗНАЧЕНИЯ:

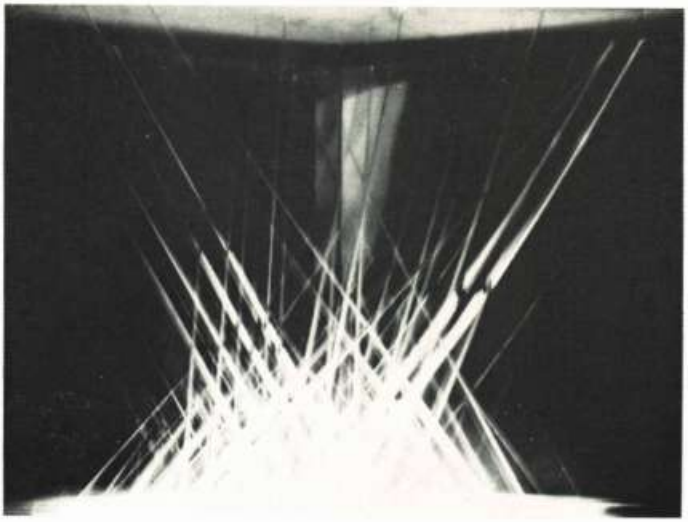


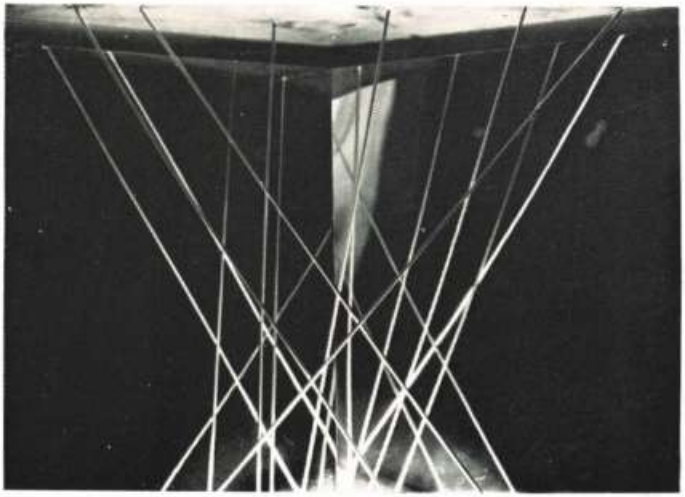
radović, 3

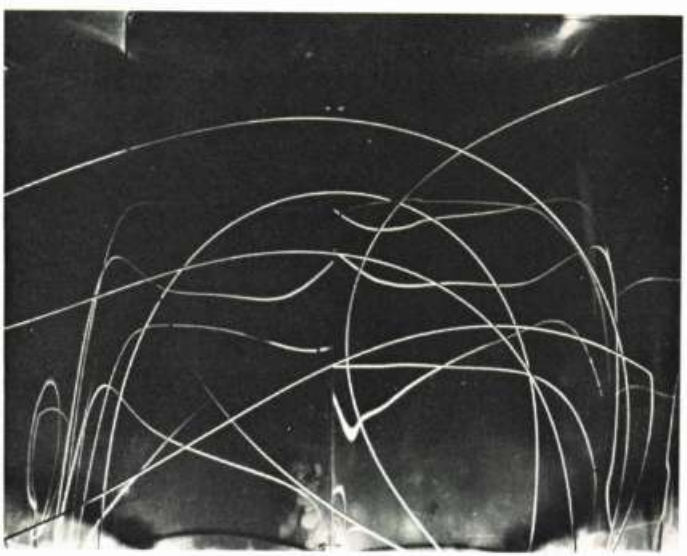




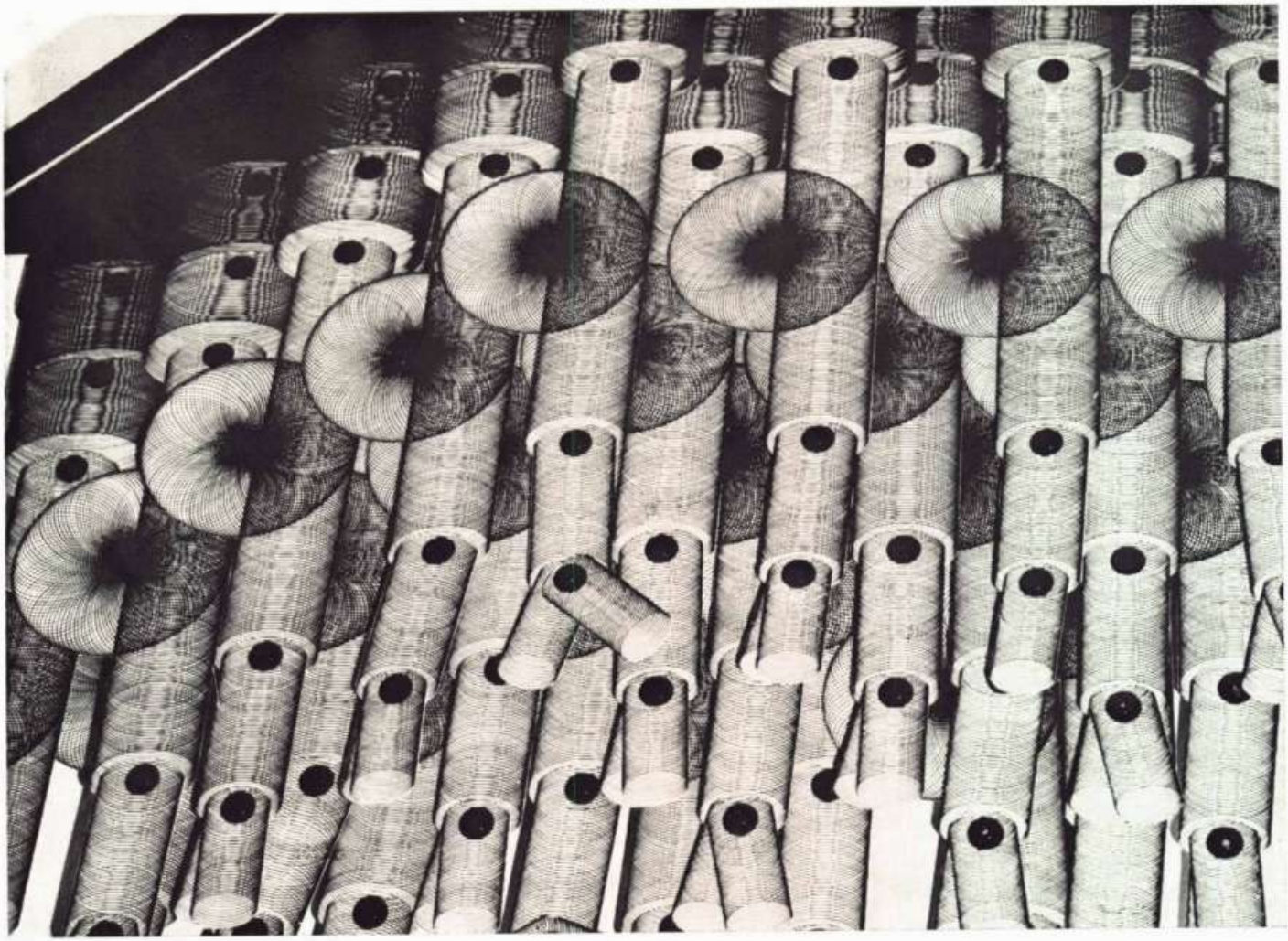
soto, 3

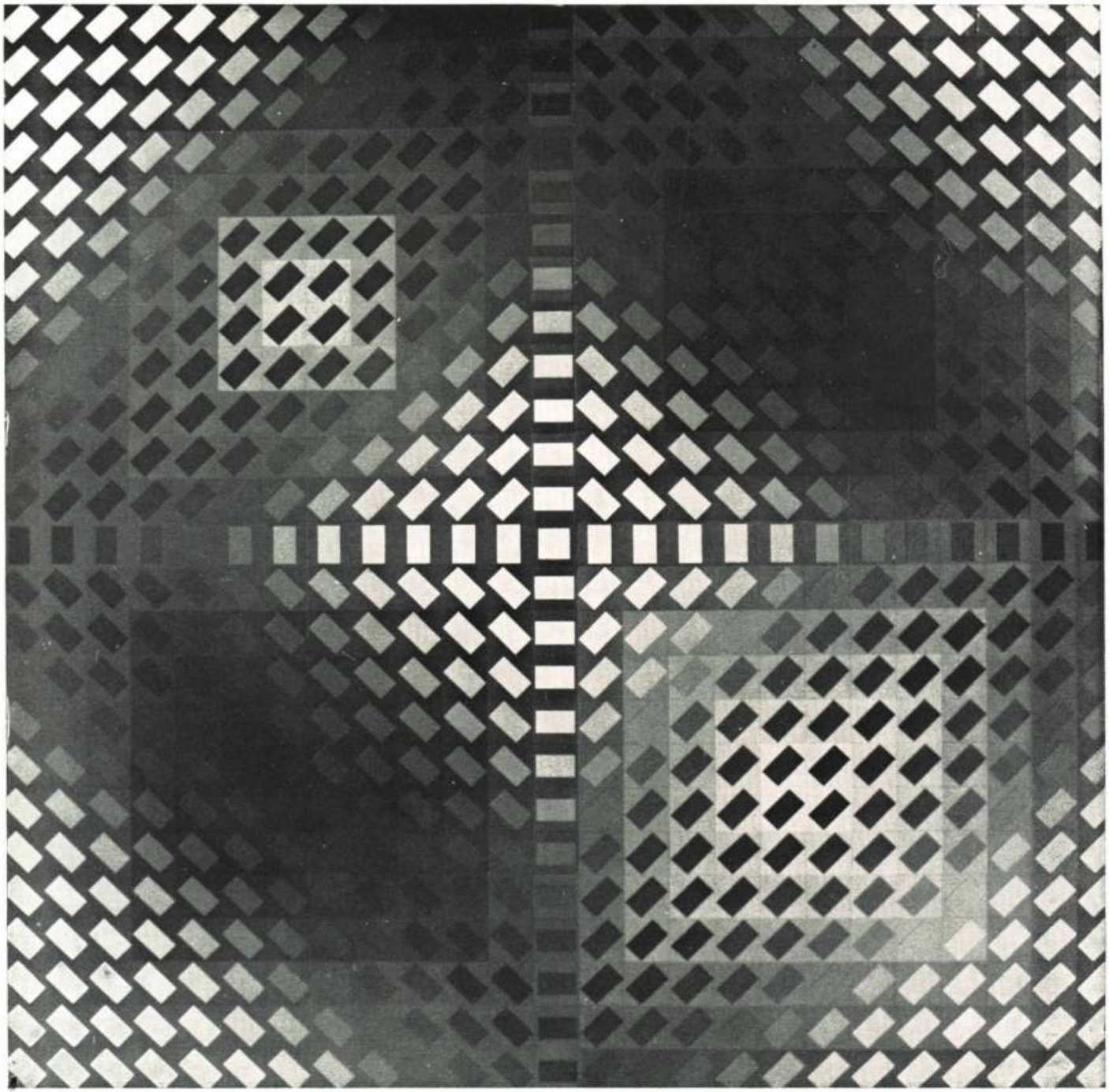






srnec, 1, 2





vasarely, 3

katalog

vojin bakić

5. VI 1915. bjelovar, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb
izlaže od 1939.
adresa: zagreb, draškovićeva 53, jugoslavija

1 disk I, 1973
bronca,
550 × 410 × 110 mm
2 disk II, 1973
bronca,
550 × 410 × 110 mm

milan dobeš

29. VII 1929. přerov, čehoslovačka
studirao: visoka škola za likovnu umjetnost, bratislava
izlaže od 1956.
adresa: bratislava, steinerova 4 b, čehoslovačka

1 optički reljef, 1972
metal, sintetička materija,
380 × 380 × 90 mm
2 optički reljef, 1972
metal, sintetička materija,
380 × 380 × 90 mm
3 optički reljef, 1972
metal, sintetička materija,
580 × 450 × 100 mm
4 svjetlosni objekt, 1972
bijeli snop svjetla,
430 × 430 × 140 mm
5 svjetlosni objekt, 1972
crveni snop svjetla,
430 × 430 × 140 mm
6 svjetlosni objekt, 1972
zlatni snop svjetla,
430 × 430 × 140 mm

juraj dobrović

29. I 1928. jelsa, jugoslavija
studirao: ekonomski i filozofski fakultet, zagreb
izlaže od 1962.
adresa: zagreb, jurjevska 31, jugoslavija

1 reljef us 1—9, 1971
lesonit, boja,
300 × 300 mm
2 reljef 1, 1972
panel-ploča, boja,
1000 × 1000 mm

catalogue

vojin bakić

june 5, 1919, bjelovar
studied at the academy of fine arts in zagreb
has exhibited since 1939
address: zagreb, draškovićeva 53

1 disk I, 1973
bronze
550 × 410 × 110 mm
2 disk II, 1973
bronze
550 × 410 × 110 mm

milan dobeš

july 29, 1929, prerov, czechoslovakia
studied at the school of fine arts in bratislava
has exhibited since 1956
address: bratislava, steinerova 4 b

1 optical relief, 1972
metal, synthetical material
380 × 380 × 90 mm
2 optical relief, 1972
metal, synthetical material
380 × 380 × 90 mm
3 optical relief, 1972
metal, synthetical material
580 × 450 × 100 mm
4 luminous object, 1972
white shaft of light
430 × 430 × 140 mm
5 luminous object, 1972
red shaft of light
430 × 430 × 140 mm
6 luminous object, 1972
golden shaft of light
430 × 430 × 140 mm

juraj dobrović

january 29, 1928, jelsa
studied at the school of economics and the faculty of arts and sciences in zagreb
has exhibited since 1962
address: zagreb, jurjevska 31

1 relief us 1—9, 1971
hardboard, paint
300 × 300 mm
2 relief 1, 1972
panel, paint
1000 × 1000 mm

3 reljef 2, 1972
panel-ploča, boja,
1000 × 1000 mm
4 prostorna konstrukcija, 1964—1972
letvice, boja,
320 × 320 × 180 mm
5 prostorna konstrukcija 2, 1964—1972
letvice, boja,
320 × 320 × 180 mm
6 prostorna konstrukcija 3, 1964—1972
letvice, boja,
220 × 220 × 220 mm

julije knifer

23. IV 1924. osijek, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb
izlaže od 1958.
adresa: zagreb, odvojak n. demonje 14, jugoslavija
1 sistem prekinutog meandra, 1960—1971
milimetarski papir, kolaž, akril, polikolor
2 eksterijerna slika, 1971
polikolor na vanjskom zidu škole gornje vrapče, fotografije
3 prostorna konstrukcija meandra — model, 1971
drvo, boja,
328 × 320 × 328 mm

julio le parc

23. IX 1928. mendoza, argentina
studirao: visoka škola za likovnu umjetnost, buenos-aires
izlaže od 1957.
adresa: paris
1 vjerojatnost crnog jednaka bijelom br. 4, 1961
plastika, najlon, drvo, plexi,
448 × 898 × 145 mm
galerija suvremene umjetnosti, zagreb (gsu 776)
2 serija 14, br. 2, 1970
svilotisak, papir,
780 × 780 mm
galerija suvremene umjetnosti, zagreb (gsu 1493)

enzo mari

27. IV 1932. milano, italija
studirao: akademija likovnih umjetnosti brera, milano
izlaže od 1952.
adresa: milano, piazza baracca 10, italia
1 srp i čekić, 1954
svilotisak, papir,
698 × 594 mm
2 srp i čekić, 1970
svilotisak, tkanina,
1300 × 1300 mm

3 relief 2, 1972
panel, paint
1000 × 1000 mm
4 spatial construction, 1964—72
laths, paint
320 × 320 × 180 mm
5 spatial construction 2, 1964—72
laths, paint
320 × 320 × 180 mm
6 spatial construction 3, 1964—72
laths, paint
220 × 220 × 220 mm

julije kinfer

april 23, 1924, osijek
studied at the academy of fine arts in zagreb
has exhibited since 1958
address: zagreb, odvojak n. demonje 14
1 system of an interrupted meander, 1960—1971
millimeter-paper, collage, acrylic, policolor
2 exterior painting, 1971
the exterior wall of the school "gornje vrapče", policolor photographs
3 spatial construction of meander — model, 1971
wood, paint
328 × 320 × 328 mm

julio le parc

september 23, 1928, mendoza
studied at the school of fine arts in buenos-aires
has exhibited since 1957
address: paris
1 probability of black being equal to white, no. 4. 1961
plastics, nylon, wood, plexiglass
448 × 898 × 145 mm
galerija suvremene umjetnosti, zagreb (gsu 776)
2 series 14, no. 2, 1970
silk-screen print, paper
780 × 780 mm
galerija suvremene umjetnosti, zagreb (gsu 1493)

enzo mari

april 27, 1932, milano
studied at the academy of fine arts "brera" in milano
has exhibited since 1952
address: milano, piazza baracca 10
1 sickle and hammer, 1954
silk-screen print, paper
698 × 594 mm
2 sickle and hammer, 1970
silk-screen print, cloth
1300 × 1300 mm

3 srp i čekić, 1972
litografija, papir,
698 × 594 mm

almir mavignier

1. V 1925. rio de janeiro, brazil
studirao: visoka škola za likovno oblikovanje (vizuelne komunikacije), ulm
izlaže od 1951.
adresa: hamburg 76, schöne aussicht 35, b r deutschland

1 adicija-subtrakcija-permutacija-razaranje 1—8 C, 1973
svilotisak, papir,
900 × 900 mm
2 adicija-subtrakcija-permutacija-razaranje 1—10 A, 1973
svilotisak, papir,
900 × 900 mm

françois morellet

30. IV 1926. cholet, francuska
studirao: orijentalni jezici, pariz
izlaže od 1950.
adresa: cholet, 83 rue porte-baron, france

1 dva niza različitih linija, 1973
ljepljiva traka

koloman novak

11. X 1933. dubrovnik, jugoslavija
studirao: škola primijenjenih umjetnosti, zagreb, i akademija primenjene umetnosti, beograd
izlaže od 1961.
adresa: beograd, obilićev venac 9—11, jugoslavija

1 kinematički objekt, 1972
metal, plexi, električni motor, žarulje,
200 × 200 × 150 mm
2 kinematički objekt, 1973
metal, plexi, električni motor, žarulje,
∅ 500 mm

lev voldemarovič nusberg

1. VI 1937. taškent, sssr
izlaže od 1963.
adresa: moskva k-12, poste restante, sssr

1 fantastični projekt, 1963
2 crveno i bijelo, 1966
kinetička teatralizirana predstava
razrada projekta: grupa dviženije
3 antisvijet, 1966
shema kiberkinetičke umjetne okoline

3 sickle and hammer, 1972
lithograph, paper
698 × 594 mm

almir mavignier

may 1, 1925, rio de janeiro
studied at the school of plastics arts (visual communications) in ulm
has exhibited since 1951
address: hamburg 76, schöne aussicht 35

1 addition-subtraction-permutation-destruction 1—8 C, 1973
silk-screen print, paper
900 × 900 mm
2 addition-subtraction-permuatation-destruction 1—10 A, 1973
silk-screen print, paper
900 × 900 mm

françois morellet

april 30, 1926, cholet
studied the oriental languages in paris
has exhibited since 1950
address: cholet, 83 rue porte-baron

1 two rows of unequal lines, 1973
adhesive tape

koloman novak

october 11, 1933, dubrovnik
studied at the school of applied art in zagreb and at the academy of applied art in belgrade
has exhibited since 1961
address: beograd, obilićev venac 9—11

1 kinematical object, 1972
metal, plexiglass, electric motor, electric bulbs
200 × 200 × 150 mm
2 kinematical object, 1973
metal, plexiglass, electric motor, electric bulbs
∅ 500 mm

lev woldemarovich nusberg

june 1, 1937, tashkent
has exhibited since 1963
address: moscow k-12, poste restante

1 fantastic project, 1963
2 red and white, 1966
kinetic theatrical show
elaboration of project: dvizhenie group
3 antiworld, 1966
cyberkinetic artificial environment scheme

4 kiberteatar, 1966
razrada poluautomatskog modela: grupa dviženije, 1967
5 kinetička kompozicija, 1967
skicu izradila: galina bitt
6 kinetički dječji grad, 1968
razrada: grupa dviženije
7 umjetna bion-kinetička okolina (I.B.K.S), 1968
8 boja-svjetlo-muzika, 1969
izložba, moskva, manjež
autori: grupa dviženije
9 umjetna kinetička okolina, 1969
izložba: moskva, manjež
autori: grupa dviženije
10 bion-kinetička okolina, 1970
projekt: grupa dviženije
11 kinetički ansambl »staklo«, 1971
međunarodna izložba »građevni materijali "71«
moskva, sokoljniki
projekt: grupa dviženije
12 kinetički vrt, 1972
međunarodna izložba »elektro "72«
moskva, sokoljniki
razrada: grupa dviženije
13 međunarodna izložba »elektro "72«, 1972
ulazna dvorana, paviljon 2, sovjetski odio
moskva, sokoljniki
razrada: grupa dviženije
projekcija dijapozitiva u boji
fotografije

članovi grupe dviženije:
1962. L. Nusberg, F. Infante. A. Krivičkov, V. Ščerbakov, V. Stepanov
1962. L. Nusberg, F. Infante, A. Krivičkov, V. Ščerba- A. Grigorjev, F. Infante, S. Icko, K. Nedeljko, L. Nusberg, N. Prokuratova

zoran radović

23. II 1940. kraljevo, jugoslavija
studirao: matematiku i elektrotehniku na univerzitetu beograd
izlaže od 1966.
adresa: beograd, ljube stojanovića 38/III, jugoslavija

1 ornamentograf sa klatnima, 1963
aluminij,
2000 × 1000 × 100 mm
2 elektronski ornamentograf, 1969
elektronske konstrukcije,
400 × 300 × 100 mm

4 cybertheatre, 1966
elaboration of semiautomatic model: dvizhenie group, 1967
5 kinetic composition, 1967
draft: galina bitt
6 kinetic children's town, 1968
elaboration: dvizhenie group
7 artificial bionkinetic environment (I.B.K.S.), 1968
8 colour-light-music, 1969
exhibition: moscow, manezh
authors: dvizhenie group
9 artificially kinetic environment, 1969
exhibition: moscow, manezh
authors: dvizhenie group
10 bionkinetic environment, 1970
project: dvizhenie group
11 kinetic ensemble "glass", 1971
international exhibition "constructional materials 71"
moscow, sokolniki
project: dvizhenie group
12 kinetic garden, 1972
international exhibition "electro 72"
moscow, sokolniki
elaboration: dvizhenie group
13 international exhibition "electro 72", 1972
entrance hall, pavilion 2, soviet department
moscow, sokolniki
elaboration: dvizhenie group
projection of colour slides
photographs

members of dvizhenie group:
1962 L. Nusberg, F. Infante, A. Kryvchikov, V. Tscherbakov, V. Stepanov
1972 G. Bitt. A. Beniaminov, V. Buturlin, V. Grabenko, A. Grigoriev, F. Infante, S. Icko, K. Nedelyko, L. Nusberg, N. Prokuratova

zoran radović

february 23, 1940, kraljevo
studied mathematics and electrical engineering at the belgrade university
has exhibited since 1966
address: beograd, ljube stojanovića 38/III

1 ornamentograph with pendulums, 1963
aluminium
2000 × 1000 × 100 mm
2 electronic ornamentograph, 1969
electronic constructions
400 × 300 × 100 mm

3 laser-ornamentograf, 1972
elektronske konstrukcije,
1000 × 500 × 400 mm
4—9 mehano-crteži, 1972—1973
papir,
700 × 500 mm
10 mehano-fuga, 1973
elektronska konstrukcija,
4000 × 1000 mm
11 program elektronskog ornamentografa

vjenceslav richter

8. IV 1917. drenova, jugoslavija
studirao: arhitektonski fakultet, zagreb
izlaže od 1963.
adresa: zagreb, vrhovac 38a, jugoslavija

1—8 sistemska grafika, 1972
svilotisak, papir,
700 × 700 mm
9 dijagonalni reljefometar, 1973
aluminij,
375 × 375 × 120 mm
10 lamelometar, 1973
čelik, elektronika,
1400 × 1400 × 200 mm

jesus raphael soto

5. VI 1923. cuidad, bolivar, venezuela
studirao: akademija likovnih umjetnosti, caracas
izlaže od 1943.
adresa: paris 3, 10 rue villehardouin, france

1 vibrirajuća šipka, 1967
drvo, metalna šipka, najlon,
498 × 240 × 147 mm
galerija suvremene umjetnosti, zagreb (gsu 1386)
2 metalne vibracije, 1969
aluminij, metalne šipke, najlon,
269 × 299 × 125 mm
galerija suvremene umjetnosti, zagreb (gsu 1387)
3 vibracija metala, 1969—1970
drvena konstrukcija, metalne šipke, najlon,
4400 × 4400 × 2050 mm
galerija suvremene umjetnosti, zagreb (gsu 1539)

aleksandar srnec

30. VII 1924. zagreb, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb
izlaže od 1950.
adresa: zagreb, rockefellerova 19, jugoslavija

3 laser — ornamentograph, 1972
electronic constructions
1000 × 500 × 400 mm
4—9 mechanodrawings, 1972—1973
paper
700 × 500 mm
10 mechanofugue, 1973
electronic construction
4000 × 1000 mm
11 electronic ornamentograph programme

vjenceslav richter

april 8, 1917, drenova
studied at the school of architecture in zagreb
has exhibited since 1963
address: zagreb, vrhovac 38a

1—8 systemic print, 1972
silk-screen print, paper
700 × 700 mm
9 diagonal reliefometre, 1973
aluminium
375 × 375 × 120 mm
10 lamellimetre, 1973
steel, electronic devices
1400 × 1400 × 200 mm

jesus raphael soto

june 5, 1923, ciudad bolivar
studied at the academy of fine arts in caracas
has exhibited since 1943
address: paris 3, 10 rue villehardouin

1 vibrating stick, 1967
wood, metal bar, nylon
498 × 240 × 147 mm
galerija suvremene umjetnosti, zagreb (gsu 1386)
2 metallic vibrations, 1969
aluminium, metal bars, nylon
269 × 299 × 125 mm
galerija suvremene umjetnosti, zagreb (gsu 1387)
3 vibration of metal, 1969—1970
wood structure, metal bars, nylon
4400 × 4400 × 2050 mm
galerija suvremene umjetnosti, zagreb (gsu 1539)

aleksandar srnec

july 30, 1924, zagreb
studied at the academy of fine arts in zagreb
has exhibited since 1950
address: zagreb, rockefellerova 19

1 objekt 050273, 1973
chrom-aluminij, elektromotor, ultravioletna žarulja,
520 × 505 × 170 mm
2 objekt 200373, 1973
chrom-aluminij, elektromotor, žarulje,
520 × 505 × 170 mm
3 objekt 161072, 1972
aluminij, ekran, elektromotor, ultravioletna žarulja
610 × 510 × 170 mm
soto-muzej, ciudad bolivar

miroslav šutej

29. IV 1936. duga resa, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb
izlaže od 1960.
adresa: kutina, nazorova 8, jugoslavija

1 mobilna grafika, 1973
svilotisak, papir,
2000 × 2000 mm
2 mobilni crtež s krivuljarom, 1973
tuš, flomaster. papir,
2000 × 2000 mm
3 mobilni crtež s krivuljarom II, 1973
tuš, flomaster, papir,
2000 × 2000 mm

victor vasarely

9. IV 1908. pècs, mađarska
studirao: akademija poldini-volkmann i akademija »mühely« (zvana »bauhaus«), budimpešta
izlaže od 1929.
adresa: annet sur marne, 83 rue aux reliques, france

1 tsillag, 1966—67
plexi, boja,
299 × 299 × 50 mm
galerija suvremene umjetnosti, zagreb (gsu 1203)
2 topaze blanche, 1937
obojeno drvo,
359 × 359 × 40 mm
galerija suvremene umjetnosti, zagreb (gsu 1202)
3 barson, 1967
kolaž,
2500 × 2500 mm
galerija suvremene umjetnosti, zagreb (gsu 1250)

1 object 050273, 1973
chrome-aluminium, electric motor, ultraviolet electric bulb
520 × 505 × 170 mm
2 object 200373, 1973
chrome-aluminium, electric motor, electric bulbs
520 × 505 × 170 mm
3 object 161072, 1972
chrome-aluminium, electric motor, ultraviolet electric bulb
610 × 510 × 170 mm
soto-museum, ciudad bolivar

miroslav šutej

april 29, 1936, duga resa
studied at the academy of fine in zagreb
has exhibited since 1960
address: kutina, nazorova 8

1 mobile print, 1973
silk-screen print, paper
2000 × 2000 mm
2 mobile drawing with curves, 1973
indian ink, felt-tip pen, paper
2000 × 2000 mm
3 mobile drawing with curves II, 1973
indian ink, felt-tip pen, paper
2000 × 2000 mm

victor vasarely

april 9, 1908, pecs
studied at the poldini-volkmann academy and mühely academy (called "bauhaus") in budapest
has exhibited since 1929
address: annet sur marne, 83 rue aux reliques

1 tsillag, 1966—67
plexiglass, paint
299 × 299 × 50 mm
galerija suvremene umjetnosti, zagreb (gsu 1203)
2 topaze blanche, 1967
painted wood
359 × 359 × 40 mm
galerija suvremene umjetnosti, zagreb (gsu 1202)
3 barson, 1967
collage
2500 × 2500 mm
galerija suvremene umjetnosti, zagreb (gsu 1250)

kompjuterska vizuelna istraživanja

computer visual research

Međunarodnim kolokvijem i prigodnom izložbom na temu »kompjuteri i vizuelna istraživanja« počela je godine 1968. manifestacija t-4 (tendencije 4). Ta manifestacija, koja je trajala godinu dana, ukazala je na problematiku one pojave koja se danas u svijetu naziva »kompjuterska umjetnost«, te predložila raspravu o odnosima i eventualnim vezama konstruktivističkih težnji na planu vizuelnog — što se od 1961. naziva »nova tendencija« (u SAD udomaćen je kasnije kreirani naziv »op-art«) — i vizuelnih istraživanja pomoću kompjutera. Ta rasprava, koliko god bila opravdana i logična, ipak u praksi nije donijela očekivane rezultate. Razlozi su dijelom generacijske prirode, a bezuvjetno su ovdje i zakoni potrošačkog društva odigrali primjetnu ulogu. Časopis »bit international« pratio je ta zbivanja na teoretskom području i pojedine su rasprave postavljale uvijek nova pitanja.

Zato je Galerija suvremene umjetnosti 26. i 27. VI 1971. ponovo organizirala međunarodni kolokvij na temu »umjetnost i kompjuteri«. U toku kolokvija iznesena su neposredna iskustva laboratorijskih i institutskih istraživanja, neki su znanstvenici iznijeli svoja gledišta o temeljnim shvaćanjima pojmova u oblasti umjetnosti i kompjutera, a grupa učenjaka iz Pariza (groupe art et informatique de vincennes) prikazala je referatima i zasebnom izložbom svoja istraživanja na području boja. Taj je skup donio i više preporuka koje bi valjalo iskoristiti prilikom manifestacije t-5 (tendencije 5) godine 1973. Te su se preporuke odnosile na načine i vrste djelovanja muzejskih i galerijskih ustanova, a napose je formuliran niz naslova koje će valjati obraditi. Među svim tim prijedlozima treba posebno istaknuti dva. Dr Herbert W. Franke predložio je da se proučavaju osobito mogućnosti kompjutera za stvaranje didaktičkih i pedagoških sredstava, primjenu kompjutera pri oblikovanju predmeta široke potrošnje, zatim u vezi s izgradnjom znanstvene estetike, iskorištavanje iskustava rada s kompjuterom za svrhe oblikovanja čovjekova slobodnog vremena i predmeta njegova zadovoljstva. Jonathan Benthall predložio je raspravu o odnosima konceptualne umjetnosti i istraživanja pomoću kompjutera. Posebno valja istaknuti da je cijeli skup inzistirao na nužnim sociološkim implikacijama, s jedne strane, i na izgradnji znanstvene estetike, koja uključuje i kritiku informacione estetike, s druge strane.

Organizatori međunarodne manifestacije t-5 predložili su zbog toga da temeljna teza ovaj put bude: »racionalno i iracionalno u vizuelnim istraživanjima danas«, pri čemu ona istraživanja pomoću kompjutera imaju zasebni položaj, a izbor malog broja autora s više djela treba da prezentira određena pitanja i rješenja koja se uklapaju u osnovnu tezu manifestacije. Pozvan je niz stručnjaka da načini izbor autora čija će djela biti pokazana na izložbi

The international symposium in 1968 and the exhibition on "Computers and Visual Research" organized for the occasion, marked the beginning of the event T-4 (Tendencies 4). This event, which lasted for a year, pointed to the problems of the phenomenon known today as "computer art", and proposed a discussion on the relationship and possible links between constructivist aspirations on the visual level — which have come to be known since 1961 as »New Tendencies« (in the USA the later coined name of »op-art« is in use) — and visual research by means of computers. However justified and logical it might have been, the discussion did not offer the results anticipated. We may say the reason for this is not only a problem of differences between generations and undoubtedly the laws of consumer society have also played a considerable part. The Review "BIT International" covered these events in the theoretical field and some of the discussions have raised new questions.

That's why on the 26th and 27th of June 1971 the Gallery of Contemporary Art organized another international symposium on "Art and Computers". During the symposium direct experiences, obtained through research in laboratories and institutes, were revealed. A number of scientists presented their views on the fundamental ideas in the field of art and computers, while a group of scholars from Paris (Groupe art et informatique de Vincennes) presented in their papers and at special exhibitions the results of their explorations in the field of colour. This gathering made a series of recommendations which should be utilised during the event T-5 (Tendencies 5) in 1973. These recommendations concerned the different kinds of activities of museum and galleries, and in addition a whole series of titles to be dealt with were formulated. Amongst all these recommendations two should receive special attention. Dr. Herbert W. Franke suggested that special consideration should be given to exploring the possibility of using computers for creating didactic and educational means, of applying computers for the design of consumer goods, for the promotion of scientific aesthetics, and of using experiences with computers for organizing man's leisure time. Jonathan Benthall, on the other hand, sugested discussng the relation between conceptual art and computer research. However, it should be pointed out that all the participants stressed the inmportance of the necessary sociological implications, on the one hand, and of the promotion of scientific aesthetics, which includes criticism of informational aesthetics, on the other hand.

Bearing in mind the above and other considerations which have not been stated, the organizers of the international event T-5 have suggested that this time the main thesis be: "the rational and the irrational in visual research to-

kompjuterskih istraživanja. Dr Herbert W. Franke predložio je ove autore: Ch. Csuri (SAD), W. Fischer (SR Njemačka), Grupo de arte y cibernetica (Argentina), G. C. Hertlein (SAD), H. Kawano (Japan), K. C. Knowlton (SAD), A. Lecci (Italija), M. Mohr (Francuska), M. S. Mason (SAD), F. Nake (SR Njemačka), G. Nees (SR Njemačka), B. K. Shah (SAD), E. Zajec (Italija). J. van der Wolk predložio je predstavnike Nizozemske (L. Geurts-L. Meertens, P. Struycken, S. Brouwn), F. Briones predstavnike Španjolske, a A. Sutcliffe predstavnike »Computer arts Society« iz Londona. Galerija suvremene umjetnosti predložila je napose O. Beckmanna (Beč), V. Bonačića (Zagreb—Jeruzalem), W. Cordeira (Brazil), Cygra 4 — grupa iz Kanade, H. W. Frankea, Gaiv — grupa iz Pariza, M. Horvata (Kanada), P. Milojevića (Kanada), S. Pavlina (Jugoslavija) i Z. Sykoru (ČSSR). Osim navedenih javilo se još nekoliko autora koji su svoje radove poslali samoinicijativno. Ali, kako se vizuelna istraživanja pomoću kompjutera danas neobično brzo razvijaju, a mnogi autori danas rade na drugim problemima, ova izložba ne pokazuje sve što je na tom području od 1965 — kada su održane prve izložbe djela proizvedenih pomoću digitalnih kompjutera — do danas realizirano. Isto tako ne pokazuje istraživanja kompjuterima u prostoru, zatim tzv. »events« u Velikoj Britaniji, ni djela proizvedena analognim kompjuterima ili laserima. Zadatak je izložbe prema tome da ograničenim brojem autora i ograničenom tematikom upozori na današnje stanje na području vizuelnih istraživanja pomoću kompjutera.

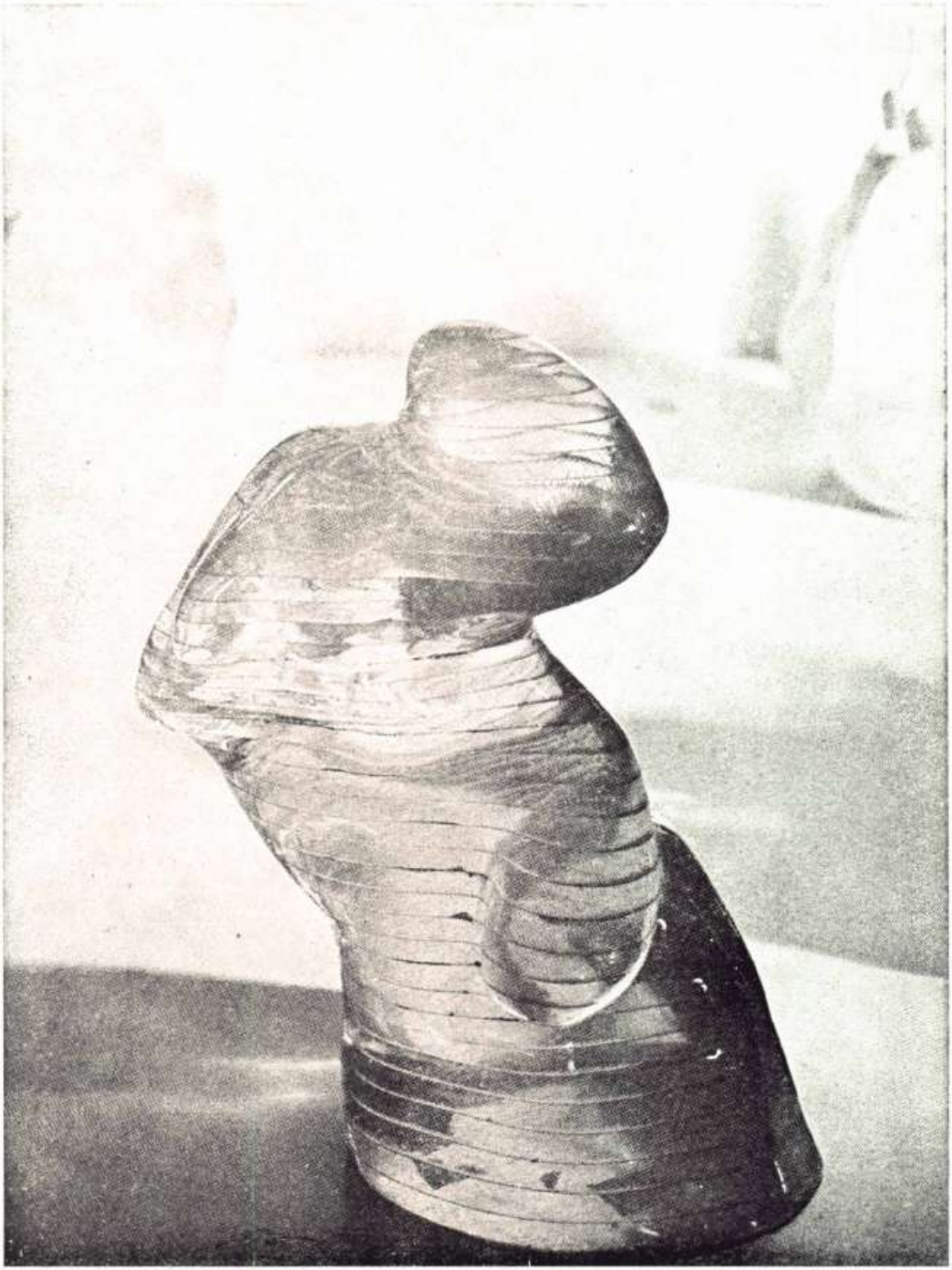
Zahvaljujemo svima koji su omogućili da se ova izložba realizira.

Boris Kelemen

day". In this field visual research by means of computers plays a significant part, and the choice of a limited number of artists, represented by several works, should raise certain questions and provide solutions which fall within the basic thesis of the event. Thus, a number of experts have been invited to choose artists whose works will be shown at the exhibition on computer research. Dr. Herbert W. Franke has proposed the following artists: Ch. Csuri (USA), W. Fischer (Fed. Rep. Germany) Grupo de arte y cibernetic (Argentina), G. C. Hertlein (USA), H. Kawano (Japan), K. C. Knowlton (USA), A. Lecci (Italy), M. Mohr (France), M. S. Mason (USA), F. Nake (Fed. Rep. Germany), G. Nees (Fed. Rep. Germany), B. K. Shan (USA), E. Zajec (Italy), J. van der Wolk has proposed representatives of Holland (L. Geurts-I. Meertens, P. Struycken, S. Brouwn), F. Briones representatives of Spain, and A. Sutcliffe representatives of the "Computer Arts Society" from London. The Gallery of Contemporary Art has, in addition, proposed the following artists: O. Beckmann (Vienna), V. Bonačić (Zagreb—Jerusalem), W. Cordeira (Brasil), Cygra 4 — a group from Canada, H. W. Franke, Gaiv — a group from Paris, M. Horvat (Canada), P. Milojević (Canada), S. Pavlin (Yugoslavia) and Z. Sykora (Czechoslovakia). Besides these, a number of artists have sent their works on their own initiative. However, owing to the fact that visual research by means of computers is developing very rapidly today, while on the other hand a number of artists are presently working on other problems, the exhibition will not show everything that has been achieved in the field since 1965 — when the first exhibitions of works produced by means of digital computers were held — up to the present day. In the same way it will not cover computer research in space, nor the work done in the field in Great Britain and known as "events", nor works produced by means of analog computers or lasers. Therefore this exhibition sets out to show, through a limited number of artists and limited subject matter, the present situation in visual research by means of computers.

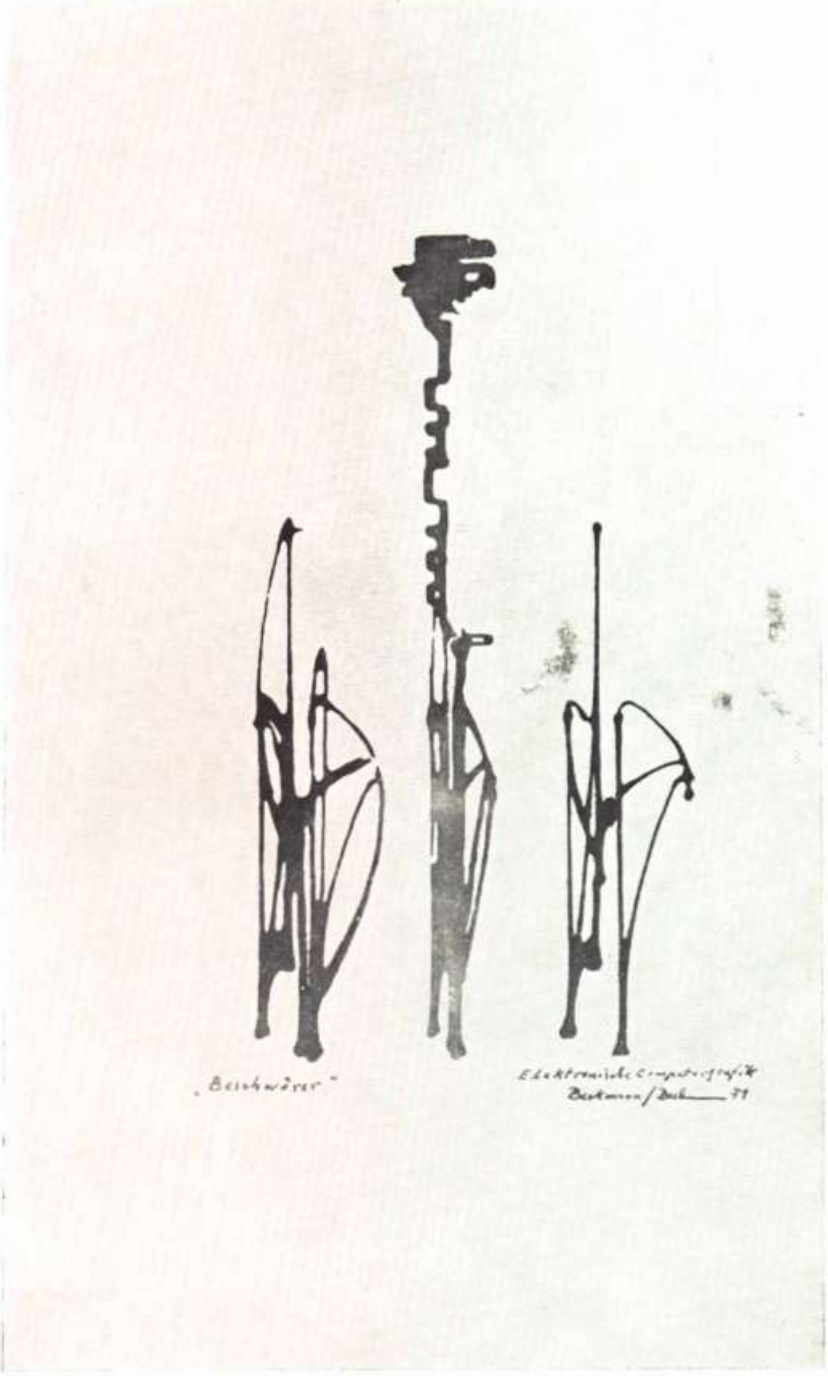
Here we would like to thank all those who have made it possible for the exhibition to be held.

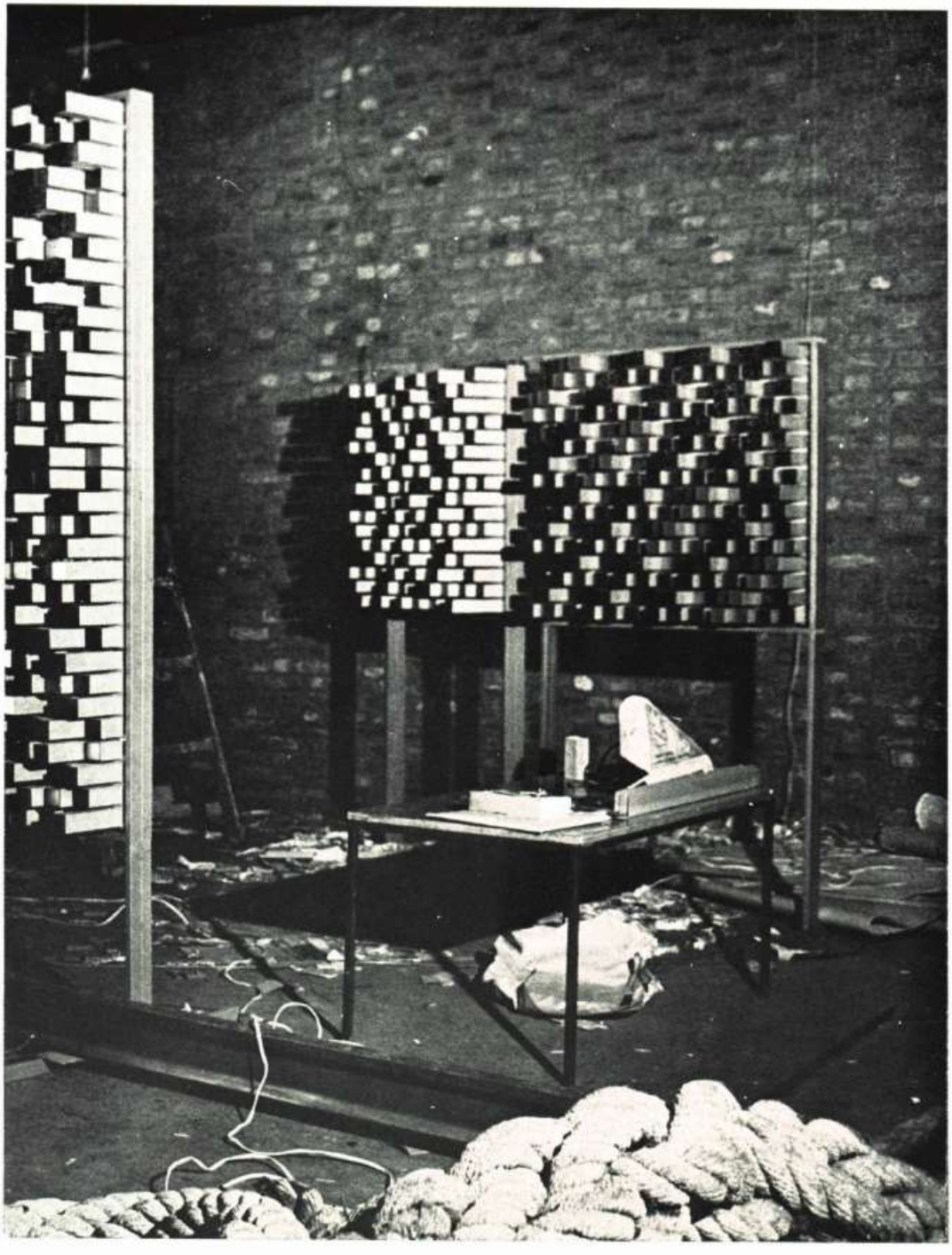
Boris Kelemen



jose luis alexanco

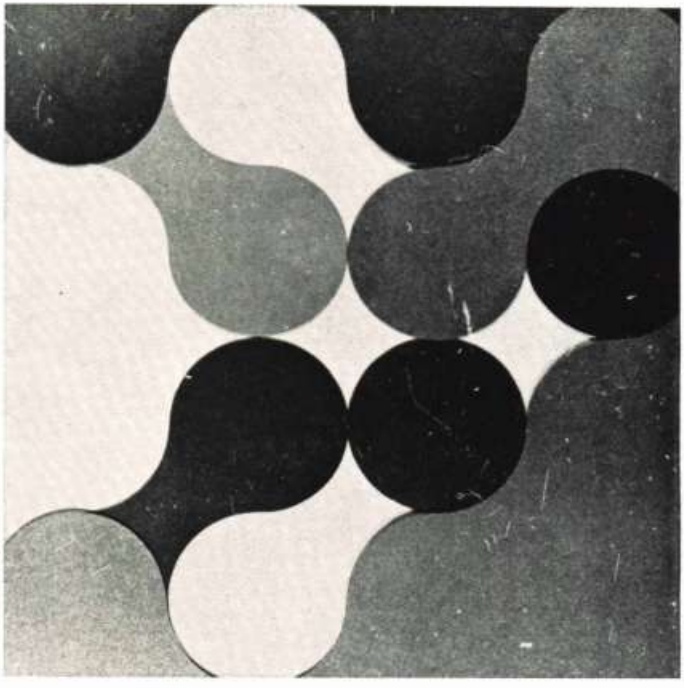
manuel barbadillo, 3

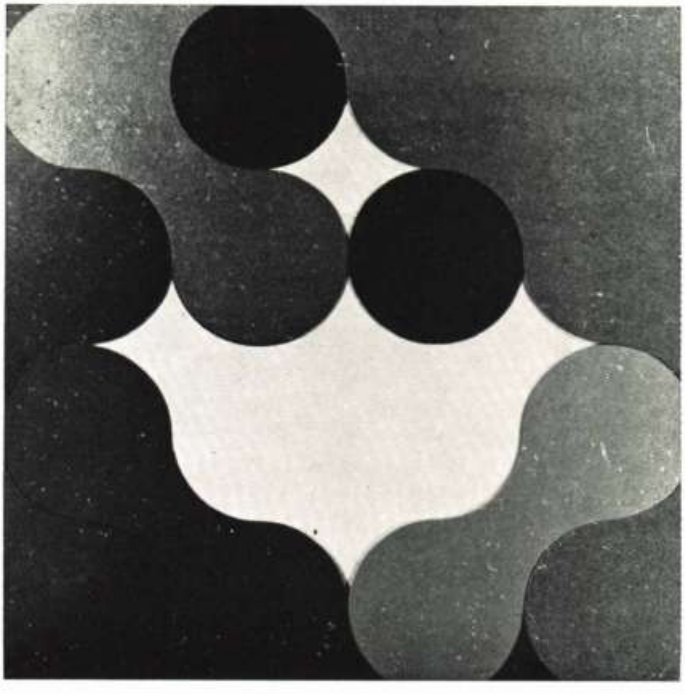

„Beschwörer"

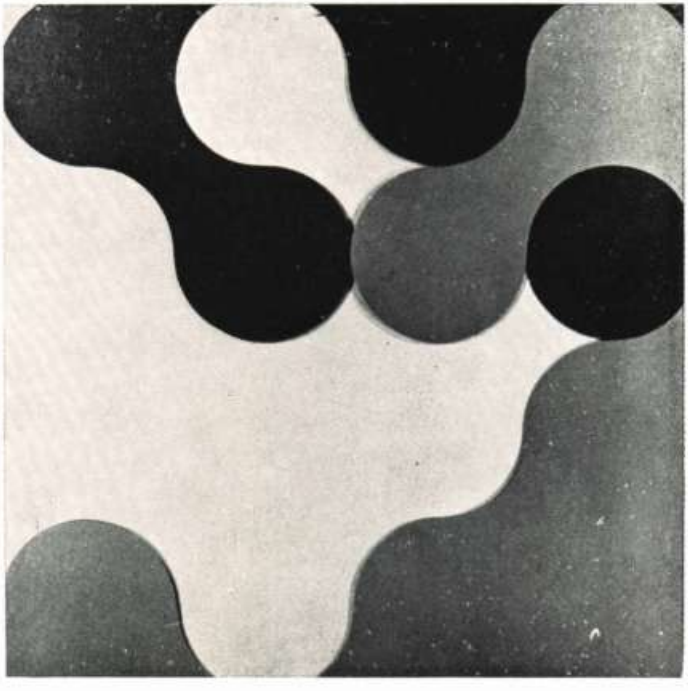


vladimir bonačić, 1

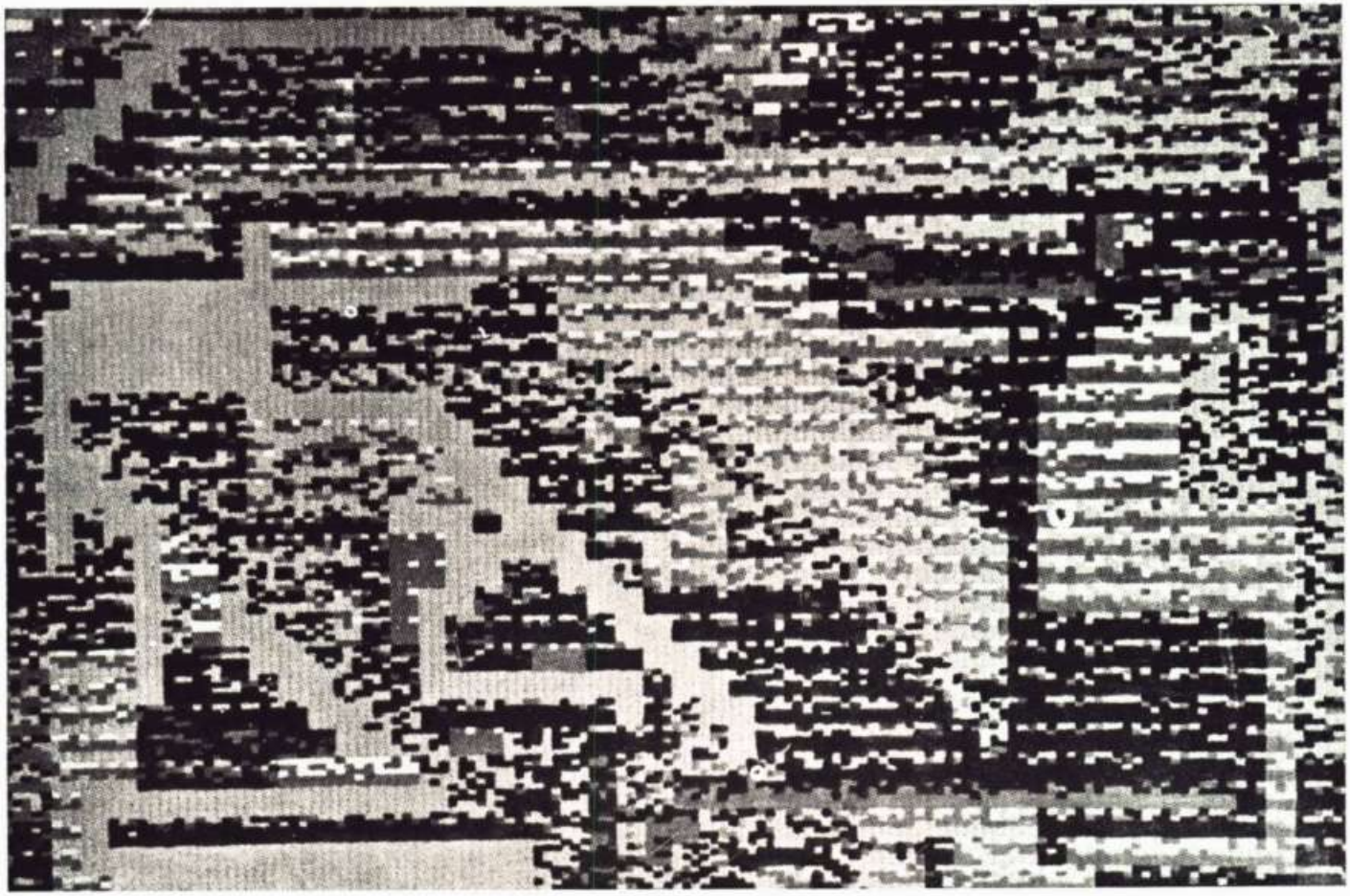
waldemar cordeiro, 1



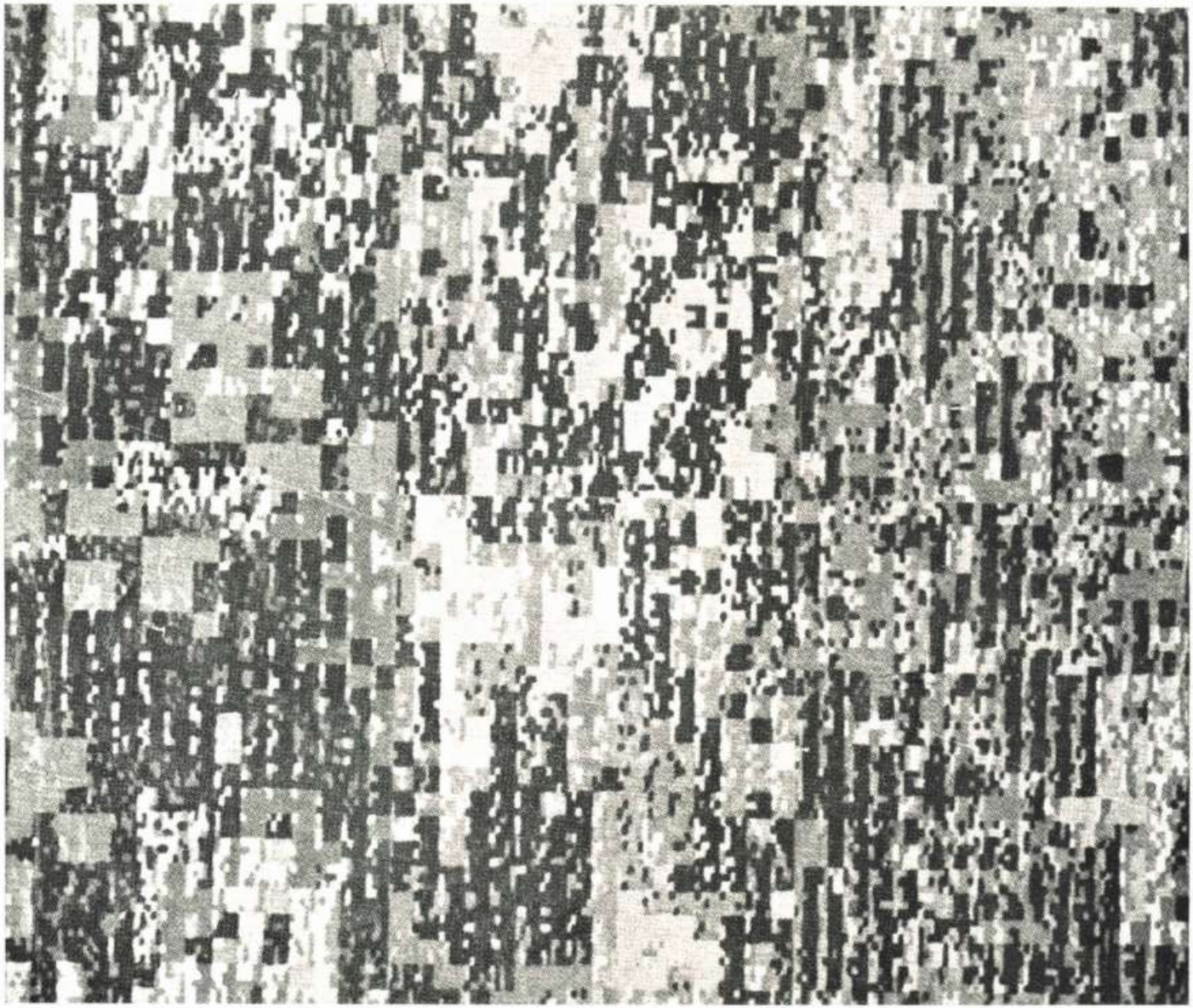




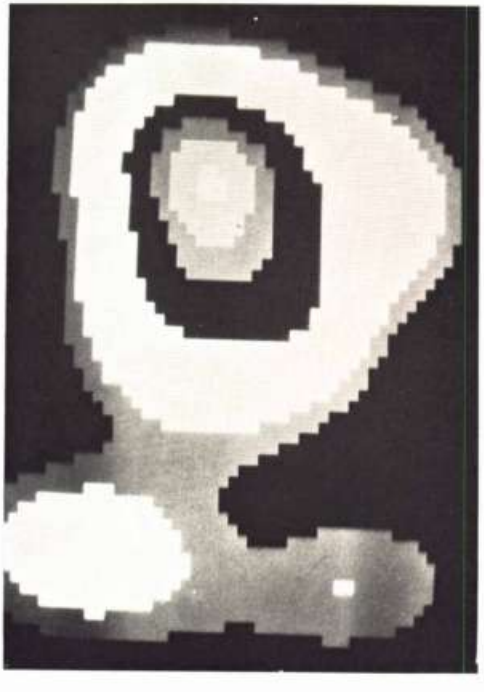
gerardo delgado, 1



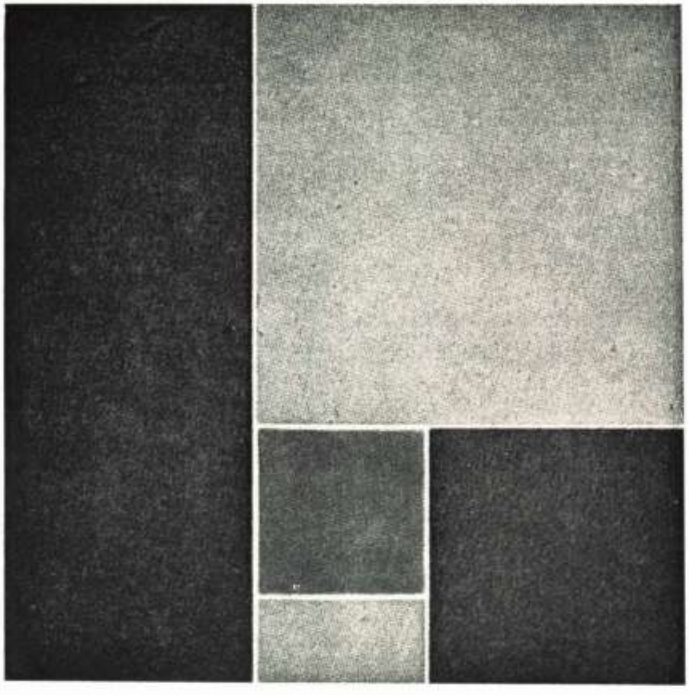
fanie dupré



jacques dupré



herbert w. franke, 1



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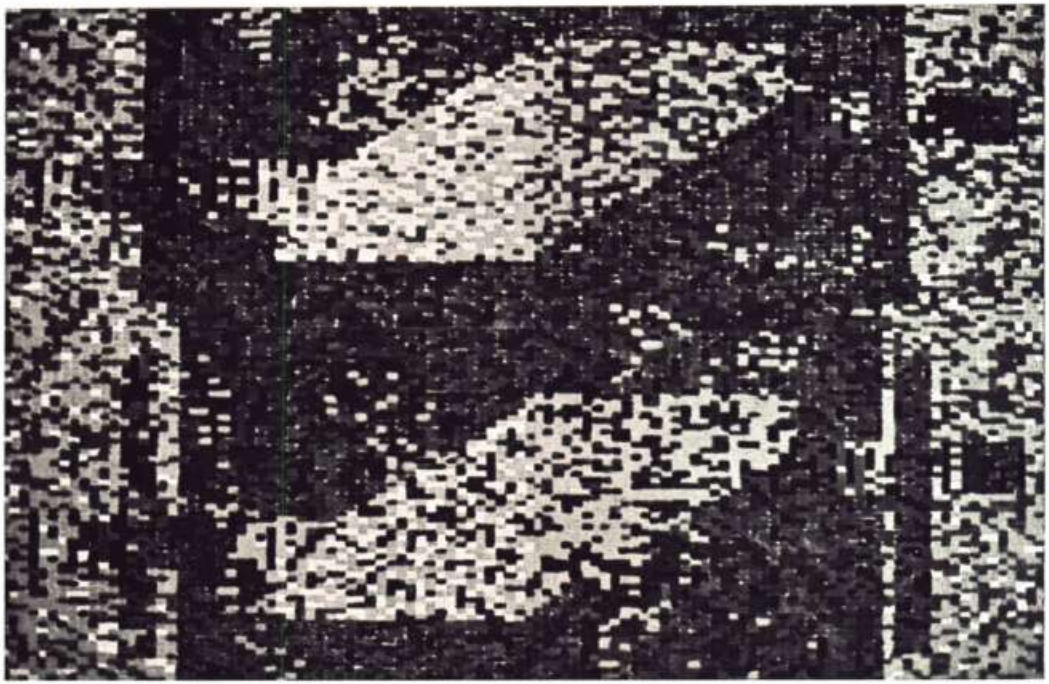
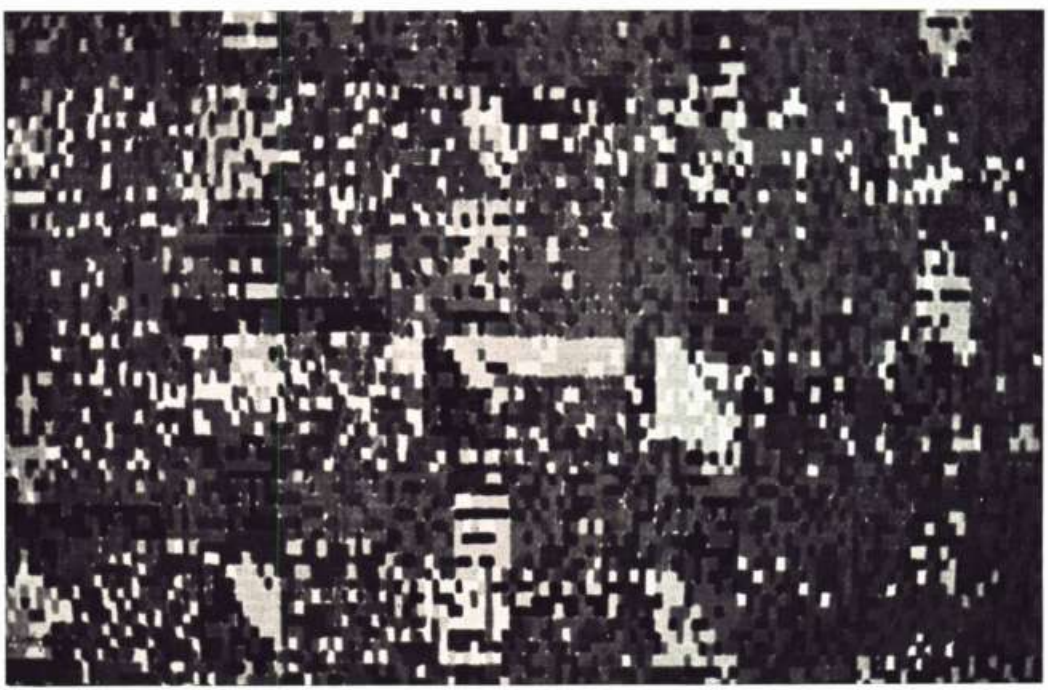
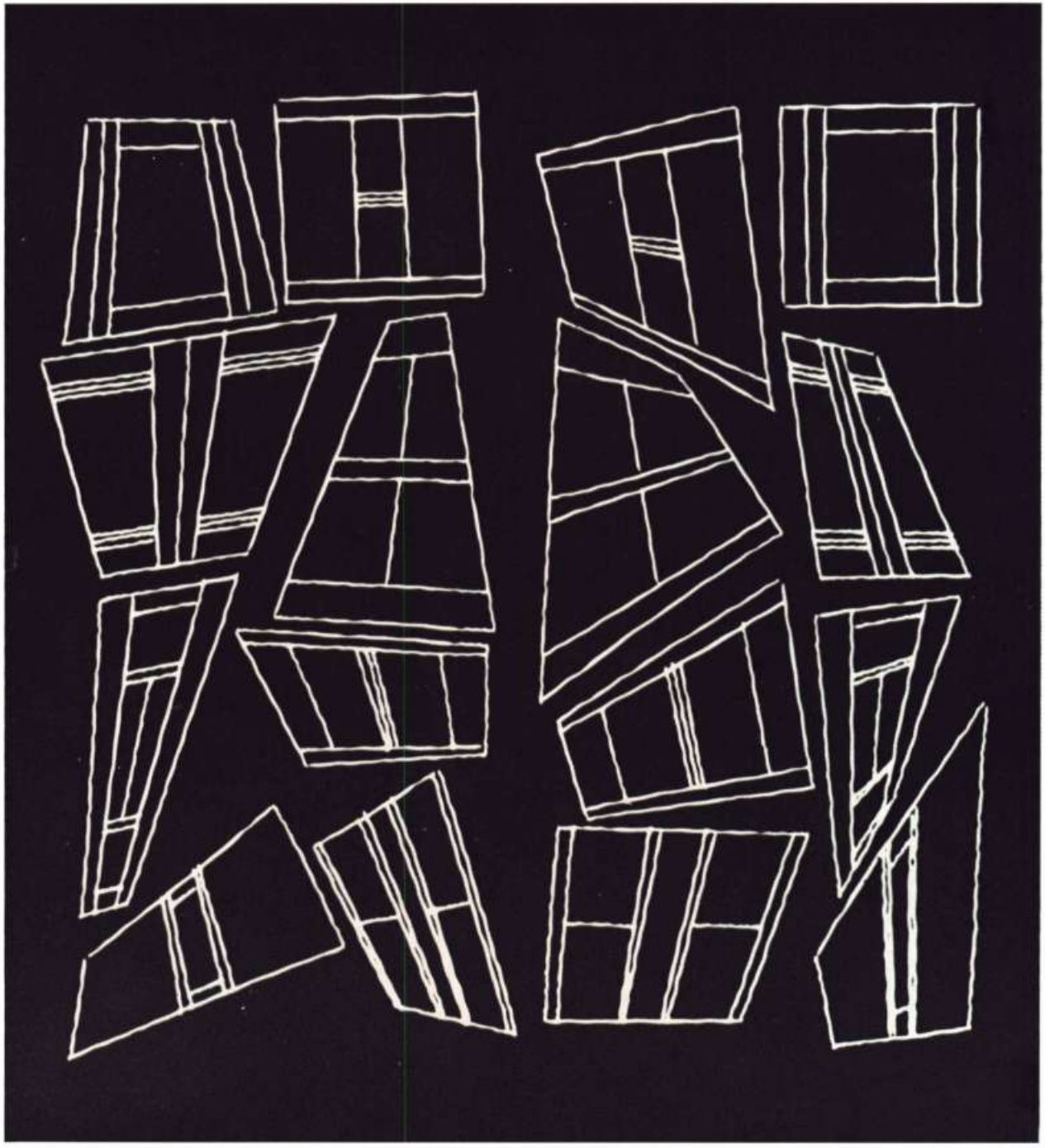


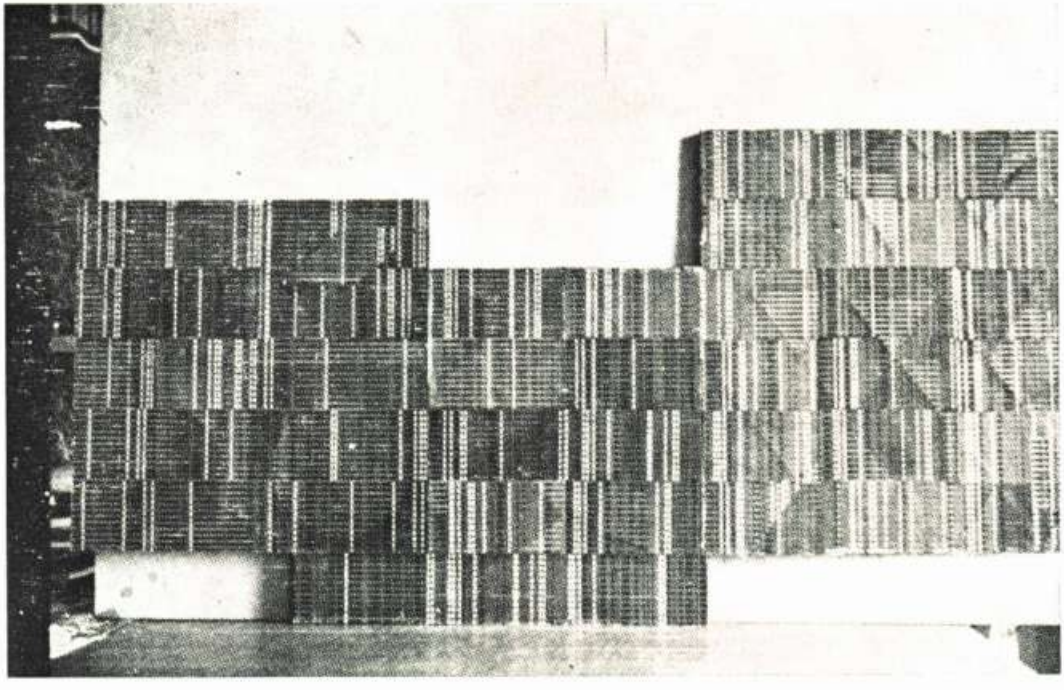


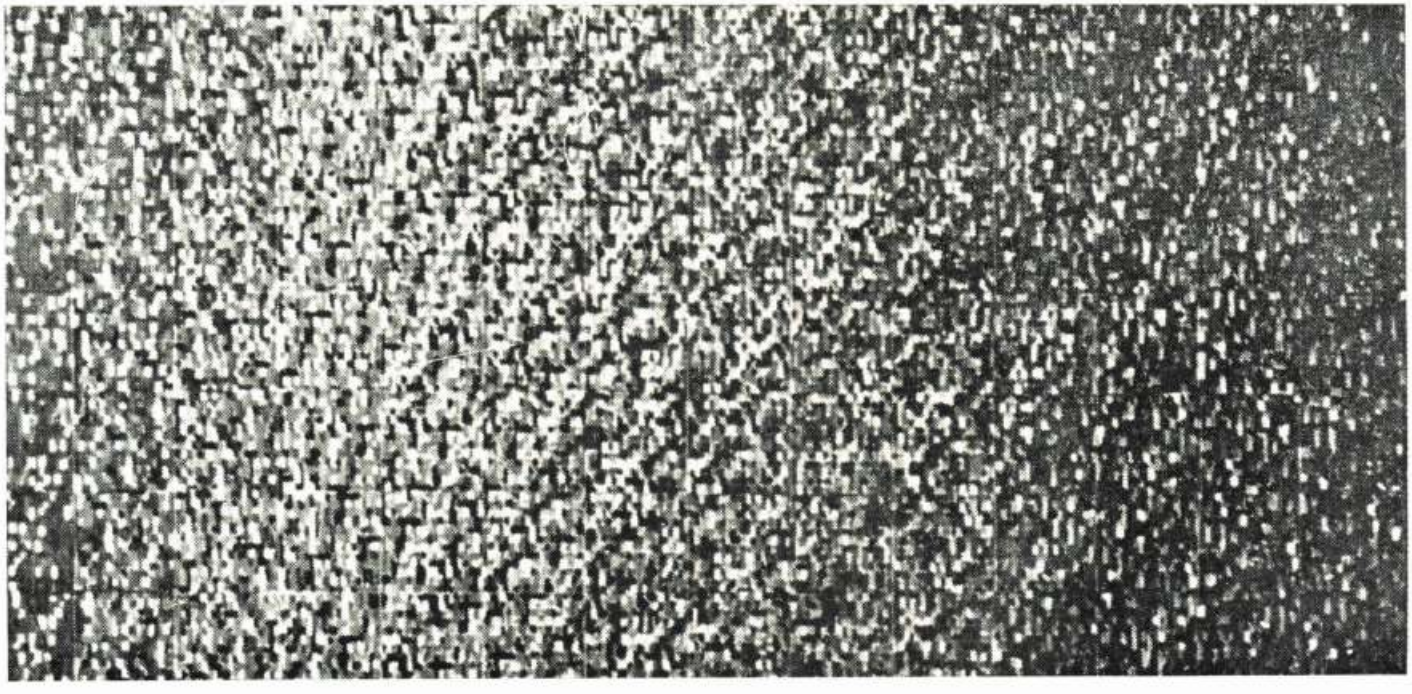
jean-claude halgand, 1, 2

grace c. hertlein, 6, 7

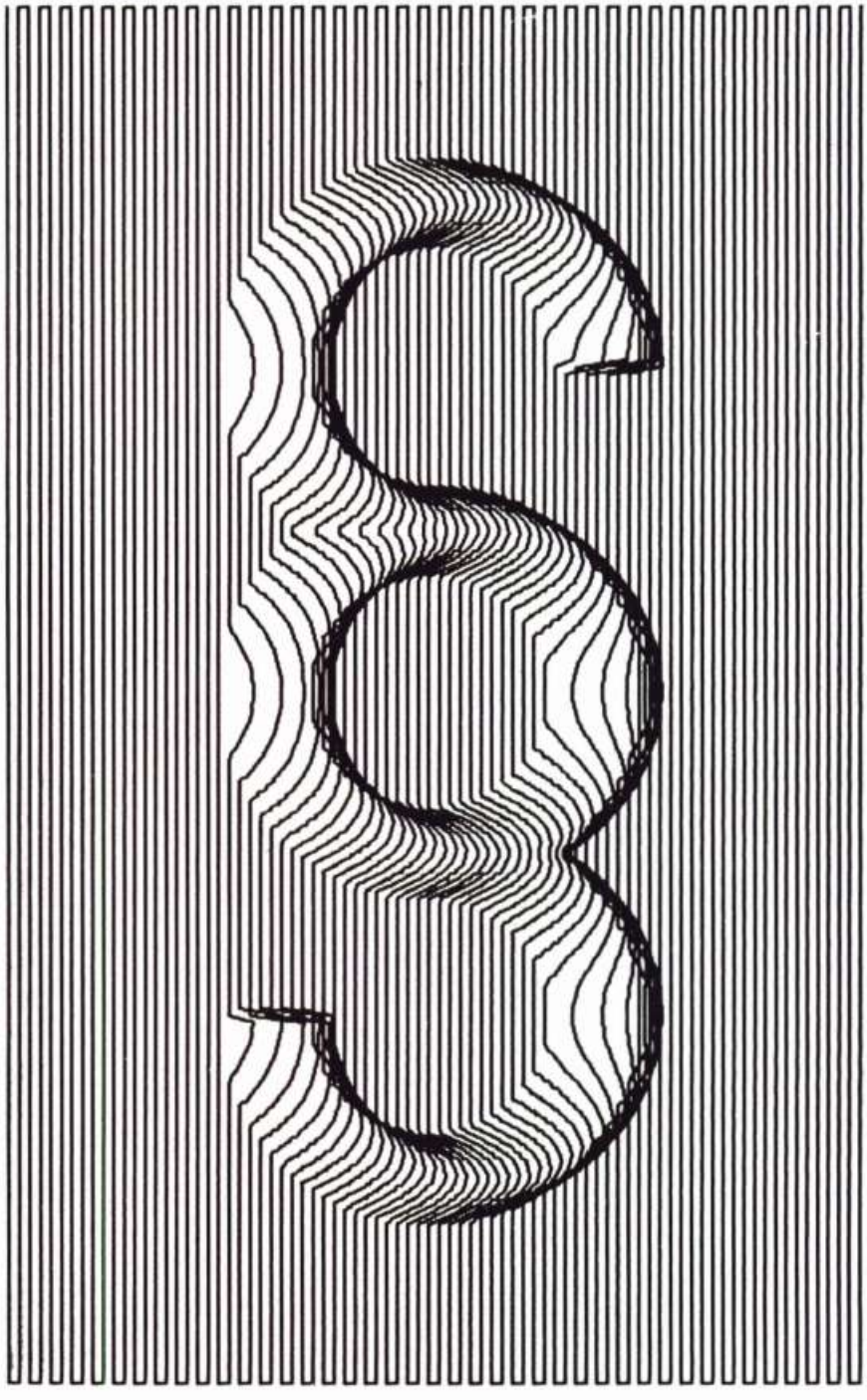


miljenko horvat, 3

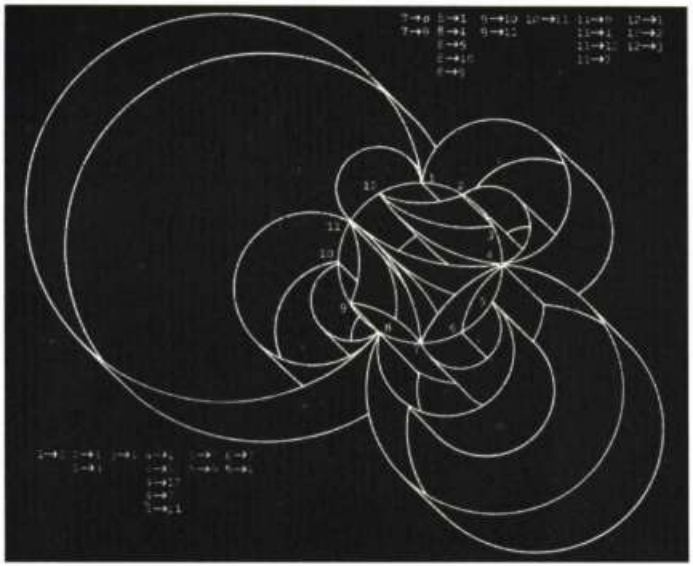


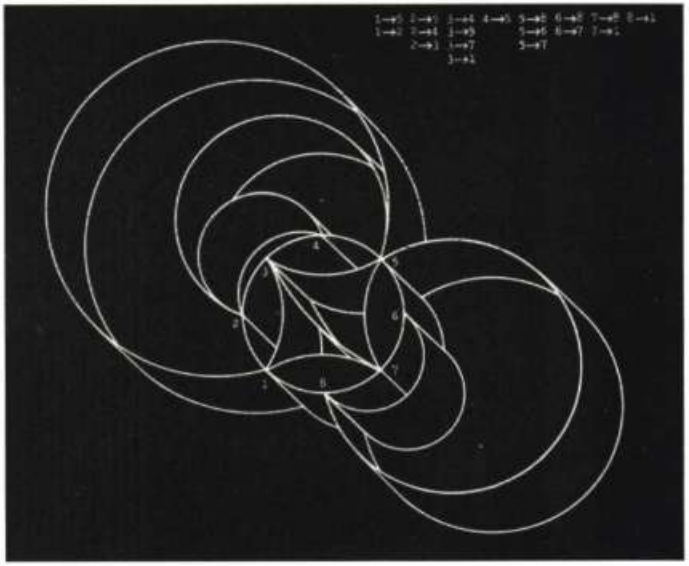


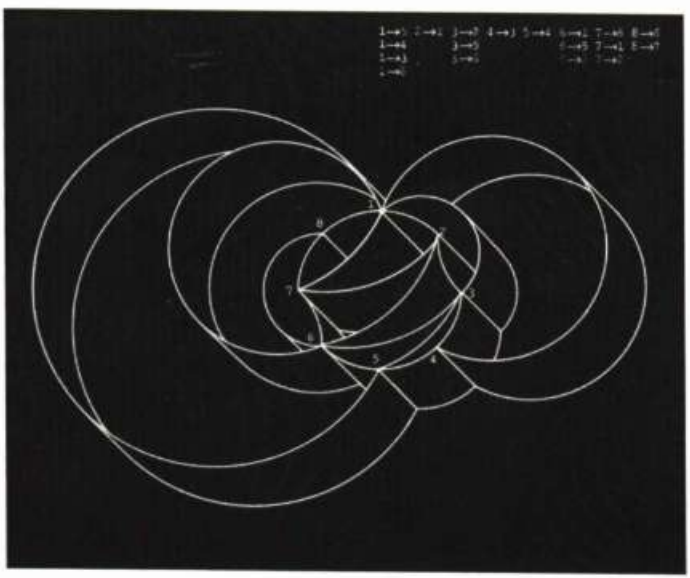
hervé huitric

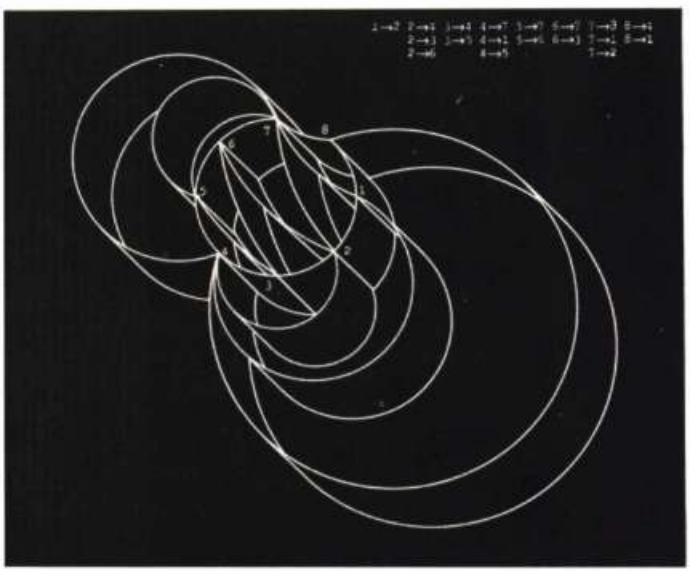


sture johannesson — sten kallin

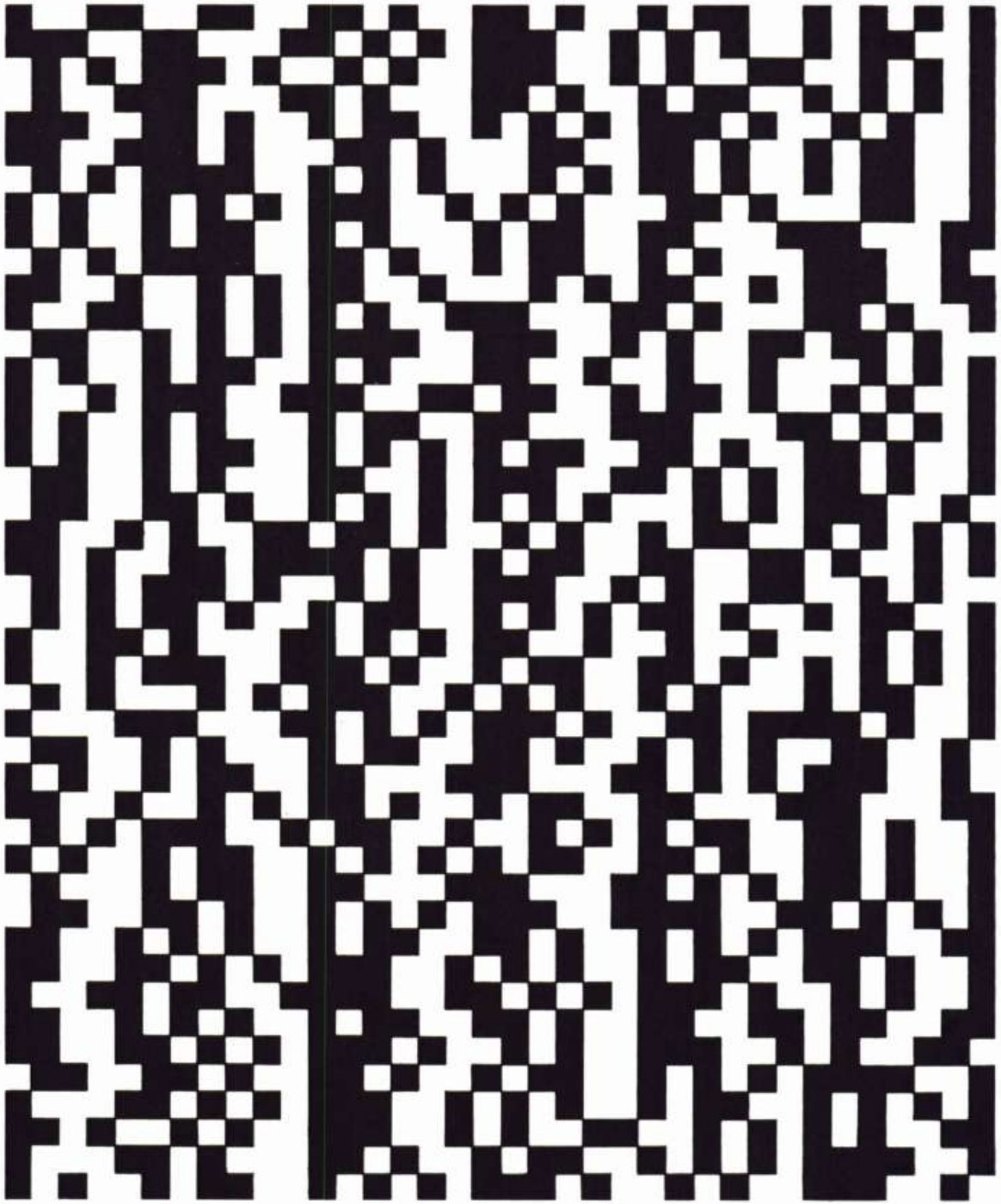




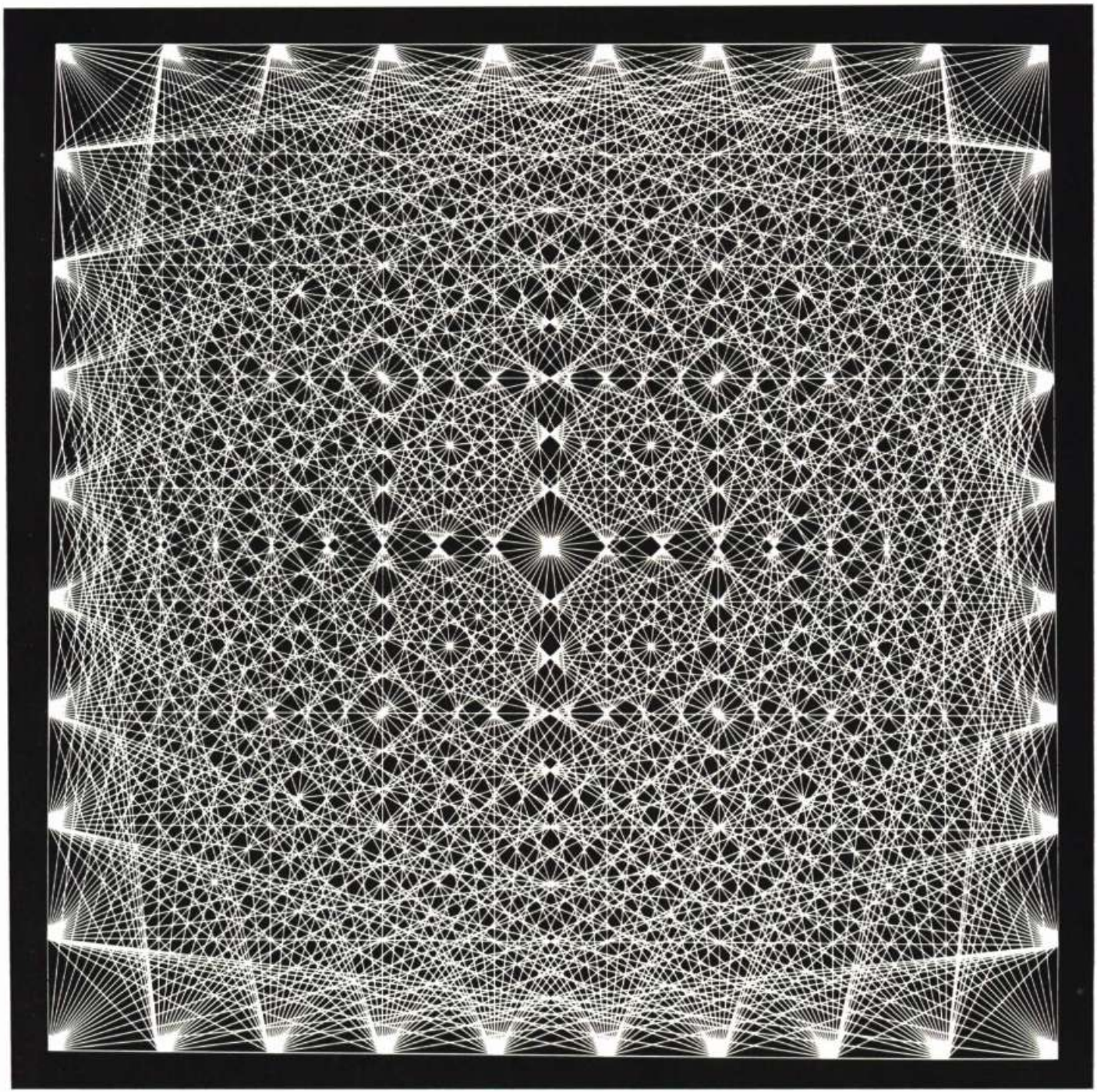




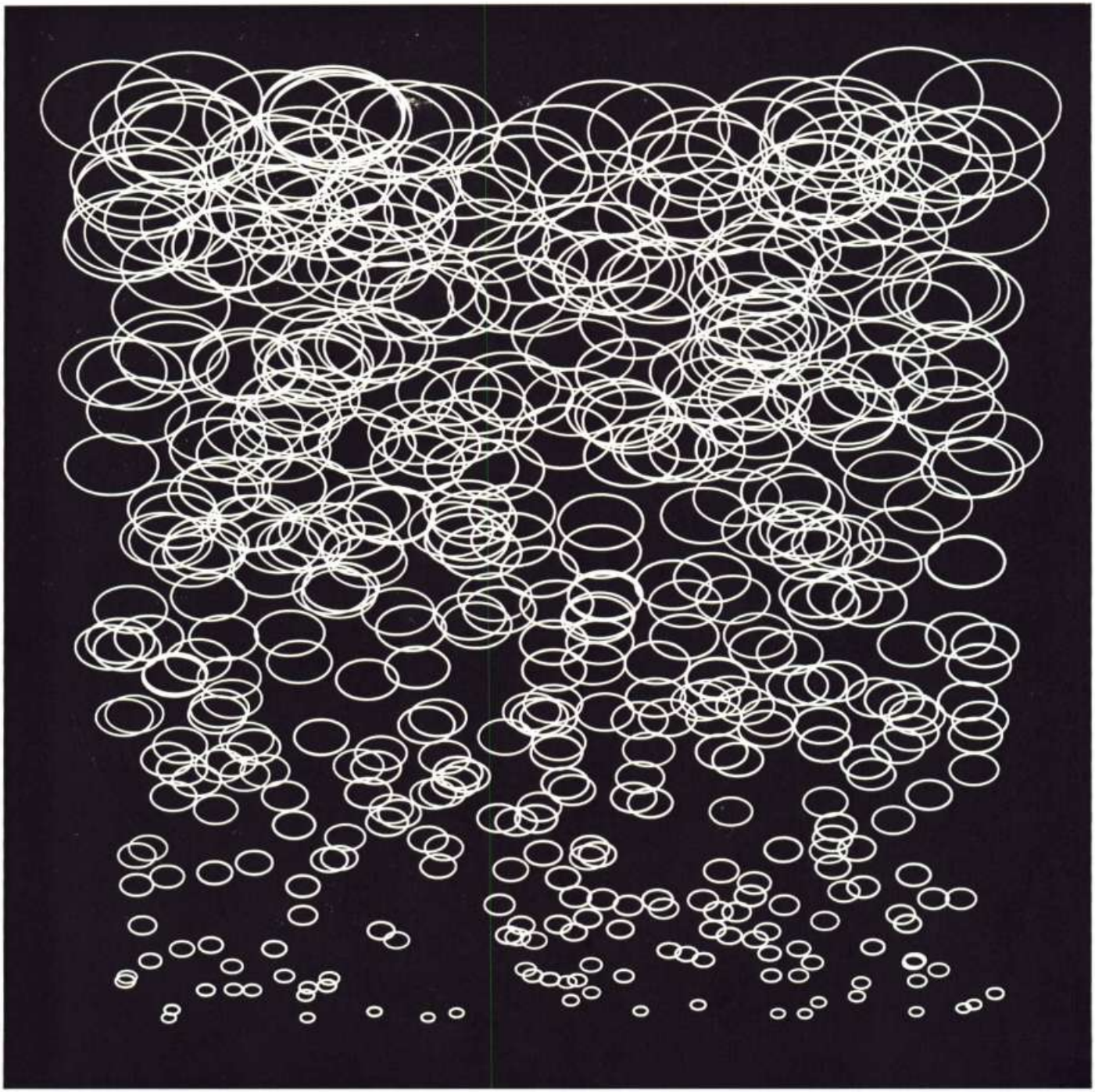
auro lecci



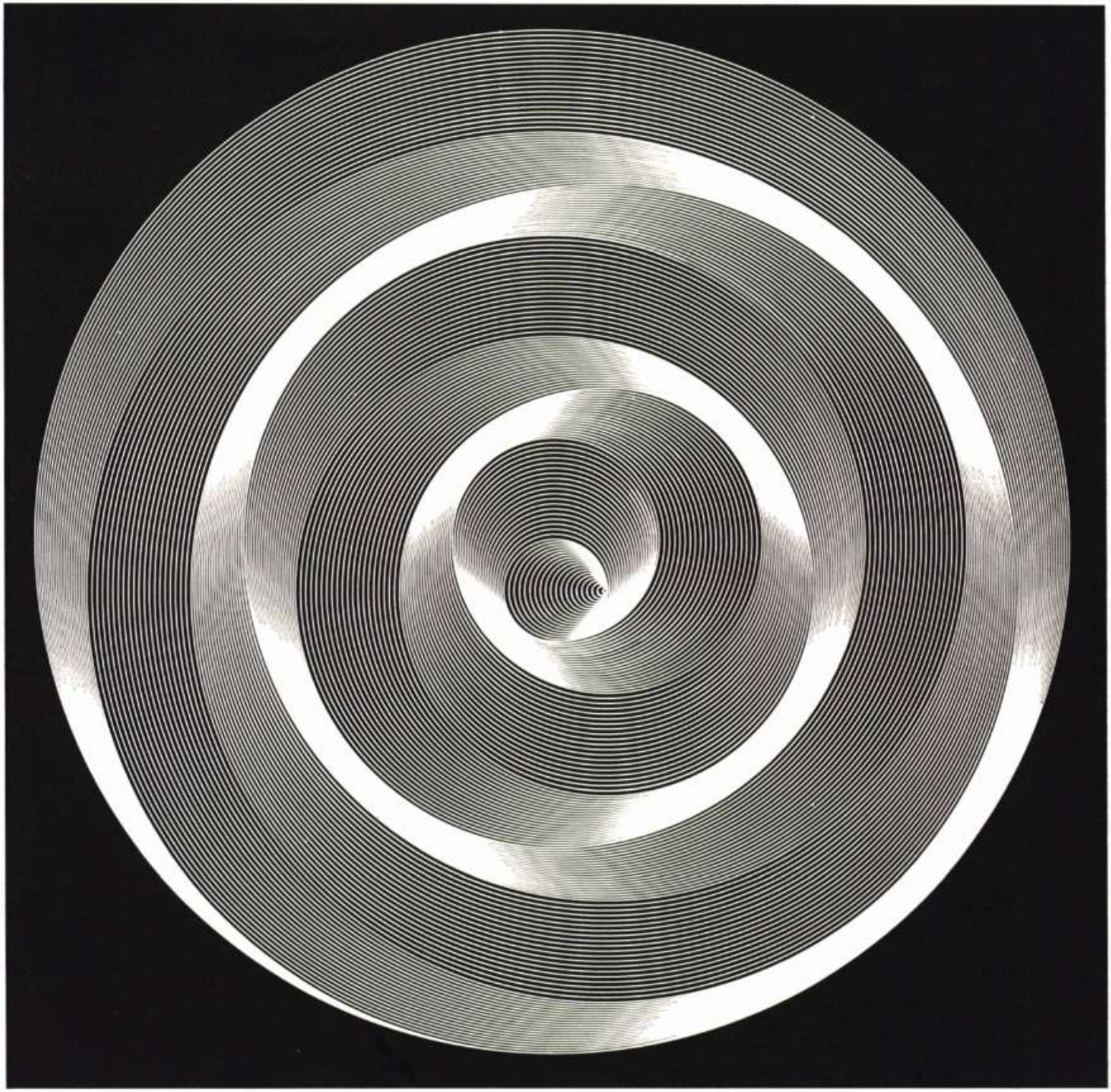
jean claude marquette



mbb computer graphics — frank böttger, 9



mbb computer graphics — sylvia roubaud/gerold weiss, 15



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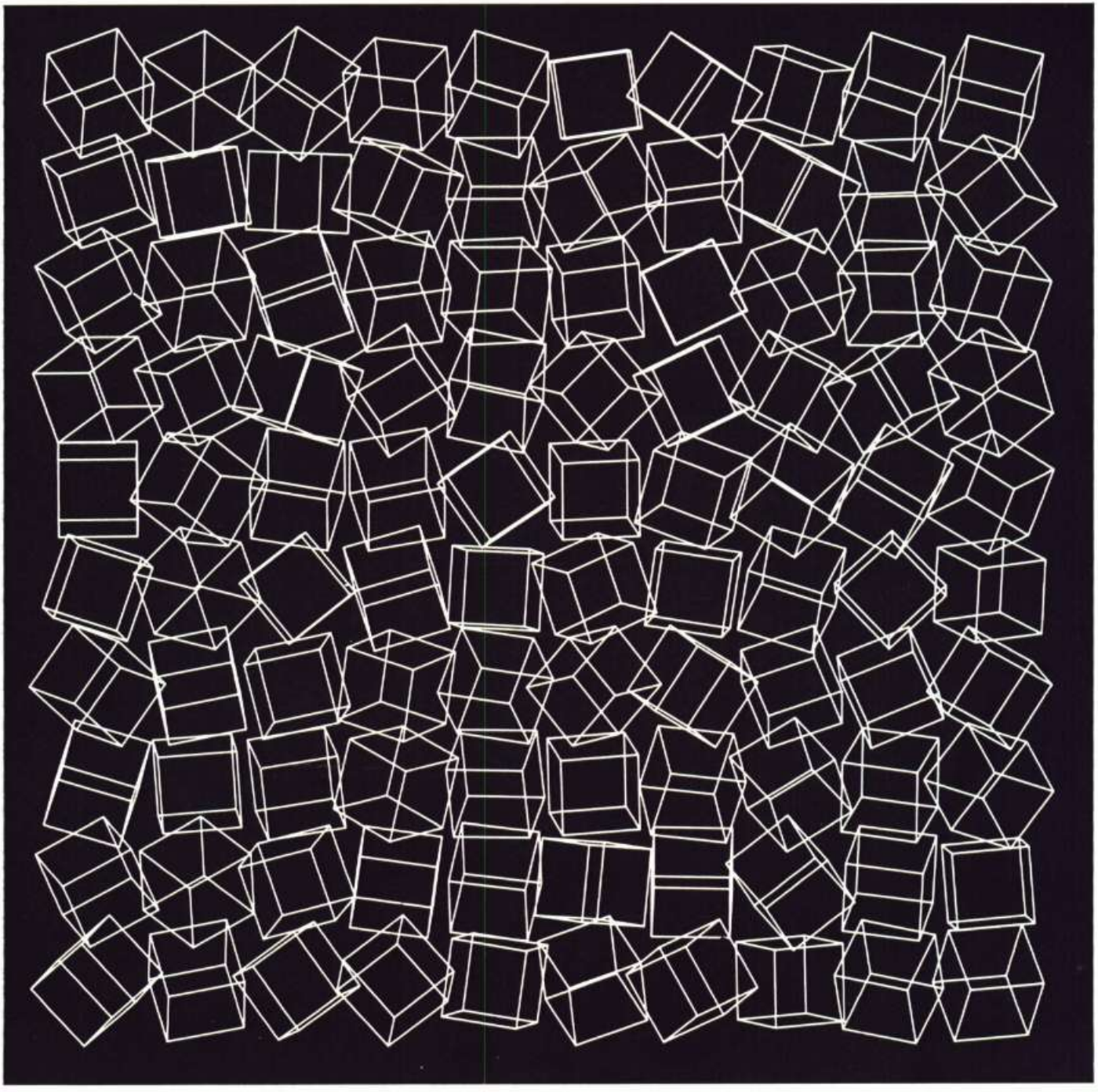
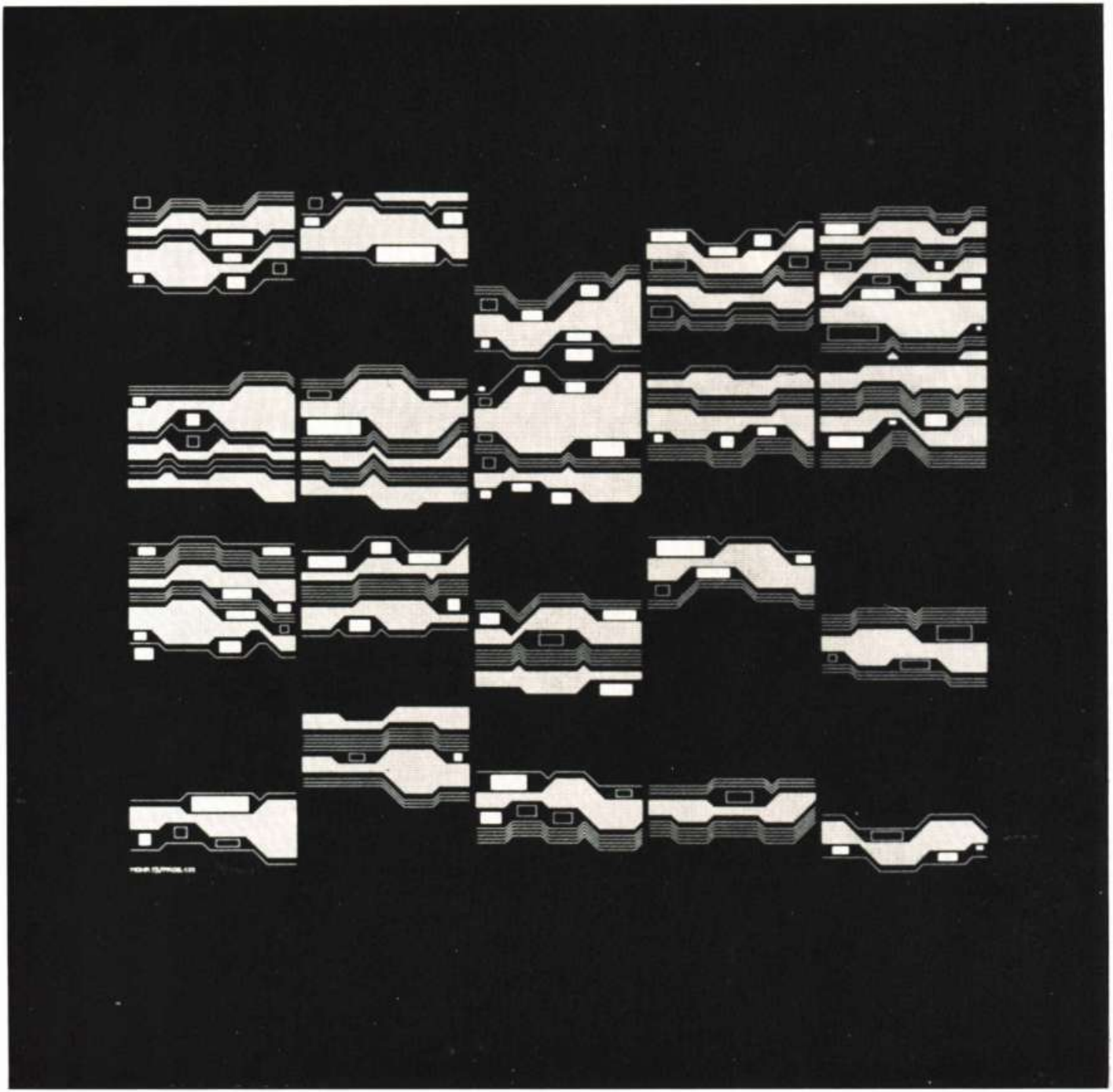
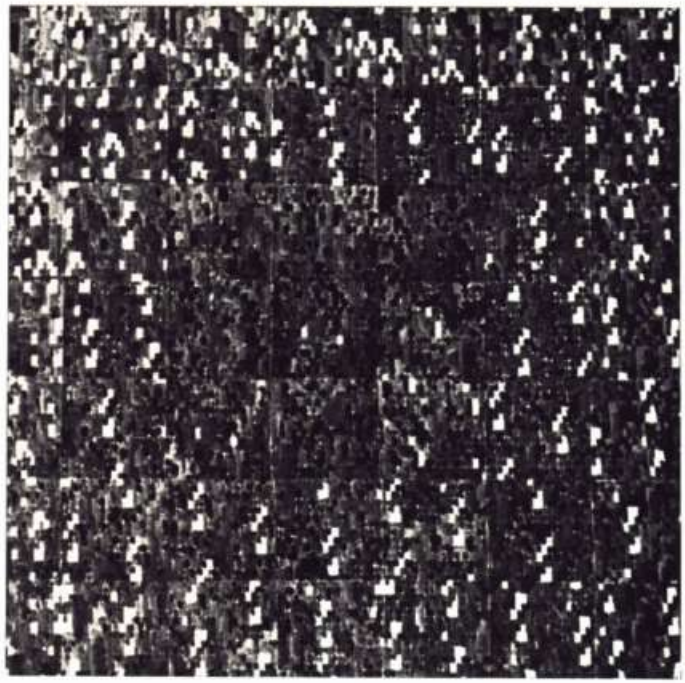
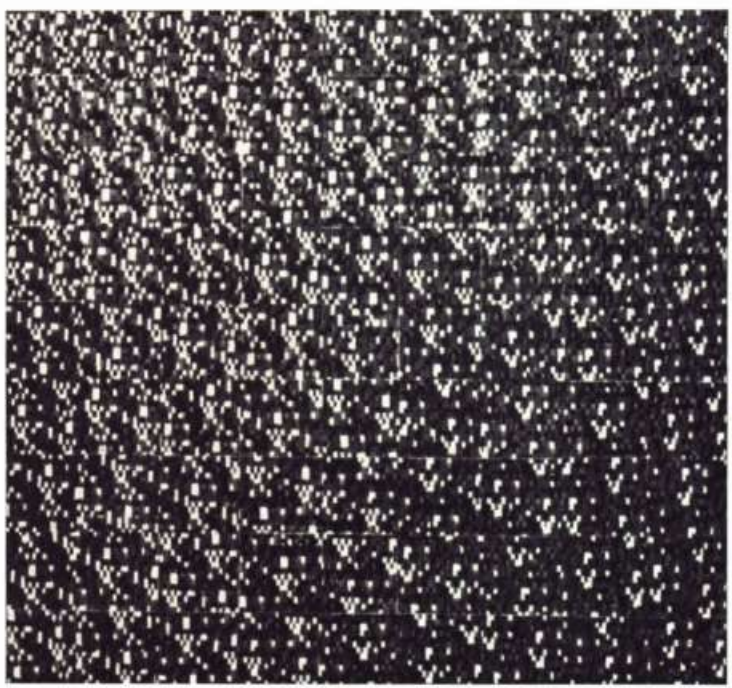


mbb computer graphics — rolf wölk, 35



manfred mohr, 4





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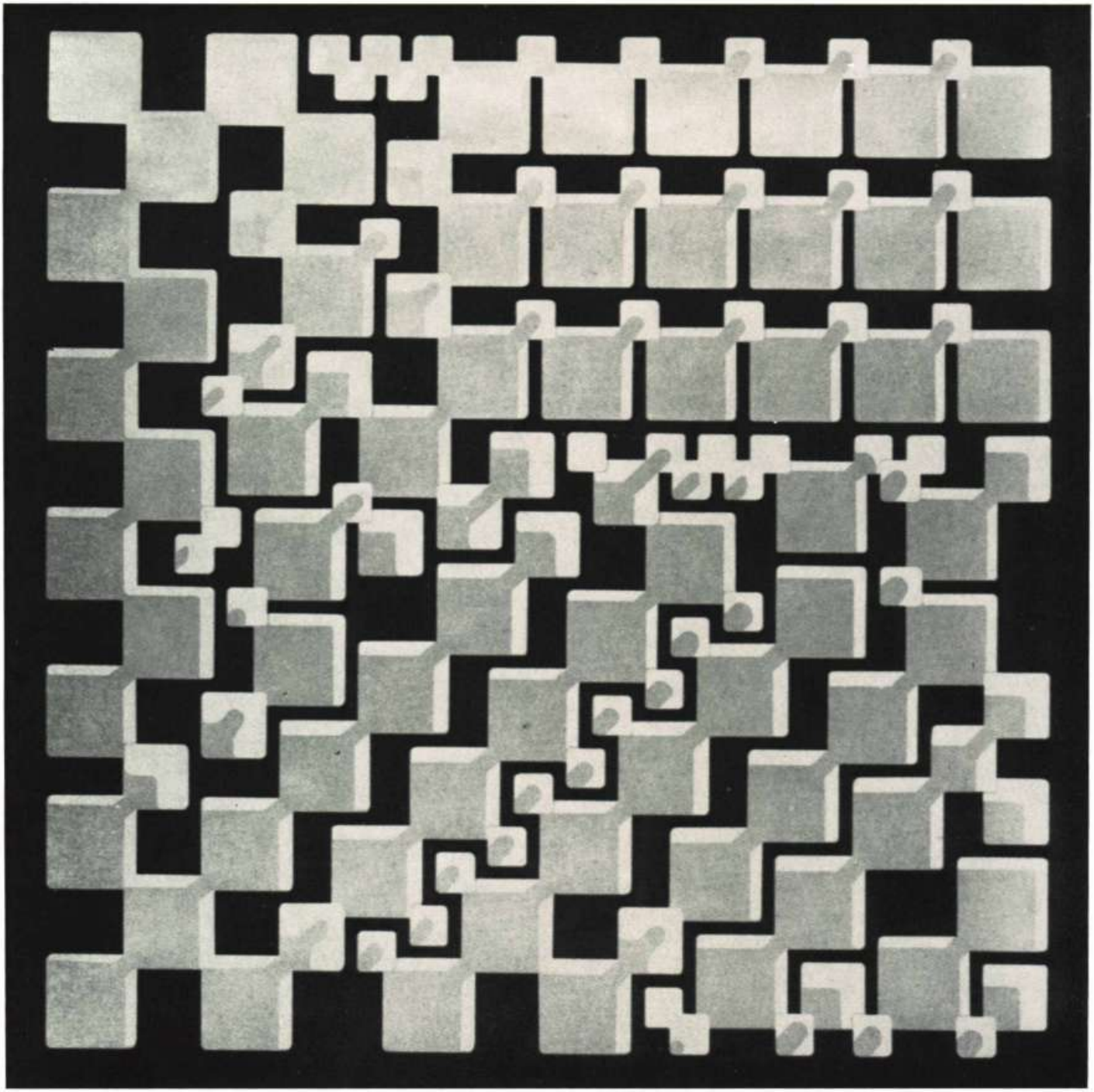
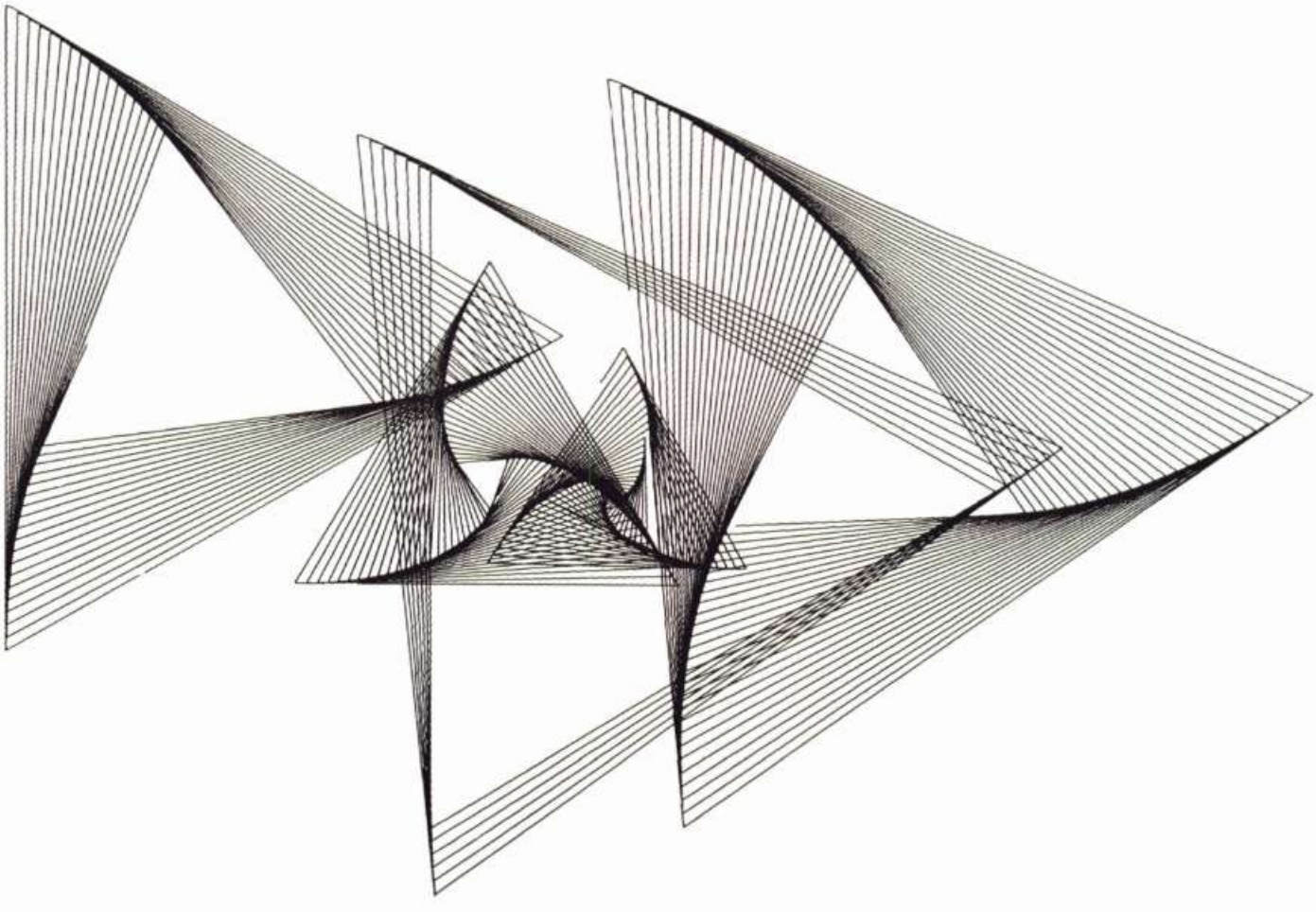
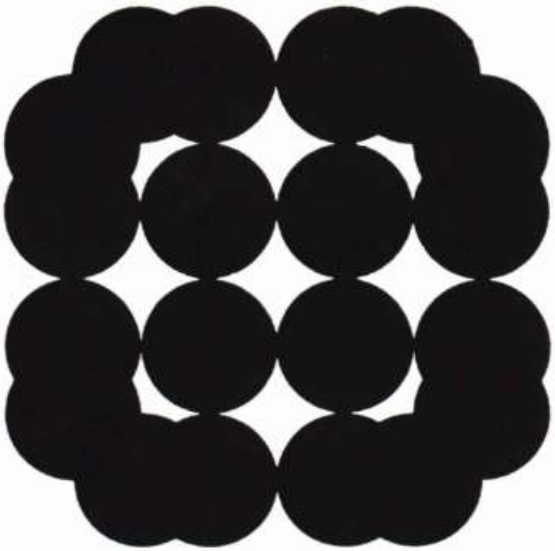
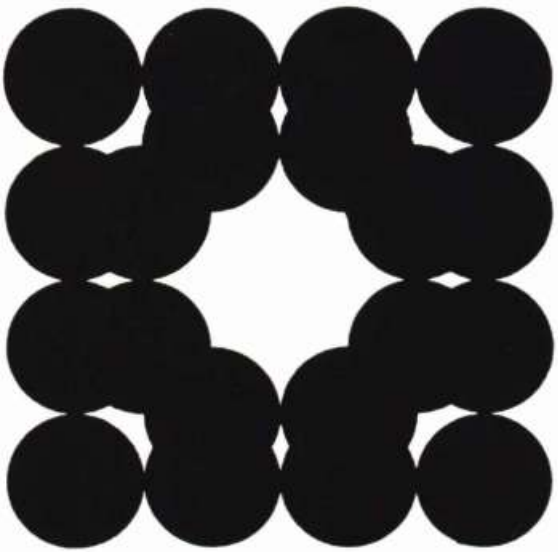


georg nees, 3

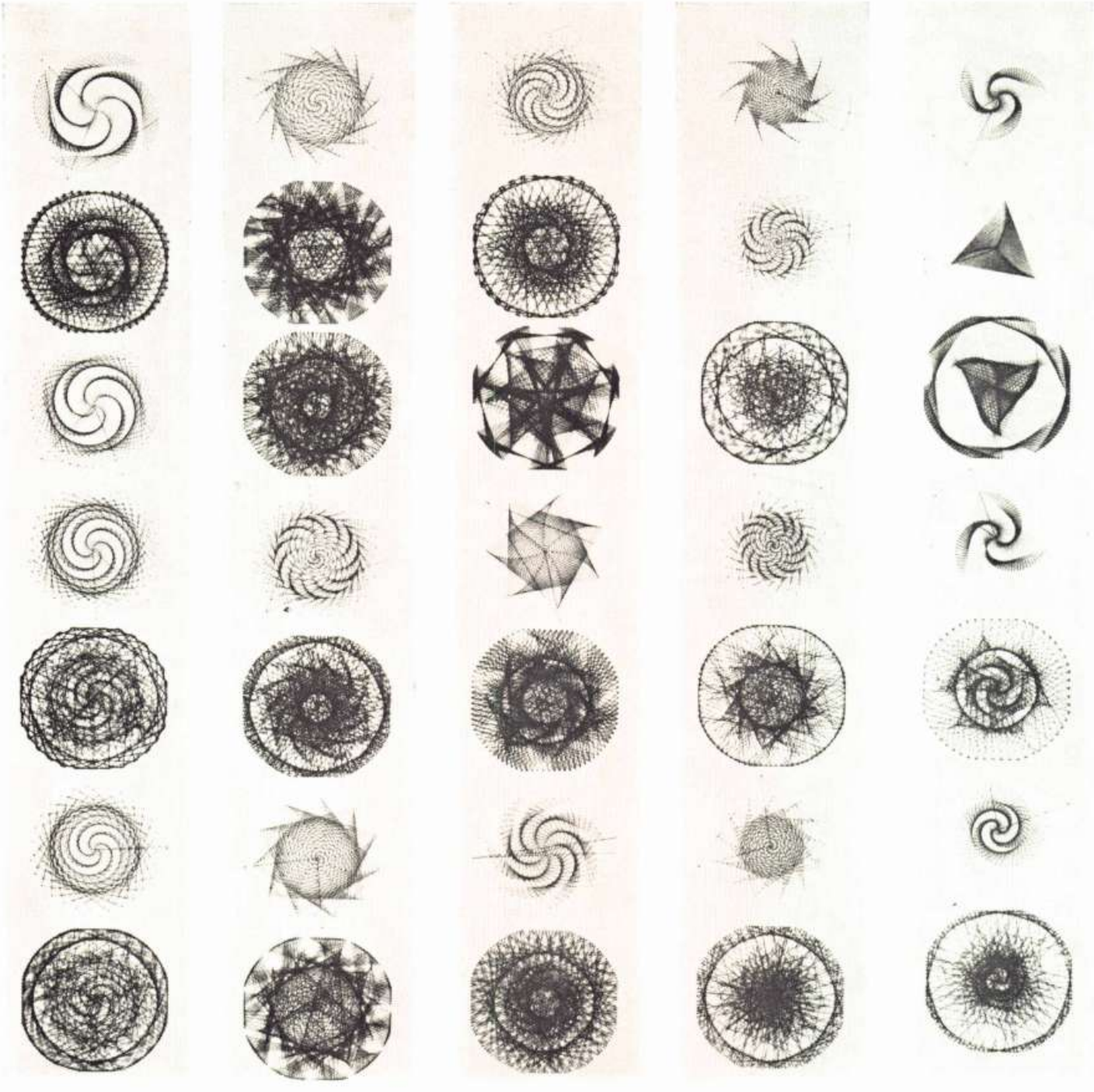


sergej pavlin, 1

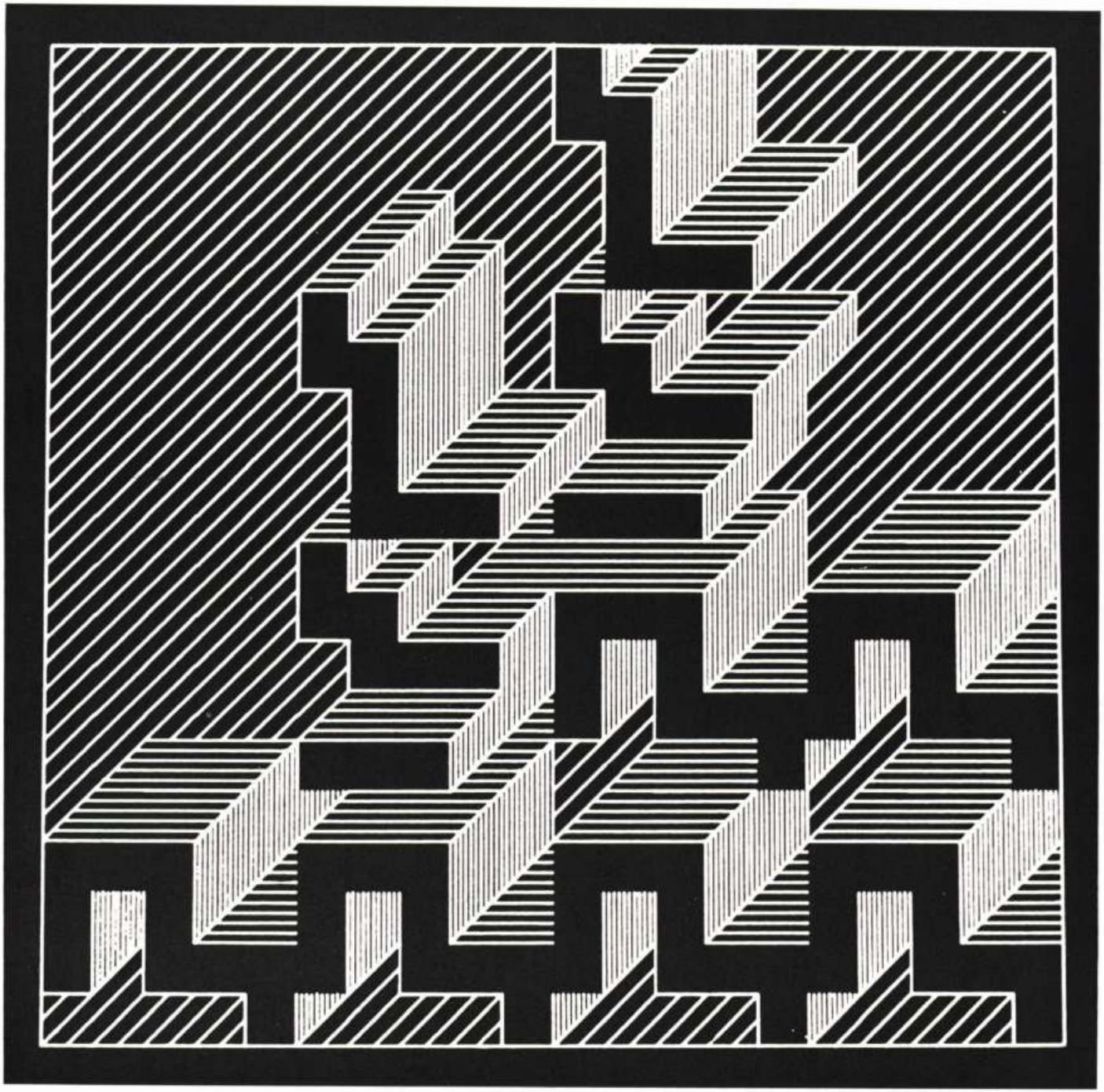




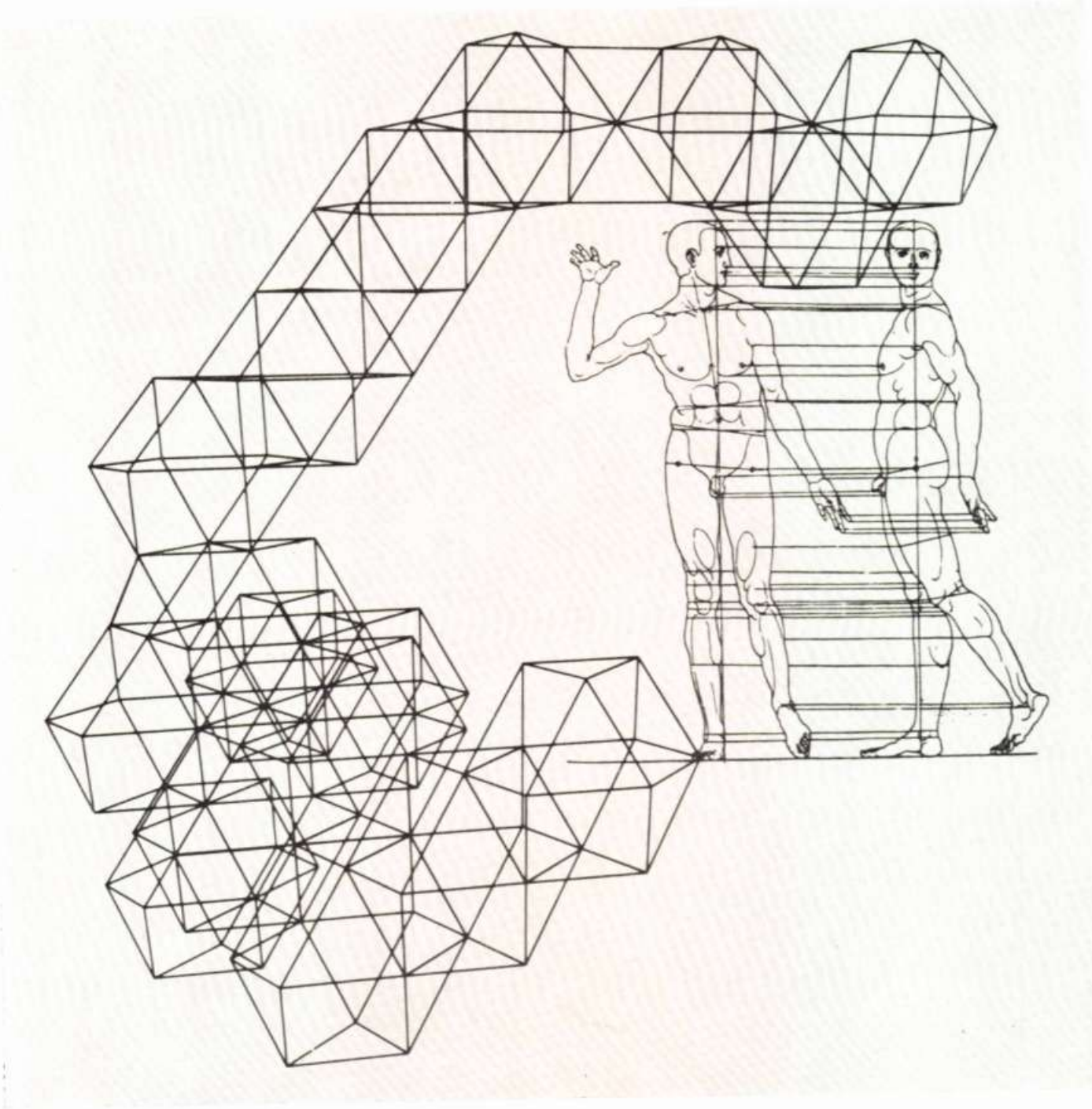
manuel quejido, 2



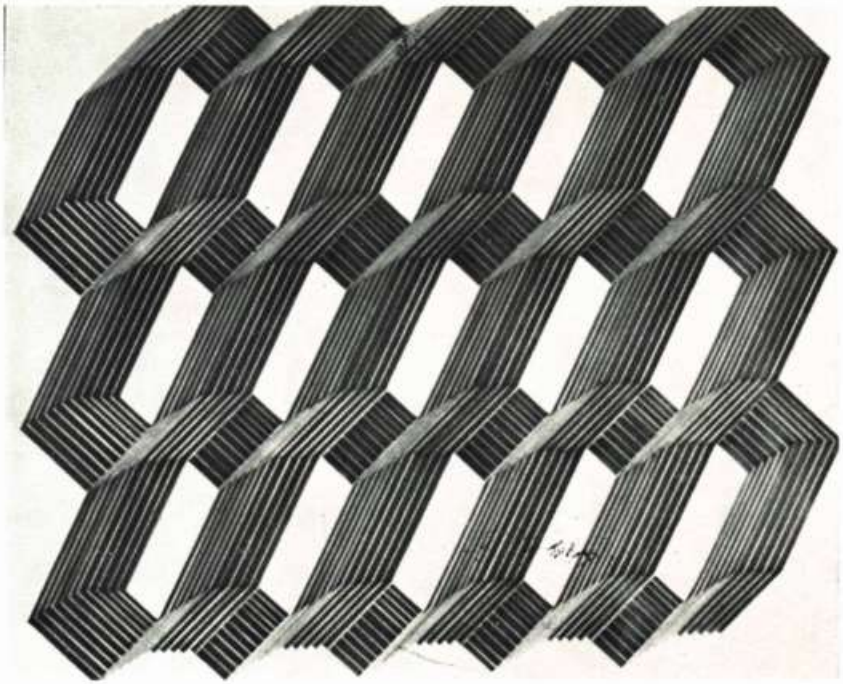
john withney, 1

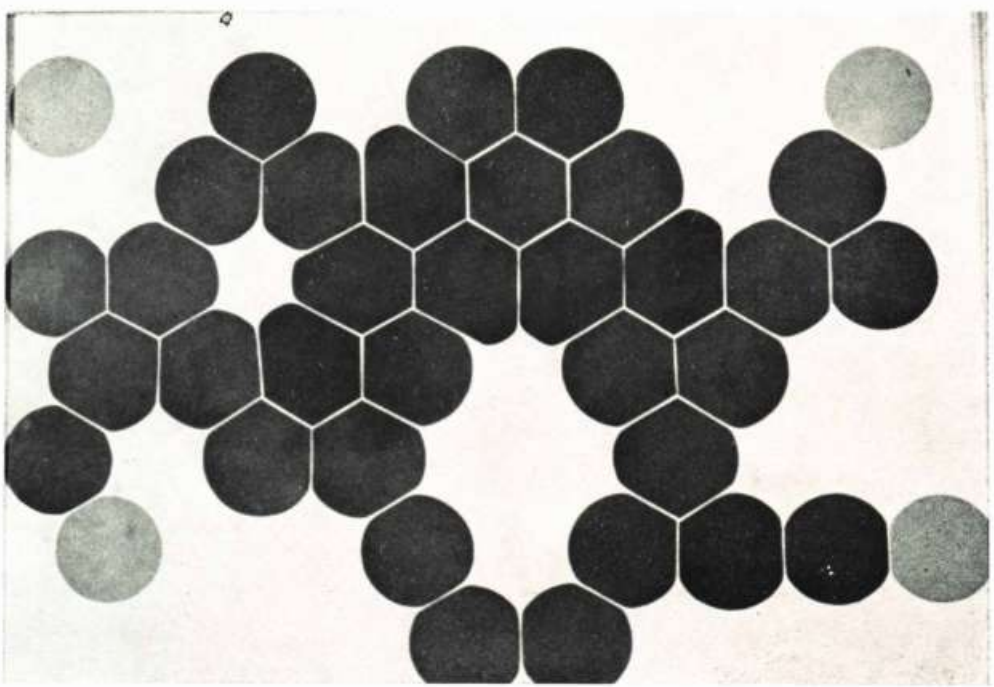


edward zajec, 1



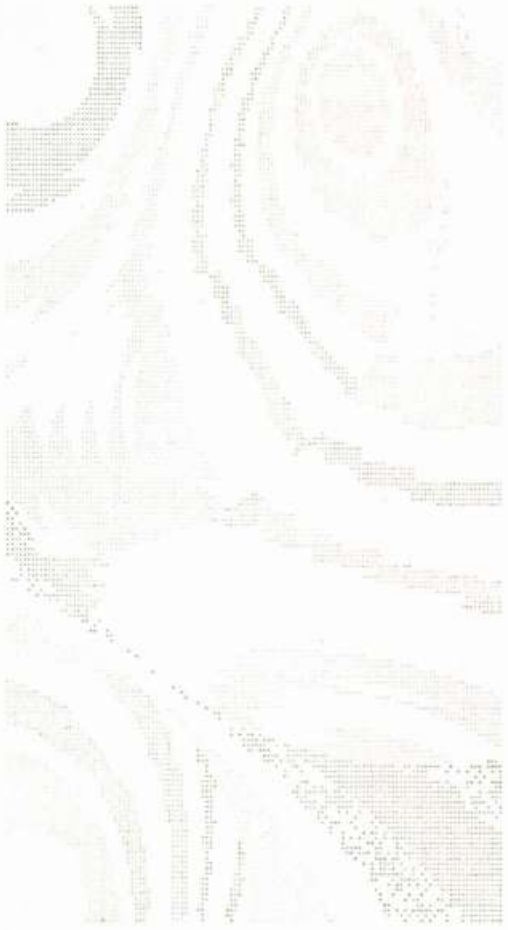
ludwig rase — georg nees, 3

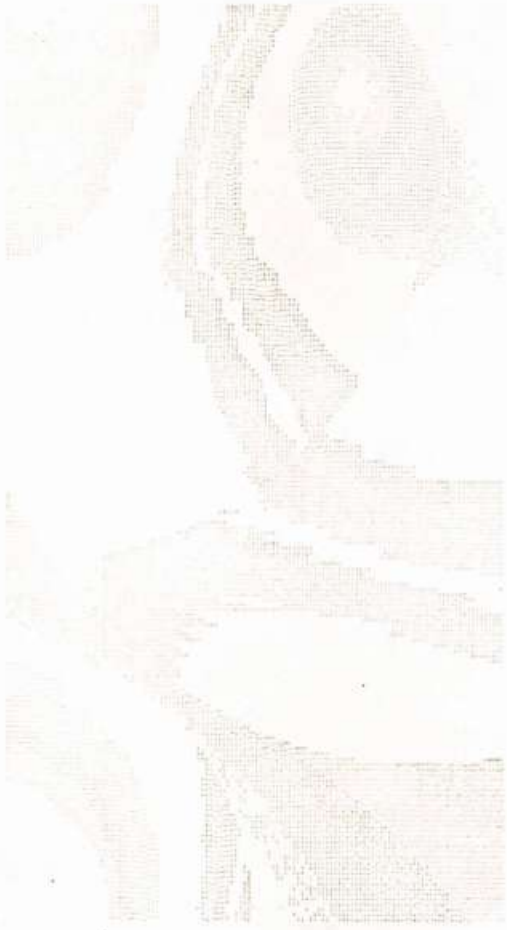




ana & javier segui, 2, 3

anton zöttl, 2





vilko žiljak, 1, 2

katalog

jose luis alexanco

14. VII 1942. madrid, španjolska
studirao: escuela de bellas artes de madrid, centro de cálculo de madrid, španjolska
izlaže od 1961.
adresa: infanta mercedes 41, madrid 20, españa

1 threedimensional output, 1972.
papir, 90 × 90 cm
2 display output, 1972
papir, 90 × 90 cm
3 plotter output, 1973
papir, 200 × 70 cm

kompjuter: IBM 7090, IBM 1130/2250, plotter calcomp

manuel barbadillo

8. VI 1929. cazalla de la sierra (sevilla), španjolska
samouk
izlaže od 1955.
adresa: paraque de torremolinos, 9, torremolinos (málaga), españa

1 kolaž I, 1969
svilotisak, 50 × 66 cm
2 kolaž II, 1969
svilotisak, 50 × 66 cm
3 adfera, 1972
svilotisak, 50 × 66 cm
4 portfolio I, 1973
crtež kemijskom olovkom, 66 × 92 cm
5 portfolio II, 1973
crtež kemijskom olovkom, 66 × 92 cm

otto beckmann

5. V 1908. vladivostok, sssr
studirao: akademie der bildenden künste, beč
osnivač i rukovodilac grupe »ars intermedia«, beč
izlaže od 1969.
adresa: prinz eugenstrasse 2/6, A-1040 wien, austrija

1 egzorcisti, 1971
aluminij, 40 × 60 cm
2 ustanak masa, 1971
aluminij, 40 × 60 cm
3 altamira, 1972
aluminij, 40 × 60 cm
4 statuarna grupa, 1972
aluminij, 40 × 60 cm

kompjuter: a.i. 70/71, a.i. PI/72

catalogue

jose luis alexanco

july 14, 1942, madrid, spain
studied at school of fine arts of madrid and calcul center of madrid, spain
has exhibited since 1961
address: infanta mercedes 41, madrid 20, españa

1 threedimensional output, 1972
paper, 90 × 90 cm
2 display output, 1972
paper, 90 × 90 cm
3 plotter output, 1973
paper, 200 × 70 cm

computer: IBM 7090, IBM 1130/2250, plotter calcomp

manuel barbadillo

june 8, 1929, cazalla de la sierra, sevilla, spain
self-taught
has exhibited since 1955
address: paraque de torremolinos, 9, torremolinos, (málaga), españa

1 collage I, 1969
silk-screen, 50 × 66 cm
2 collage II, 1969
silk-screen, 50 × 66 cm
3 adfera, 1972
silk-screen, 50 × 66 cm
4 portfolio I, 1973
ball pen drawing, 66 × 92 cm
5 portfolio II, 1973
ball pen drawing, 66 × 92 cm

otto beckmann

may 5, 1908, vladivostok, sssr
studied at akademie der bildenden künste, vienna, austria
founder and manager of "ars intermedia", vienna
has exhibited since 1969
address: prinz eugenstrasse 2/6, A-1040 wien, österreich

1 exorcist, 1971
aluminium, 40 × 60 cm
2 uprising of the masses, 1971
aluminium, 40 × 60 cm
3 altamira, 1972
aluminium, 40 × 60 cm
4 statuary group, 1972
aluminium, 40 × 60 cm

computer: a.i. 70/71, a.i. P1/72

vladimir bonačić

20. X 1938. novi sad, jugoslavija
studirao: elektrotehnički fakultet sveučilišta u zagrebu, jugoslavija
izlaže od 1969.
adresa: bezalel, academy of arts and design, jerusalem, 10 shmuel hanagid st., jerusalem 94592, israel

1 GF. E/16, O/NS — VB 1971, 1971
svjetlo, pleksi staklo u boji, aluminij, elektronska logika, 90,4 × 90,4 × 30 cm
kompjuter: SDS-930

waldemar cordeiro

12. IV 1925. rim, italija
studirao: umjetnost i filozofiju u rimu, italija
izlaže od 1946.
adresa: rua ministro godoy, 860, 5°-andar, 05015 são paulo, brazil

1 ljudi, 1973
papir 126 × 60 cm

gerardo delgado

14. II 1942. olivares (sevilla), španjolska
studirao: escuela técnica superior de arquitectura, sevilla, španjolska
izlaže od 1967.
adresa: rafael salgado, 34, 1°-D, sevilla, españa

1 struktura s krivuljama. mobil. 4/15, 1970/72
obojena ljepenka, 50 × 50 cm
2 struktura s krivuljama. mobil. 2/15, 1970/72
obojena ljepenka, 50 × 50 cm
3 struktura s krivuljama. mobil. 1970/72
obojena ljepenka, 50 × 50 cm

fanie dupré

5. II 1944. salagnac, francuska
studirala: institut polytechnique, grenoble, francuska
član grupe g.a.i.v. (groupe art et informatique de vincennes)
izlaže od 1970.
adresa: 52 av. du gèneral schmitz, 95300 pontoise, france

1 graphe couleur 3, 1972
gvaš na ljepenci, 53 × 60 cm
2 graphe clignotant 2, 1972
gvaš na ljepenci, 53 × 40 cm
3 mèta structure 1, 1973
gvaš na drvu, 125 × 80 cm
kompjuter: CAE 510

Struktura djela bitno je determinirana pravilima sukcesije tipa grafova, tj. u ravnini stezanja jukstapozicije, koliko u tonovima toliko u valeurima.

vladimir bonačić

october 20, 1938, novi sad, yugoslavia
studied at elektrotehnički fakultet sveučilišta, zagreb, yugoslavia
has exhibited since 1969
address: bazalel, academy of arts and design jerusalem, 10 shmuel hanagid st., jerusalem 94592, israel

1 GF. E/16, O/NS — VB 1971, 1971
light, plexiglass in colour, aluminium, electronic logic, 90,4 × 90,4 × 30 cm
computer: SDS — 930

waldemar cordeiro

april 12, 1925, rome, italy
studied art and philosophy in rome, italy
has exhibited since 1946.
address: rua ministro godoy, 860, 5°-andar, 05015 são paulo, brazil

1 people, 1973
paper, 126 × 60 cm

gerardo delgado

february 14, 1942., olivares (sevilla), spain
studied at escuela técnica superior de arquitectura de sevilla, spain
has exhibited since 1967
address: rafael salgado, 34, 1°-D, sevilla, espãa

1 structure with curves. mobile. 4/15, 1970/72
coloured board, 50 × 50 cm
2 structure with curves. mobile. 2/15, 1970/72
coloured board, 50 × 50 cm
3 structure with curves. mobile. 1970/72
coloured board, 50 × 50 cm

fanie dupré

february 5, 1944, salagnac, france
studied at institut polytechnique de grenoble, france member of g.a.i.v. (groupe art et informatique de vincennes)
has exhibited since 1970
address: 52 av, du gèneral schmitz, 95300 pontoise, france

1 graphe couleur 3, 1972
gouache on board, 53 × 60 cm
2 graphe clignotant 2, 1972
gouache on board, 53 × 40 cm
3 mèta structure 1, 1973
gouache on wood, 125 × 80 cm
computer: CAE 510

La structure des oeuvres est dèterminée essentiellement par des règles de succession, du type graphes, c'est à dire dans le plan par des contraintes de juxtaposition, tant pour les teintes que pour les valeurs.

Jedan se put u istraživanjima sastoji u tome da prve elemente, dobivene jednostavno, shvatimo kao sadržaje koje treba prestrukturirati, kako bismo stigli na kompleksniju razinu stvaranja.
Drugi je način da ponovo programiramo analitički proces prvotno izrađenog djela i modificiramo ga prema kriterijima koje je autor unaprijed odabrao.

jacques dupré

10. III 1943. marseille, francuska
studirao: institut polytechnique, grenoble, francuska
član grupe g.a.i.v. (groupe art et informatique de vincennes)
izlaže od 1970.
adresa: 52 av. du gèneral schmitz, 95300 pontoise, france

1 rocouteintau I, 1972
gvaš na ljepenci, 61 × 41 cm
2 rocouteintau II, 1972
gvaš na ljepenci, 61 × 41 cm
3 parcours, 1973
gvaš na ljepenci, 51 × 34 cm
kompjuter: CAE 510

Robot - kist povlači na platnu trajektorije koje u funkciji neposrednog cilja — a taj nipošto ne treba postići ili sljediti — treba da ocrtaju sredinu određenu prethodnim crtama.

Njegova je paleta konstituirana od kompleksnih sastavljenih boja: probabilistička raspodjela skupa od 48 boja koje interpretira šest koloranata.

Privremena izolacija njegova stvaralačkog iskustva jest konstruktivni element prostorne organizacije djela.

winfried fischer

10. XI 1930. münchen, s r njemačka
studirao: münchen, köln
adresa: c/o messerschmitt-bölkow-blohm gmbh, abt. ZAP 3, 8 münchen 80, postfach 801109, b r deutschland

1 knjiga »computer graphics«, 1972
offsetni tisak, 34 × 34 cm
2 10 slobodnih grafičkih listova, 1972
svilotisak, 34 × 34 cm
3 »edition«, 8 slobodnih grafičkih listova, 1972
svilotisak, 70 × 70 cm
4 5 aluminijskih objekata, 1972
aluminij, 50 × 60 cm
vidi: mbb computer graphics

Une voie de recherche consiste à considérer les premiers éléments obtenus de façon simple comme des sujets à restructurer, pour arriver à un niveau de création plus complexe.
Le second choix revient à programmer un processus d'analyse de l'oeuvre fabriquée initialement et à la modifier selon certains critères choisis à l'avance par l'auteur.

jacque dupré

macrh 10, 1943, marseille, france
studied at institut polytechnique de grenoble, france
member of g.a.i.v. (groupe art et informatique de vincennes)
has exhibited since 1970
address: 52 av. du gèneral schmitz, 95300 pontoise, france

1 rocouteintau I, 1972
gouache on board, 53 × 60 cm
2 rocouteintau II, 1972
gouache on board, 61 × 41 cm
3 parcours, 1973
gouache on board, 51 × 34 cm
computer: CAE 510

Un robot-pinceau trace sur la toile des trajectoires qui en fonction d'un but immédiat, point à atteindre ou à poursuivre, doivent contourner l'environnement réalisé par les traces précédentes.

Sa palette est constituée de composées colorées complexes: distributions probabilistes d'un ensemble de 48 couleurs interpretées par 6 colorants.

L'isolation temporelle de son experience créatrice se trouve être l'élément constructif de l'organisation spatiale de l'oeuvre.

winfried fischer

november 10, 1930, munich, germany
studied in munich and cologne
address: c/o messerschmitt-bölkow-blohm gmbh, abt. ZAP 3, münchen 80, postfach 801109, br deutschland.

1 book "computer graphics", 1972
offset printing, 34 × 34 cm
2 10 loose sheets of graphics, 1972
silk screen print, 34 × 34 cm
3 "edition", 8 loose sheets of graphics, 1972
silk screen print, 70 × 70 cm
4 aluminium objects, 1972
aluminium, 50 × 60 cm
see: mbb computer graphics

herbert w. franke

14. V 1927. beč, austrija
studirao: universität wien, technische hochschule, beč, austrija
izlaže od 1959.
adresa: 8191 puppling 40, b r deutschland

1 electronic einstein, 1973
fotografije u boji, 5 × (30 × 50 cm)
kompjuter: bildspeicher N

Najprije je crno-bijela fotografija Alberta Einsteina pretvorena u raster-sliku veličine 64 puta 64 polja. Slika-informacija, kodirana na vrpci, predana je tada memoriji slika N, što su je konstruirali Hans-Jürgen van Kranenbrock i Helmut Schenk, Siemens AG, Erlangen, i podvrgnuta geometrijskim računskim procesima — površinskom računu izjednačenja, lučenju šesnaest tonova boje itd. Time dolazi do progresivne apstrakcije i pojednostavnjivanja sve do potpunog rastvaranja sadržaja slike.

herbert w. franke

may 14, 1927, vienna, austria
studied at universität wien, technische hochschule, vienna, austria
has exhibited since 1959
address: 8191 puppling 40, br deutschland

1 electronic einstein, 1973
colour photography, 5 × (30 × 50 cm)
computer: bildspeicher N

Zunächst wurde ein Schwarzweiss-Photo von Albert Einstein in ein Blauton-Rasterbild von 64 mal 64 Feldern verwandelt. Die in einem Lochstreifen codierte Bildinformation wurde dem Bildspeicher N, eine Entwicklung von Hans-Jürgen van Kranenbrock und Helmut Schenk, Siemens AG, Erlangen, eingespielt und verschiedenen geometrichen Verrechnungsprozessen — flächenhafte Ausgleichsrechnung, Aufspreizung der 16 Farbtöne usw. — unterworfen. Dabei erfolgt eine zunehmende Abstraktion und Vereinfachung bis zur völligen Auflösung des Bildinhalts.

david r. garrison

studirao: state university of new york, buffalo, new york, sad
član grupe a.r.c. (art research center of kansas city, sad)
adresa: 85 comstock ave., buffalo, new york, usa, 14215

1 starphase I, 1972
tinta na papiru, 45,7 × 45,7 × 45,7 cm
2 starphase II, 1972
tinta na papiru, 40,6 × 83,8 × 118,3 cm
3 zig 4, 1972
tinta na papiru, 101,5 × 67,6 cm
kompjuter: CDC 6400

david r. garrison

studied at state university of new york at buffalo, buffalo, new york, usa
member of a.r.c. (art research center of kansas city, usa)
ha exhibited since 1968
address: 85 comstock ave., buffalo, new york, usa, 14215

1 starphase I, 1972
ink on paper, 18″ × 18″ × 18″
2 starphase II, 1972
ink on paper, 16″ × 33″ × 47″
3 zig 4, 1972
ink on paper, 40″ × 27″
computer CDC 6400

jose luis gomez perales

25. IV 1923. madrid, španjolska
studirao: escuela superior de bellas artes, madrid, španjolska
izlaže od 1956.
adresa: santisima trinidad 7 dup., madrid 10, españa

1 bez naslova, 1972
svilotisak
kompjuter: IBM 7090

jose luis gomez perales

april 25, 1923, madrid, spain
studied at escuela superior de bellas artes, madrid, spain
has exhibited since 1956
address: santisima trinidad 7 dup., madrid 10, españa

1 without title, 1972
silk-screen
computer: IBM 7090

jean-claude halgand

16. XII 1944. moulins, orne, francuska
studirao: école nationale supérieure des beaux arts de paris, faculté de vincennes — université de paris, francuska

jean-claude halgand

december 16, 1944, moulins, orne, france
studied at ecole nationale superieure des beaux art de paris, faculté de vincennes — université de paris, france

član grupe g.a.i.v. (groupe art et informatique de vincennes).
adresa: 62 av. pierre brossolette malakoff 92, france

1 AL, DIM 1, 1973
gvaš, 40 × 50 cm
2 AL, DIM, 1973
gvaš, 40 × 50 cm
3 AL, DIM 3, 1973
gvaš, 40 × 50 cm
kompjuter: IBM 1130 / CII 510

Izložena djela rezultat su jednog te istog programa, nazvanog: AL, DIM. Ovaj program pisan ALGOL-om dozvoljava mi da upotrijebim »jezik« specijaliziran za konstrukciju dvodimenzionalnih koloriranih djela.
Ovaj »jezik« olakšava rukovanje i kombiniranje koloriranih objekata.
Jedan dio tog jezika (definicija) služi za iniciranje tih objekata (daje im oblik i boju), njihovu evoluciju u vremenu na osnovi kombinatorike ovisne o umjetnikovoj ili programerovoj volji.
Jedan drugi dio (utilizacija) omogućuje da pratimo ono što se događa u unutrašnjosti slike ili da slijedimo sliku po sliku, i da interveniramo za vrijeme kombinatoričkog procesa u svrhu transformiranja, redefiniranja drugih koloriranih objekata, ili pak u svrhu redefinicije pravila evolucije tih objekata.
Ovaj sustav omogućuje dakle opis koloriranih evolutivnih harmonija.
Boja je određena s pet parametara prema evolucionom procesu. Prva skala od 48 boja zatvara kromatski krug; druga, nelimitirana (skala) datost je programa, umjetnikove ili programerove volje.
Ovu skalu pak možemo modificirati samim sustavom u svrhu usavršavanja harmonije što je on želi uspostaviti.
Cilj je približavanje oblikovanju kolorirane harmonije.
Upotreba sredstva kao što je to kombinatorika ne zadovoljava u potpunosti, ali predstavlja prvi korak prema upotrebi heurističke metode osjetljivijeg rukovanja u programiranju ali koji je u većoj mjeri adaptiran kreativnim potrebama.

grace c. hertlein

5. IV 1924. chicago, illinois, sad
studirala: school of the art institute, chicago, illinois; california state university, chico, california, sad
izlaže od 1956.
adresa: department of computer science, california state university, chico, california 95926, usa

member of g.a.i.v. (groupe art et informatique de vincennes)
has exhibited since 1970
address: 64 av. pierre brossolette malakoff 92 france

1 AL, DIM 1, 1973
gouache, 40 × 50 cm
2 AL, DIM 2, 1973
gouache, 40 × 50 cm
3 AL, DIM 3, 1973
gouache, 40 × 50 cm
computer: IBM 1130 /CII 510

Les œuvres exposées sont les résultats d'un même programme nommé: AL, DIM. Ce programme écrit en ALGOL, me permet de definir et d'utiliser un »Langage« specialisé à la construction d'œuvres colorées en deux dimensions.
Ce »Langage« facilite le maniement et la combinaison d'objets colorés.
Une partie du langage (définition) sert à initialiser ces objets, (leur attribuer une forme et une coleur), les faire evoluer dans le temps selon la combinatoire voulue par l'artiste ou le programmeur.
Une deuxième partie (utilisation) permet de suivre ce qui se passe à l'interieur del'image, ou image par image, et d'intervenir pendant le processus combinatoire, pour transformer ou redéfinir d'autres objets colorés ou d'autres règles d'évolution de ces objets.
Ce système permet donc la déscription d'harmonies colorées evolutives.
La couleur est définie par cinq paramètres selon un procédé additif. Une première gamme de quarante huit teintes permet de recouvrir le cercle chromatique; une autre illimitée sera établie soit par le programme, soit par l'artiste ou le programmeur, en donnée.
Celle-ci pourra être modifier par le système lui-même afin de parfaire l'harmonie qu'il essaie de construire.
Le but poursuivit est une approche de la formalisation d'harmonie colorée.
L'emploi d'un outil tel que la combinatoire n'est pas entièrement satisfaisant, mais represente un premier pas vers l'emploi de méthode heuristique d'un maniement plus délicat en programmation, mais plus adapté à une demande creatrice.

grace c. hertlein

april 5, 1924, chicago, illinois, usa
studied at school of arts institute, chicago, illinois; california state university, chico, california, usa
has exhibited since 1956
address: department of computer science, california state university, chico, california, 95926, usa

1 grad br. 5
papir, tinta, rapidograf pero
2 polje
papir, tinta, rapidograf kičice i pera
3 grad br. 6
papir, tinte rapidograf pera
4 grad br. 8
papir, tinte rapidograf pera
5 zima
papir, tinte rapidograf pera
6 utroba vode, 1972
papir, tinta, rapidograf kičice
7 automatska šuma, 1972
papir, tinta
kompjuter: IBM 162, CDC 3150, hewlett-packard mini 2100, calcomp 663 plotter, milgo DPS-7 flatbed plotter

miljenko horvat

22. III 1935. varaždin, jugoslavija
studirao: arhitektonski odsjek tehničkog fakulteta, zagreb, jugoslavija
izlaže od 1961.
adresa: 3483 av. laval, app. 7, montréal 130, qué., canada

1 razgovor C1, 1973
svilotisak, 33 × 101 cm
2 razgovor C2, 1973
svilotisak, 33 × 33 cm
3 razgovor C3, 1973
svilotisak, 33 × 33 cm
4 razgovor C4, 1973
svilotisak, 33 × 33 cm
kompjuter: digigraphic screen of a CDC 1700. conversational system by serge poulard

hervé huitric

7. V 1945. pariz, francuska
studirao: université paris, pariz, francuska
izlaže od 1971.
adresa: 63 bd. gambetta, issy les moulineaux 92130, france

1 neprekidni crveni niz, 1972
drvo, 40 × 75 cm
2 proračunata površina djela 01, 1973
drvo, 53 × 107 cm
3 proračunata površina djela 02, 1973
drvo, 40 × 75 cm
kompjuter: IBM 1130

sture johannesson — sten kallin

24. V 1935. vinslov, švedska
adresa: rickarums kvarn 29011, sweden

1 city no. 5
paper, ink, rapidograph pen
2 the field
paper, ink, rapidograph brushes and pens
3 city no. 6
paper, inks, rapidograph pens
4 city no. 8
paper, inks, rapidograph pens
5 winter
paper, inks, rapidograph pens
6 the womb of water, 1972
paper, ink, rapidograph brush
7 automated forest, 1972
paper, ink
computer: IBM 162, CDC 3150, hewlett-packard mini 2100, calcomp 663 plotter, milgo DPS-7 flatbed plotter.

miljenko horvat

march 22, 1935, varaždin, yugoslavia
studied at arhitektonski odsjek tehničkog fakulteta, zagreb, yugoslavia
as exhibited since 1961
address: 3483 av. laval, app. 7, montréal 130, qué., canada

1 conversation C1, 1973
silk-screen, 33 × 101 cm
2 conversation C2, 1973
silk-screen, 33 × 33 cm
3 conversation C3, 1973
silk-screen, 33 × 33 cm
4 conversation C4, 1973
silk-screen, 33 × 33 cm
computer: digigraphic screen of a CDC 1700. conversational system by serge poulard.

hervé huitric

may 7, 1945, paris, france
studied at université paris, paris, france
has exhibited since 1971
address: 63 bd. gambetta, issy les moulineaux 92130, france

1 series continual red, 1972
wood, 40 × 75 cm
2 computed patchwork 01, 1973
wood, 53 × 107 cm
3 computed patchwork 02, 1973
wood, 90 × 110 cm
computer: IBM 1130

sture johannesson — sten kallin

may 24, 1935, vinslov, sweden
address: rickarums kvarn 29011, sweden

1 grafika, 1972—73
svilotisak, 70 × 100 cm
2 grafika, 1972—73
svilotisak, 70 × 100 cm
3 grafika, 1972—73
svilotisak, 70 × 100 cm
4 grafika, 1972—73
svilotisak, 70 × 100 cm
5 grafika, 1972—73
svilotisak, 70 × 100 cm
6 grafika, 1972—73
svilotisak, 70 × 100 cm
kompjuter: IBM 1130

auro lecci

21. IV 1938. firenze, italija
studirao: università di firenze, italija; university of oregon, sad; university of massachusetts, sad
izlaže od 1966.
adresa: via paganini 31, 50134 firenze, italia

1 arclink, 1970—72
cyanotypes i tinta na papiru, ljepenka, pleksi staklo
kompjuter: CDC 3600

Slikovni program ARCLINK na sintaktičkoj osnovi

Razvoj na sintaksi zasnovanih opisnih shema koje omogućuju interpretaciju i prepoznavanje riječi prirodnih i programnih jezika, kao i analizu, prepoznavanje i opis vizuelnih konfiguracija, u posljednje je vrijeme postao vrlo važan s obzirom na sustave međudjelovanja čovjek-stroj.[1]

Ovaj rad ne usvaja ni jedan od pragmatičkih zahtjeva koji su podlogom takvih primjena. S obzirom na svoj bitno estetički karakter, ARCLINK program ima ograničen doseg i konačna mu je svrha generiranje izvjesne vrste slika u skladu sa specifikacijama odgovarajuće formalne gramatike G.

Shema opisa slike, kako ju je uveo Alan C. Shaw[2] — čija opća svojstva možemo prepoznati u ARCLINK programu — definira sliku kao konfiguraciju sastavljenu od izvjesnog broja osnovnih uzoraka, čiji su međusobni odnosi zadani u obliku usmjerenog grafa.

Svaka slika ARCLINK razreda sadrži skup od **n** čvorova raspodijeljenih na luku kružnice.

Čvorovi su povezani osnovnim uzorcima tipa $\alpha \in P$ (luk), i to na takav način da se lukovi nikad ne sijeku i da dva ista čvora ne budu više od jednom neposredno povezani. Kako se slika razvija, graf linearne povezanosti i matrica unutrašnjeg i vanjskog polja pomažu sintaksi u izvršavanju njenih produkcija dok sve dozvoljene veze među čvorovima ne budu uspostavljene.

Gramatika generira slikovni jezik čije su »rečenice« osnovni strukturni opisi razreda slika. Osnovni strukturni opis

1 graphic, 1972—73
silk-screen, 70 × 100 cm
2 graphic, 1972—73
silk-screen, 70 × 100 cm
3 graphic, 1972—73
silk-screen, 70 × 100 cm
4 graphic, 1972—73
silk-screen, 70 × 100 cm
5 graphic, 1972—73
silk-screen, 70 × 100 cm
6 graphic, 1972—73
silk-screen, 70 × 100 cm
computer: IBM 1130

auro lecci

april 21, 1938, florence, italy
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has exhibited since 1966
address: via paganini 31, 50134 firenze, italia

1 arclink, 1970—72
cyanotypes & ink on paper, board and plexiglass.
computer: CDC 3600

Syntax-based picture program ARCLINK

The development of syntax-based descriptive schemata that make possible the interpretation and recognition of strings of natural and programming languages, as well as the analysis, recognition and description of visual configurations, has recently assumed a position of vast importance in the context of man-machine interactive systems.[1]

The work that I am presenting here does not share any of the pragmatic requirements that underlie these applications of syntax-based devices. Given its essentially aesthetic character, the ARCLINK program has a more limited scope and its terminal objective is the generation of pictures of a certain class, in accordance with the specifications embedded in the related grammar G.

The picture description scheme introduced by Alan C. Shaw[2] — the general characteristics of which the ARCLINK program reflects — defines a picture as a configuration consisting of a number of primitive patterns, which are related to one another in the form of a directed graph. The edges of the graph are the abstracted primitives labeled by their class names.

Each picture of the ARCLINK class consists of a set of **n** nodes distributed at regular or irregular intervals on a curve with constant radius.

The nodes are connected by primitives of the tupe $\alpha \in P$ (arc), in such a way as to preclude the intersection of arcs, as well as the repeated concatenation of the same

zadaje osnovne uzorke koji su u slici nazočni i njihove međusobne odnose.

Razredi osnovnih uzoraka

Osnovni uzorak slike je n-dimenzionalan uzorak s dvije uočene točke — glavom i repom.

Pretpostavljamo da slika ima prikladno definiranu ishodišnu točku, bilo gdje u ravnini slike.

Osnovni uzorci koji se nadovezuju na ishodište su bianco uzorci es_i i ev_i. Oni povezuju, respektivno, ishodište s početnom točkom slike i završnu točku slike s ishodištem.

Drugi razred osnovnih uzoraka sadrži nul-uzorke, kojima su glava i rep identične točke. Nul-uzorci su na slici prikazani kao označeni čvorovi.

Treći skup sadrži uzorke kojima su glava i rep različite točke. To su osnovni lukovi cn_i i dn_i negativne zakrivljenosti i osnovni lukovi cp_i i dp_i pozitivne zakrivljenosti.

Ovo je potpuni formalni opis osnovnih uzoraka ARCLINK slika:

$T(es_i) = (\text{bianco}, ((\text{rep}_{(es_i)}), (\text{glava}_{(es_i)})))$

$T(ev_i) = (\text{bianco}, ((\text{rep}_{(ev_i)}), (\text{glava}_{(ev_i)})))$

$T(\text{čvor}_k) = (\lambda, ((\text{rep}_{(\text{čvor}_k)}), (\text{glava}_{(\text{čvor}_k)})))$, gdje je $\text{rep}_{(\text{čvor}_k)} = \text{glava}_{(\text{čvor}_k)}$

$T(cn_i) = (\text{luk}, ((\text{rep}_{(cn_i)}), (\text{glava}_{(cn_i)})), \text{r, neg. zakrivljenost, vanjski})$

$T(cp_i) = (\text{luk}, ((\text{rep}_{(cp_i)}), (\text{glava}_{(cp_i)})), \text{r, poz. zakrivljenost, vanjski})$

$T(dn_i) = (\text{luk}, ((\text{rep}_{(dn_i)}), (\text{glava}_{(dn_i)})), \text{r, neg. zakrivljenost, unutrašnji})$

$T(dp_i) = (\text{luk}, ((\text{rep}_{(dp_i)}), (\text{glava}_{(dp_i)})), \text{r, poz. zakrivljenost, unutrašnji})$

$j, k = 1, 2, 3, \ldots\ldots\ldots n$, gdje je n = broj čvorova u slici

$i = 1, 2, 3, \ldots\ldots\ldots z$, gdje je $z = (n/2) + 1$

Gramatika

Gramatika G je kontekstno-nezavisna gramatika koja sadrži i dva kontekstno-zavisna pravila. Ta su pravila formalno definirana u produkcijama (3,4) i (5,6) i kontroliraju nadovezivanje lukova duljine dva u vanjskom polju i lukova duljine jedan u unutrašnjem polju. Unutrašnje (vanjsko) polje slike je nutrina (vanjština i rub) kruga zadanog sa čvorovima. Primjena spomenutih pravila sprečava uzastopno pojavljivanje osnovnih lukova duljine jedan i dva u njihovim respektivnim poljima.

two nodes, even if by means of arcs of different lengths. As the picture is progressively developed, a linear connectivity graph and an external-internal field matrix assist the syntax in carrying out its productions until total saturation of all available nodes.

The grammar generates a picture language, the 'sentences' of which are primitive structural descriptions of the class of pictures. The primitive structural description specifies the primitive patterns that are present in the picture and their relationship to one another.

Primitive classes

A picture primitive is an n-dimensional pattern with two distinguished points, a tail and a head.

It is assumed that the picture has a conveniently defined origin in any region of the picture plane.

The primitives that are concatenated onto the origin are the blank primitives es_i and ev_i. They connect, respectively, the origin to the starting point of the picture and the end point of the picture to the origin.

A second class of primitives consists of a set of null primitives λ, having identical head and tail points. They are represented as labeled nodes in the picture.

A third set, finally, consists of primitives with distinguished head and tail points. These are are primitives on_i and dn_i with negative or clockwise curvature and arc primitives cp_i and dp_i with positive or countericocwise curvature.

The following is a complete formal description of the primitves in the ARCLINK pictures:

$T(es_i) = (\text{blank}, ((\text{tail}_{(es_i)}), (\text{head}_{(es_i)})))$

$T(ev_i) = (\text{blank}, ((\text{tail}_{(ev_i)}), (\text{head}_{(ev_i)})))$

$T(\text{node}_k) = (\lambda, ((\text{tail}_{(\text{node}_k)}), (\text{head}_{(\text{node}_k)})))$, where $\text{tail}_{(\text{node}_k)} = \text{head}_{(\text{node}_k)}$

$T(cn_i) = (\text{arc}, ((\text{tail}_{(cn_i)}), (\text{head}_{(cn_i)})), \text{r, neg. curvature, external})$

$T(cp_i) = (\text{arc}, ((\text{tail}_{(cp_i)}), (\text{head}_{(cp_i)})), \text{r, pos. curvature, external})$

$T(dn_i) = (\text{arc}, ((\text{tail}_{(dn_i)}), (\text{head}_{(dn_i)})), \text{r, neg. curvature, internal})$

$T(dp_i) = (\text{arc}, ((\text{tail}_{(dp_i)}), (\text{head}_{(dp_i)})), \text{r, pos. curvature, internal})$

$j, k = 1, 2, 3, \ldots\ldots\ldots, n$ where n = number of nodes in the picture

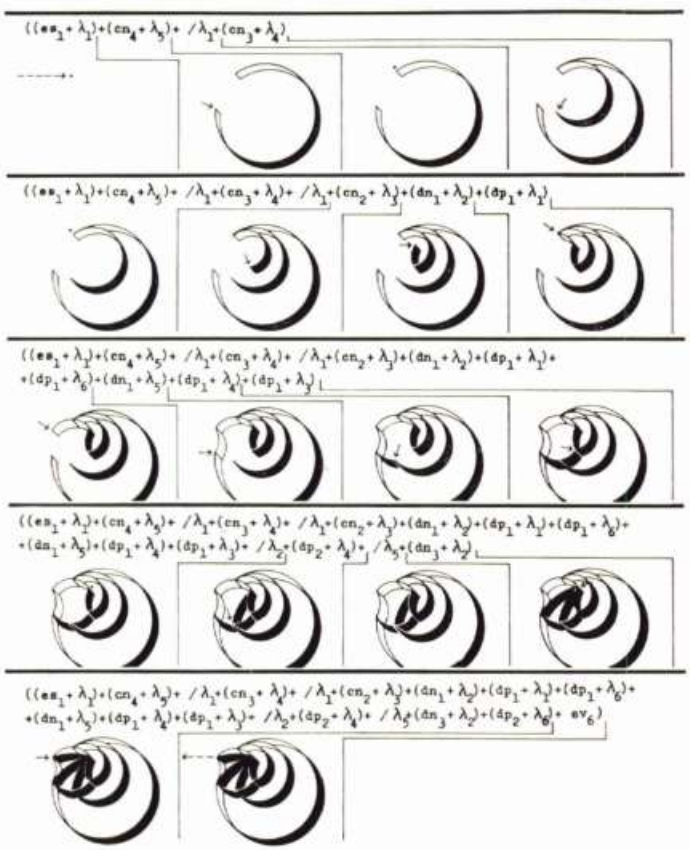
$i = 1, 2, 3, \ldots\ldots\ldots, z$ where $z = (n/2) + 1$

Gramatika G je četvorka, G = (N, T, S, P), pri čemu:

1. **N** je konačan skup simbola koje nazivamo ne-završnim uzorcima;
2. **T** je konačan skup simbola koje nazivamo završnim uzorcima, T i N su disjunktni skupovi;
3. **S** je uočeni početni nezavršni uzorak;
4. **P** je skup produkcija oblika '$X \rightarrow Y_1 + Y_2 + \ldots + Y_n$', gdje je $X \in N^*$ i svaki $Y_i \in (N \cup T)^*$.

Odgovarajući slikovni jezik PL(G) je definiran kao skup svih slika koje se sastoje samo od završnih uzoraka. Te uzorke dobijemo, polazeći od početnog simbola S, zamjenjivanjem prikladno izabranih simbola na lijevoj strani produkcije sa simbolima koji se pojavljuju na desnoj strani[3].

Slijedi formalni opis produkcija gramatike G. Operatori koji se pojavljuju u ovom su slučaju binarni operator (+), nadovezivanje dvaju uzoraka, i unarni operator (/), pomicanje glave (repa) uzorka na neko drugo mjesto.



The grammar

The grammar G is essentially a context-free grammar containing two context-sensitive rules embedded in it. These rules are defined formally in productions (3, 4) and (5, 6) and control the concatenation of arcs of lenghth two in the external field and arcs of length one in the internal field.

The external field of the picture is that part of the picture plane that is external to or coincidental with the perimeter defined by the nodes, while the internal field is that part of the picture plane that is bounded by the nodes themselves. The application of the above mentioned rules prevents the contiguous appearance of arc primtives of lenghth one and two in their respective fields.

The grammar G is a quadruple, G = (N, T, S, P) where:

1. **N** is a finite set of symbols called non-terminal primitives;
2. **T** is a disjoint finite set of symbols called terminal primitives;
3. **S** is a distinguished initial non-terminal symbol;
4. **P** is a set of productions of the form '$X \rightarrow Y_1 + Y_2 + \ldots + Y_n$', where $X \in N^*$ and each $Y_i \in (N \cup T)$.

The picture language PL(G) associated with this grammar is defined as the set of all pictures consisting exclusively of terminal primitives. These primitives are obtained starting from the initial symbol S and proceeding with substitutions of primitives on the right-hand side of a production for the symbol(s) conveniently selected among those that appear on the left-hand side of the production rule itself.[3]

The following is a formal description of the production rules of grammar G. The set of operators used in this instance consists of the binary operator (+) which brings about the concatenation of two primitives and the unary operator (/) which moves the head (tail) of the picture to a different location.

1. $S \rightarrow (es_i + N_k) + S \mid (N_k + S \mid ev_i$
2. $ARC \rightarrow (CN_i + N_k) \mid (CP_i + N_k) \mid DN_i + + N_k) \mid (DP_i + N_k)$
3. $(CN_2 + N_k) + (CN_2 + N_k) \rightarrow (CN_2 + N_k) + /N_k$
4. $(CP_2 + N_k) + (CP_2 + N_k) \rightarrow (CP_2 + N_k) + /N_k$
5. $(DN_1 + N_k) + (DN_1 + N_k) \rightarrow (DN_1 + N_k) + /N_k$
6. $(DP_1 + N_k) + (DP_1 + N_k) \rightarrow (DP_1 + N_k) + /N_k$
7. $CN_i \rightarrow cn_i$

References:
[1] R. Narasimhan: On the description, generation and recognition of classes of pictures; Technical report No. 52, October 1968, Inst. of Fundamental Research, Colaba, Bombay-5, pp. 5—7.
[2] Alan C. Shaw: A formal description scheme as a basis for picture processing systems, Information and Control 14, 1969, pp. 9—52.
[3] Peter Wegner: Introduction to syntactic analysis, (unpublished manuscript), Pennsylvania State University, 1966, p. 11.

jean claude marquette

2. VIII 1946. ablon-sur-seine, francuska
studirao: école estienne, pariz, francuska, université paris, pariz, francuska
izlaže od 1971.
član grupe g.a.i.v. (groupe art et informatique de vincennes)
adresa: 36 rue du bac, 94480 ablon-sur-seine, france

1 pohvala hlebnikovu, 1973
akrilik, papir, 5 × (44 × 36 cm)
kompjuter: IBM 360/25
Formalni pripremni rad za seriju »Pohvala Hlebnikovu« — 1972/73.
— lijevo, osnovni tekst
— desno, »partitura« (listing) izvedena na IBM 360/25, na temelju Hlebnikovljeva teksta (svako slovo: O → S = pozicija 6 bitova), koja je omogućila konstrukciju strukture na fotografiji 3
1 = crni kvadrat
0 = bijeli kvadrat

8. $CP_i \rightarrow cp_i$
9. $DN_i \rightarrow dn_i$
10. $DP_i \rightarrow dp_i$
11. $N_k \rightarrow \lambda_k$

jean claude marquette

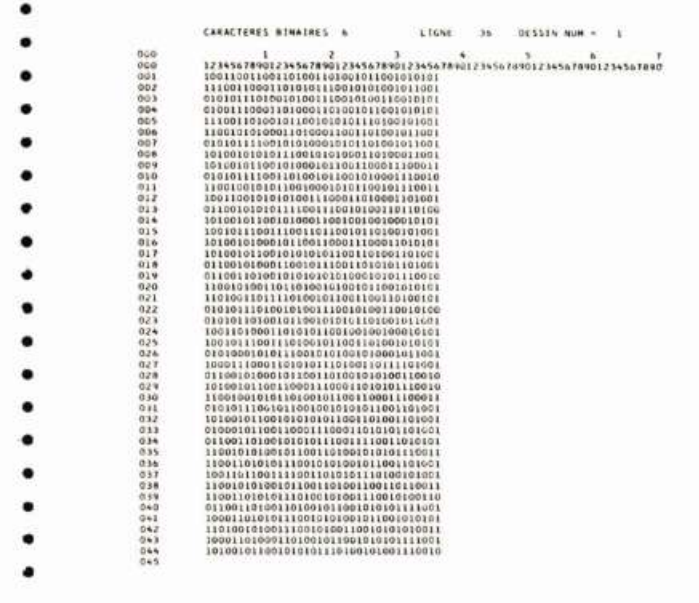
august 2, 1946, ablon-sur-seine, france
studied at ecole estienne, paris, france; université paris, france
has exhibited since 1971
member of g.a.i.v. (groupe art et informatique de vincennes)
address: 36 rue du bac, 94480 ablon-sur-seine, france

1 hommage à khlebnikov, 1973
acrylic painting, paper, 5 × (44 × 36 cm)
computer: IBM 360/25
Travail formel préparatoire à la série des "Hommage à Khlebnikov" — 1972/1973 . . .
— à gauche, le texte de base.
— à droite, la "partition" (le listing) obtenue sur IBM 360/25
à partir du texte de Khlebnikov (chaque lettre: O → S = = position 6 bits), et qui a permis la construction de la structure de la photo ci-jointe 3
1 = carré noir
0 = carré blanc

```
La conjuration par le rire


                O irriez, les rieurs!
                O éclariez, rieurs!
Qui riez de rires, qui riaillez riassement.
                O éclariez souriamment!
O surraillerie irriante - rire des sourieux rioneurs!
O dérie riolemment - rire des railleux riairds!
                Rillesse, rillesse,
        Irrie, irraille, rirettes, rirettes,
                Rirotteurs, rirotteurs!
                O irriez, les rieurs!
                O éclariez, rieurs!


Vélimir Khlebnikov (1885-1922) - fondateur du cubo-
futurisme russe - essai de "déclinaison de racines"
paru dans "Studio des Impressionnistes" 1910.
```



rolf wölk

1939.
matematičar
od 1966. kod mbb u odjelu za obradu podataka i matematiku. od kraja 1970. bavi se intenzivno problemom kompjuterskih grafika i njihovim oblikovanjem.

31 elementi podvrgnuti stohastičkim rotacijama, 1972
svilotisak, 70 × 70 cm
32 stohastičke crte pod prisilnim uvjetima, 1972
svilotisak, 70 × 70 cm
33 stohastičke crte pod prisilnim uvjetima, 1972
svilotisak, 34 × 34 cm
34 elementi podvrgnuti perspektivi, 1972
svilotisak, 34 × 34 cm
35 prikaz kocke, 1972
offset tisak, 34 × 34 cm
36 elementi podvrgnuti perspektivi, 1972
offset tisak, 34 × 34 cm
kompjuter vezan uz »kingmatic«

manfred mohr

8. VI 1938. pforzheim, s r njemačka
studirao: kunst und werkschule, pforzheim, s r njemačka
izlaže od 1965.
adresa: 58 bld. latour-maubourg, paris-7, france

1 program br. 97, 1972
heliografija, 50 × 50 cm
2 program br. 100, 1972
heliografija, 50 × 50 cm
3 program br. 112, 1973
svilotisak, 46 × 46 cm
4 program br. 133, 1973
heliografija, 50 × 50 cm
kompjuter: CDC 6600; program fortran IV; x, y incremental plotter.

monique nahas

26. XI 1940. pariz, francuska
studirala: faculté des sciences, pariz, francuska; faculté des sciences, orsay, francuska
član grupe g.a.i.v. (groupe art et informatique de vincennes)
adresa: 63 bld. gambetta, issy les moulineaux 92130, france

1 plan 1, 1973
drvo, 40 × 40 cm
2 plan 2, 1973
drvo, 54 × 54 cm
kompjuter: IBM 1130

rolf wölk

1939
mathematician
at mbb since 1966 in the data processing and mathematics department. since the end of 1970 concerned primarily with the problematics and design of computer graphics.

31 elements subjected to stochastic rotations, 1972
silk-screen, 70 × 70 cm
32 stochastic lines subjected to constraints, 1972
silk-screen, 70 × 70 cm
33 stochastic lines subjected to constraints, 1972
silk-screen, 34 × 34 cm
34 elements subjected to perspectives, 1972
silk-screen, 34 × 34 cm
35 cube representations, 1972
offset printing, 34 × 34 cm
36 elements subjected to perspectives, 1972
offset printing, 34 × 34 cm
computer and "kingmatic"

manfred mohr

june 8, 1938, pforzheim, germany
studied at kunst und werkschule, pforzheim, germany
has exhibited at 1965
address: 58 bld. latour-maubourg, paris-7, france

1 programme no. 97, 1972
heliography, 50 × 50 cm
2 programme no. 100, 1972
heliography, 50 × 50 cm
3 programme no. 112, 1973
silk-screen, 46 × 46 cm
4 programme no. 133, 1973
heliography, 50 × 50 cm
computer: CDC 6600; programme fortran IV; x, y incremental plotter

monique nahas

novembre 26, 1940, paris, france
studied at faculté des sciences, paris, france; faculté des sciences, orsay, france
membre of g.a.i.v. (groupe art et informatique de vincennes)
address: 63 bld gambetta, issy les moulineaux 92130, france

1 plan 1, 1973
wood, 40 × 40 cm
2 plan 2, 1973
wood, 54 × 54 cm
computer: IBM 1130

georg nees

1926. nürnberg, s r njemačka
studirao: matematiku, fiziku i filozofiju u stuttgartu
izlaže od 1965.
adresa: siemens ag, design, d-8000 münchen 1, postfach 103, b r deutschland

1 šljunak
kompjuterska grafika, 70 × 100 cm
2 perspektiva
kompjuterska grafika, 70 × 100 cm
3 kompozicija s kockama
kompjuterska grafika, 70 × 100 cm
4 meci
kompjuterska grafika, 70 × 100 cm
5 labirint
kompjuterska grafika, 70 × 100 cm
kompjuter: siemens 4004

sergej pavlin

16. IX 1929. ljubljana, jugoslavija
studirao: fagg, univerza, ljubljana, jugoslavija
izlaže od 1971.
adresa: fagg, cojzova 5, 61000 ljubljana, jugoslavija

1 r + b penplotter, 1973
papir, 2 × (40 × 60 cm)
2 linearno-komplementarni raspored
kompjuter: CDC cyber 72, plotter huston instr.

Linearno-komplementarni raspored
Sergej Pavlin — autor
Borut Dobobišek — programer
Zdene Briška — programer

Studija emotivne i fiziološke registracije boja, analitička obrada više od 1400 kombinacija i empirički obrađena teoretska shvaćanja čimbenici su koji prethode linearnom programu. Sistematika boje u krugu već je poznati rezultat idealnog horizontalnog presjeka teoretskog obojenog tijela. Međutim, međusobni su valeuri nejednako tretirani, jer je raspored boja prema centru kruga geometrijski manji. Vizuelna valorizacija je svakako primjerena praksi, ali ako uzmemo u obzir nedostatke rasporeda u krugu, vidimo da on ne predstavlja idealnu formu za tretman ekvivalentnih ploha. Ako apliciramo boju u linearnom rasporedu, izbjegavamo dileme i ostajemo vjerni spektru koji je prirodno linearan, definiran valnom dužinom i logičan za programsku obradu.

Pojedinačni valeur boje mogao bi se podijeliti na N dijelova (N je varijabilan) i time se dobiva broj saturacija za svaki valeur S. Segment presjeka mogli bismo zamisliti kao trokutnu plohu koja daje bazične podatke saturacije. Takav segment ($1 \leq i \leq G$) je podijeljen između (B, Si) Mi i (Č, Si) Li u raster romboida od kojih svaki može dati

georg nees

1926, nürnberg, germany
studied mathematics, physics and philosophy at Stuttgart
has exhibited since 1965
address: siemens ag, design, d-8000 münchen 1, postfach 103, b r deutschland

1 pebble
computer graphic, 70 × 100 cm
2 perspective
computer graphic, 70 × 100 cm
3 composition with cubics
computer graphic, 70 × 100 cm
4 bullets
computer graphic, 70 × 100 cm
5 labyrinth
computer graphic, 70 × 100 cm
computer: siemens 4004

sergej pavlin

september 16, 1929, ljubljana, yugoslavia
studied at fagg, univerza, ljubljana, yugoslavia
has exhibited since 1971
address: fagg, cojzova 5, 61000 ljubljana, yugoslavia

1 r + b penplotter, 1973
papir, 2 × (40 × 60 cm)
2 linear complementary order
computer: CDC cyber 72, plotter huston instr.

linear complementary order

by Sergej Pavlin
Borut Dobobišek, programer
Zdene Briška, programer

A study of colour-emotional and physiological perceptions — an analysis of over 1400 colour experiments and empirical results, which have been processed and modified to the theoretical conception, are factors of the program which are not looking for a colour order in a circle but rather in a linear colour order resulting from uniformed program efforts. In the general theoretical findings on colour elements the colour circle is always presented as the ideal profile, although there are spatially unequal spans among the shades.

Since visual colour proportions are to be practically used, there is no consistent spread of colour in the circle because of its geometrically inconsistent proportions. There is no such problem in the case of linear colour division in which the specter remains an ideal; linear shape is also suitable for practical use and for program processing.

In shaping the program basis of colour cuts N, the colour cut is symetrical, however, in respect to the whole, it

mbb computer graphics

produkcija i koordinacija:
winfried fischer, johann willsberger
adresa: c/o messerschmitt-bölkow-blohm gmbh, abt, ZAP 3, 8 münchen 80, postfach 801109, b r deutschland

1 johann willsberger: »computer graphics«, 1972
knjiga, offset tisak, 35 × 35 cm
2 dieter schwille: computer-technic, fotografija
foto-objekt, aluminij, 50 × 60 cm
3 dieter schwille: computer-technic, fotografija
foto-objekt, aluminij, 50 × 60 cm

frank böttger

1946, speyer, s r njemačka
završio gimnaziju, nauk za električara i inženjersku školu, od 1969. kod mbb u odjelu za elektronsku obradu podataka, od 1970. bavi se kompjuterskim grafikama.

4 interpolacija i rotacija, 1972
svilotisak, 70 × 70 cm
5 nelinearne interpolacije, 1972
svilotisak, 70 × 70 cm
6 sklopovi kvadrata, 1972
svilotisak, 34 × 34 cm
7 rotacije u konstantnom postupku, 1972
offset tisak, 34 × 34 cm
8 nelinearne interpolacije, 1972
offset tisak, 34 × 34 cm
9 suprotne strukture, 1972
offset tisak, 34 × 34 cm
10 interpolacije i rotacija, 1972
offset tisak, 34 × 34 cm
11 sklopovi kvadrata, 1972
offset tisak, 34 × 34 cm
12 porodice tangenata, 1972
offset tisak, 34 × 34 cm

frank böttger - aron warszawski

13 krug u nizovima, 1972
svilotisak, 70 × 70 cm
14 sljedovi krugova, 1972
offset tisak, 34 × 34 cm

sylvia roubaud

1942.
živi u münchenu
studirala slikarstvo i grafiku na likovnoj akademiji u münchenu i salzburgu kod emilija vedove i güntera fruhtrunka. od 1971. razrada i oblikovanje kompjuterskih grafika u suradnji s matematičarima i tehničarima u mbb-u.

mbb computer graphics

production and coordination:
winfried fischer, johann willsberger
addres: c/o messerschmitt-bölkow-blohm gmbh, abt. ZAP 3, 8 münchen 80, postfach 801109, br deutschland

1 johann willsberger: "computer graphics", 1972
book, offset printing, 35 × 35 cm
2 dieter schwille: computer-technic, photograph
photo-object, aluminium, 50 × 60 cm
3 dieter schwille: computer-technic, photograph
photo-object, aluminium, 50 × 60 cm

frank böttger

1946, speyer, germany
apprenticeship in the technical engineering and engineering school
at mbb in the edp department since 1969
engaged in work on computer graphic since 1970

4 interpolation and rotation, 1972
silk-screen, 70 × 70 cm
5 nonlinear interpolation, 1972
silk-screen, 70 × 70 cm
6 square formations, 1972
silk-screen, 34 × 34 cm
7 rotations at a constant rate, 1972
offset printing, 34 × 34 cm
8 nonlinear interpolation, 1972
offset printing, 34 × 34 cm
9 contrasting structures, 1972
offset printing, 34 × 34 cm
10 interpolation and rotation, 1972
offset printing, 34 × 34 cm
11 square formations, 1972
offset printing, 34 × 34 cm
12 families of tangents, 1972
offset printing, 34 × 34 cm

frank böttger — aron warszawski

13 circle sequences, 1972
silk-screen, 70 × 70 cm
14 circle sequences, 1972
offset printing, 34 × 34 cm

sylvia roubaud

1942
lives in munich
studied painting and graphic arts at the munich and salzburg colleges of fine arts under emilio vedova and günter fruhtrunk. development and design of computer graphics together with mathematiciens and engineers at mbb since late 1971.

gerold weiss

1940.

završio gimnaziju u bad reichenhallu, studij matematike na sveučilištu u münchenu, diploma.

bavi se od 1970. kompjuterskim grafikama

15 eksplozija poredanih struktura, 1972
svilotisak, 70 × 70 cm

16 slojevite strukture pravokutnika, 1972
svilotisak, 70 × 70 cm

17 slojevite strukture pravokutnika, 1972
foto-objekt, aluminij, 50 × 60 cm

18 eksplozija poredanih struktura, 1972
foto-objekt, aluminij, 50 × 60 cm

19 slučajna slojevanja i eksplozije pravaca, 1972
foto-objekt, aluminij, 50 × 60 cm

20 slučajna slojevanja i eksplozija pravaca, 1972
foto-objekt, aluminij, 50 × 60 cm

21 spoj točaka putem nizova kružnih lukova, 1972
svilotisak, 34 × 34 cm

22 eksplozija poredanih struktura, 1972
svilotisak, 34 × 34 cm

23 slojevita struktura pravokutnika, 1972
svilotisak, 34 × 34 cm

24 slučajna slojevanja i eksplozija pravaca, 1972
offset tisak, 34 × 34 cm

25 eksplozija poredanih struktura, 1972
offset tisak, 34 × 34 cm

26 spoj točaka putem nizova kružnih lukova, 1972.
offset tisak, 34 × 34 cm

27 pravcima ograničeni elementi podvrgnuti determinističkim i stohastičkim uvjetima, 1972
offset tisak, 34 × 34 cm

aron warszawski

1946, jerusalem, israel

završio gimnaziju u jeruzalemu, studij mašinogradnje na tehničkom sveučilištu u münchenu.

od 1969. kod mbb bavi se kompjuterskom gramatikom od 1969.

28 porodice krugova, 1972
svilotisak, 70 × 70 cm

29 porodice krugova, 1972
svilotisak, 34 × 34 cm

30 porodice krugova, 1972
svilotisak, 34 × 34 cm

gerold weiss

1940

high school in bad reichenhall, gratuated in mathematics at the technical university, munich and munich university.

engaged in work on computer graphics since 1970.

15 explosion of ordered structures, 1972
silk-screen, 70 × 70 cm

16 structures comprising superposed rectangles, 1972
silk-screen, 70 × 70 cm

17 structures comprising superposed rectangles, 1972
photo-object, aluminium, 50 × 60 cm

18 explosion of ordered structures, 1972
photo-object, aluminium, 50 × 60 cm

19 random superposition and explosion of straight lines, 1972
photo-object, aluminium, 50 × 60 cm

20 random superposition and explosion of straight lines, 1972
photo-object, aluminium, 50 × 60 cm

21 connenction of points by arc sequences, 1972
silk-screen, 34 × 34 cm

22 explosion of ordered structures, 1972
silk-screen, 34 × 34 cm

23 structures comprising superposed rectangles, 1972
silk-screen, 34 × 34 cm

24 random superposition and explosion of straight lines, 1972
offset printing, 34 × 34 cm

25 explosion of ordered structures, 1972
offset printing, 34 × 34 cm

26 connection of points by arc sequences, 1972
offset printing, 34 × 34 cm

27 elements bounted by straight lines under deterministic and stochastic conditions, 1972
offset printing, 34 × 34 cm

aron warszawski

1946, jerusalem, israel

high school in jerusalem, mechanical engineering studies at the technical university, munich.

at mbb since 1969. engaged in work on geometrical computer graphics since 1969.

28 families of circles, 1972
silk-screen, 70 × 70 cm

29 families of circles, 1972
silk-screen, 34 × 34 cm

30 families of circles, 1972
silk-screen, 34 × 34 cm

određeni stupanj boje Si. Parametri Mi i Li određuju broj upotrijebljenih ploha boje Si u odnosu prema bijeloj i crnoj. Čim je određen presjek, dobivamo i koordinate.

Linearna formalizacija tretira ekvivalente boja jednakovrijedno, a to je uvjet za sistematiku.

Empirički rezultati obuhvaćaju također valorizaciju ploha i izraženi su formulom:

$$Cy = (110 - Cx)\frac{Ax}{Ay}$$

$$W = \frac{(100 - Cy)}{(100 - Cx)} Wx$$

(B = crna)

W = bijela

Cy = boja y

Cx = boja x (komplementarna valorizacija)

Kompilativnom obradom podataka i empiričkom dogradnjom eksperimenta moguće je u daljnjoj sekvenciji obratiti pažnju i psihološko-fiziološkim faktorima. Upotrebom kompjutera problem je postao aktualan.

manuel quejido

12. XII 1946. sevilla, španjolska
samouk
izlaže od 1965.
adresa: jaime vera, 31 — 4°-D, madrid-11, españa

1 sekvenca M.2. oktet 85—170, 1967/73
papir, 24 × 1920 cm
2 sekvenca — C M.6. oktet 85—170, 1967/73
papir, 28 × 392 cm

ludwig rase — georg nees

1925.
studirao: arhitekturu na visokoj tehničkoj školi u münchenu, s r njemačka
izlaže od 1970.
adresa: siemens ag, design, d-8000 münchen 1, postfach 103, b r deutschland

1 kompjuterom nacrtana prostorna struktura, hannover 70, 1970
fotografija, 70 × 70 cm
2 kompjuterom nacrtana prostorna struktura, sao paulo 71, 1971
fotografija, 70 × 70 cm
3 kompjuterska grafika kubo-oktaedar
fotografija, 70 × 70 cm
kompjuter: siemens 4004

Design-institut iz Münchena razradio je stambenu i gradsku strukturu od kubo-oktaedra čije mnogostruke mogućnosti primjene dopuštaju najraznovrsnija rješenja s pobecomes so large that it can take over all ntermediate proportions, can be compact or can remain blank.

Each colour value can be divided into N parts. N is, therefore, a variable, as is the number of colour cuts of the colour shade S. Each segment is forming a triangle surface ($1 \leq i \leq G$) which is divided among (B, Si) Mi and (Č, Si) Li into a network of rhomboids, each one being an individual shade of the basic colour Si.

Parameters Mi and Li determine the number of shades of the basic colour Si against the white and black colour — the extreme visual units for the analysis of the colour cut. The moment the colour cut is determined, it also gets its coordinates.

The suggested organization eliminates primary dilemmas and determines colour proportions equally. This brings up a systematic arrangement.

Such compilations and empirically gained solutions relate, in special sequence, to colour, surface and psychological-physiological reactions. These problems were raised with the use of computers.

manuel quejido

december 12, 1946, seville, spain
self-taught
has exhibited since 1965
address: jaime vera, 31—4°-D, madrid-11, españa

1 sequence M.2. octet 85—170, 1967/73
paper, 24 × 1920 cm
2 sequence M.2. octet 85—170, 1967/73
paper, 28 × 392 cm

ludwig rase — georg nees

1925
studied architecture at the technical highschool, munich, germany
has exhibited since 1970
address: siemens ag, design, d-8000 münchen 1, postfach 103, b r deutschland

1 computer drawer spacestructure, hanover 70, 1970
photograph, 70 × 70 cm
2 computer drawer spacestructure, sao paulo 71, 1971
photograph, 70 × 70 cm
3 computer graphic cuboktaeder
photograph, 70 × 70 cm
computer: siemens 4004

The Design Institute in Munich has developed the structure of a living unit and a city out of "cuboctahedra" whose multiple uses permit a great variety of solutions for the problems of city planning. The structure of the living-units makes it possible for the inhabitants to modify

područja urbanizma. U toj stambenoj strukturi stanari mogu jednostavnim sredstvima mijenjati i proširivati stambeni prostor. Sada je zadatak da se ti stambeni elementi sastave kako najbolje odgovara prostornom planu. Rješenje možemo dobiti pomoću kompjutera, s tim da svaka prostorna jedinica može imati različite funkcije: funkciju kupaonice, sanitarnog čvora, kuhinje, blagavaonice ili dnevnog boravka, spavaonice. Pojedine prostorne jedinice programiraju se prema jednom »atomarnom modelu«. Svaka se prostorna jedinica može promatrati kao atom koji ima najraznovrsnije funkcije; vezne valjanosti dopuštaju spajanje pojedinih stambenih jedinica u stambene molekule. Prostorna predodžba koju iziskuje takvo planiranje osjetno nadilazi predodžbene mogućnosti projektanta. Uz pomoć kompjutera mogu se vizualizirati točna rješenja i sastaviti optimalne prostorne grupe. Uređenju tih novih stambenih struktura — koje, za razliku od trenutačno modernih kubnih betonskih blokova, pružaju mnoštvo mogućnosti za formalne varijacije — bitno mogu pridonijeti kompjuterski dizajnirani namještaji i tekstili.

lilian schwartz

13. VII 1927. cincinati, ohio, sad
studirala: university of cincinati, sad
izlaže od 1960.
adresa: 524 ridge rd., watchung, n. j. usa

1 glava
2 sjedeći akt
3 enigma 3113

ana i javier segui

23. VI 1942. madrid, španjolska
2. V 1940. madrid, španjolska
studirali: universidad de madrid, madrid, španjolska
izlažu od 1968.
adresa: eibar, 11, la florida, madrid 23, españa

1 konstruktivno, 1970/71
svilotisak, fotografija, 90 × 65 cm
2 kompjuter, 1971/72
svilotisak, 90 × 65 cm
3 konceptualno, 1972/73
svilotisak, 90 × 65 cm

john withney

adresa: 600 erskine drive, pacific palisades, california 90272, usa

1 permutacija, 1967
film
2 osaka 1-2-3, 1969
film

and expand their living quarters in various simple ways. The problem is to find the most favourable composition of the living-units in relation to the available space structures. The solution is found with the aid of a computer since each space-unit can fulfill different functions such as the function of a bathroom, a toilet, a kitchen, a dining-room, living-room or bed-room. The programming of each of these unit functions is done on the basis of an "atomic model". Each module is regarded as an atom which may fulfill a great variety of functions; with the aid of certain combination priorities the number of living-units can be combined in one single living molecule. The spatial view required in this sort of planning by far surpasses the designer's powers of mental visualisation. With the aid of computers, however, the proper solutions can be visualised so that optimal groups of living-units result. For the furnishing of these new living-structures which, in contrast to the currently fashionable cubic blocks of concrete, can be combined in a great variety of different shapes, computer-designed furniture and textiles may acquire considerable importance.

lilian schwartz

july 13, 1927, cincinati, ohio, usa
studied at university of cincinati, ohio, usa
has exhibited since 1960
address: 524 ridge rd, watchung, n.j., usa

1 head
2 seated nude
3 enigma 3113

ana and javier segui

june 23, 1942, madrid, spain
may 2, 1940, madrid, spain
studied at universidad de madrid, madrid, spain
has exhibited since 1968
address: eibar, 11, la florida, madrid-23, españa

1 constructive, 1970/71
silk-screen, photograph, 90 × 65 cm
2 computer, 1971/72
silk-screen, 90 × 65 cm
3 T.V.C. 78840, 1972
silk-screen, 70 × 60 cm

john whitney

address: 600 erskine drive, pacific palisades, california 90272, usa

1 permutations, 1967
film
2 osaka 1-2-3, 1969
film

3 matrica I, 1970
film
4 matrica III, 1972
film

edward zajec

11. II 1938. trst, italija
studirao: akademija likovnih umjetnosti, ljubljana, jugoslavija; mfa ohio university, sad; athen, ohio, sad
izlaže od 1968.
adresa: via d. chiesa 18, trieste, italia

1 T.V.C. 78478, 1972
grafika, 45 × 45 cm
2 T.V.C. 18497, 1972
grafika, 45 × 45 cm
3 T.V.C. 78840, 1972
grafika, 45 × 45 cm
4 T.V.C. 79426, 1972
grafika, 45 × 45 cm
5 T.V.C. 78327, 1972
grafika, 45 × 45 cm

kompjuter: IBM 7044, 563 calcomp plotter

anton zöttl

1933.
studirao: elektrotehniku na tehničkom sveučilištu u münchenu, s r njemačka
adresa: siemens ag, design, d-8000 münchen 1, postfach 103, b r deutschland

1 kompjuterska grafika kompozicija u bojama
fotografija, 70 × 70 cm
2 kompjuterska grafika ptice u letu
fotografija, 70 × 70 cm
3 kompjuterska grafika kockasta kompozicija
fotografija, 70 × 70 cm

kompjuter: siemens data manufacturing layout 305, calcomp plotter

vilko žiljak

18. XII 1946. zelina, jugoslavija
studirao: prirodoslovno-matematski fakultet sveučilišta u zagrebu, jugoslavija
adresa: proleterskih brigada 35a/VII, 41000 zagreb, jugoslavija

1 simulacija prijelaza 01, 1972
print, 60,9 × 42 cm
2 simulacija prijelaza 02, 1972
print, 60,9 × 42 cm
3 simulacija prijelaza 03, 1972
print, 60,9 × 42 cm

3 matrix I, 1970
film
4 matrix III, 1972
film

edward zajec

february 11, 1938, trieste, italy
studied at academy of fine arts, ljubljana, yugoslavia; mfa ohio university, usa; athen, ohio, usa
has exhibited since 1968
address: via d. chiesa 18, trieste,. italia

1 T.V.C. 78478, 1972
graphic, 45 × 45 cm
2 T.V.C. 18497, 1972
graphic, 45 × 45 cm
3 T.V.C. 78840, 1972
graphic, 45 × 45 cm
4 T.V.C. 79426, 1972
graphic, 45 × 45 cm
5 T.V.C. 78327, 1972
graphic, 45 × 45 cm

computer: IBM 7044, 563 calcomp plotter

anton zöttl

1933
study of electrical engineering at the technical university of munich
address: siemens ag, design, d-8000 münchen 1, postfach 103, br deutschland

1 computer graphic colour composition
photograph, 70 × 70 cm
2 computer graphic flying birds
photograph, 70 × 70 cm
3 computer graphic cubic composition
photograph, 70 × 70 cm

computer: siemens data manufacturing layout 305, calcomp plotter

vilko žiljak

december 18, 1946, zelina, yugoslavia
studied at the university of zagreb, yugoslavia
address: proleterskih brigada 35a/VII, 41000 zagreb, jugoslavia

1 transfer simulation 01, 1972
print, 60,9 × 42 cm
2 transfer simulation 02, 1972
print, 60,9 × 42 cm
3 transfer simulation 03, 1972
print, 60,9 × 42 cm
4 background D3-01, 1972
print, 60,9 × 42 cm

4 podloga D3-01, 1972
print, 60,9 × 42 cm
5 razvoj D3-01, 1972
print, 60,9 × 42 cm
6 razvoj D3-02, 1972
print, 60,9 × 42 cm
7 podloga D4-01, 1972
print, 30,5 × 42 cm
8 miješani skupovi 01, 1972
print, 30,5 × 42 cm
9 miješani skupovi 02, 1972
print, 30,5 × 42 cm
10 miješani skupovi 03, 1972
print, 30,5 × 42 cm
11 miješani skupovi 04, 1972
print, 30,5 × 42 cm
12 miješani skupovi 05, 1972
print, 30,5 × 42 cm
13 miješani skupovi 06, 1972
print, 30,5 × 42 cm
14 interakcija skupova, 1972
print, 30,5 × 42 cm
kompjuter: IBM 1130

U pet datoteka spremljeni su podaci stohastičke-diskretne prirode, a u dvije datoteke podaci kontinuiranog prostora. Programom MGMG vrši se simulacija interakcije i miješanja.

5 development D3-01, 1972
print, 60,9 × 42 cm
6 development D3-02, 1972
print, 60,9 × 42 cm
7 background D4-01, 1972
print, 30,5 × 42 cm
8 mixture sets 01, 1972
print, 30,5 × 42 cm
9 mixture sets 02, 1972
print, 30,5 × 42 cm
10 mixture sets 03, 1972
print, 30,5 × 42 cm
11 mixture sets 04, 1972
print, 30,5 × 42 cm
12 mixture sets 05, 1972
print, 30,5 × 42 cm
13 mixture sets 06, 1972
print, 30,5 × 42 cm
14 interaction of sets, 1972
print, 30,5 × 42 cm
computer: IBM 1130

In five files there are stored data of discrete - stohastic nature, and in further two there are data of continuous space. With the MGMG program the interaction and mixture is simulated.

konceptualna umjetnost

conceptual art

Kad se u katalogu Novih tendencija 2 pokušala godine 1963. definirati situacija na području plastičkih umjetnosti, naglašeno je da »materija više ni u kom slučaju nije nosilac nekih deskriptivnih vrijednosti a nisu već ni njezine posebne karakteristike prikladne da ponesu glavnu ili koju istaknutu temu djela i zato su boje konačno ugasile. Draž slučaja u toku izvedbe više nije poželjna i cijelo je svoje mjesto ustupila maksimalnoj tehničkoj čistoći i točnosti pa stoga sama izvedba i nije u rukama autora ideje ili projekta djela nego se ostvaruje u radionici specijalista ili u tvornici.« Ako se zapravo u tom trenutku još nalazimo isključivo na području materijalnog i vizuelnog, i tim se riječima pokušala definirati orijentacija sljedbenika Novih tendencija, izneseni su neki momenti koji će koju godinu kasnije izvan Novih tendencija dovesti do potpunog dokidanja umjetničkog djela kao nosioca deskriptivnih ili sličnih vrijednosti, nosioca neke tematike, a u prvi plan će biti stavljena sama ideja ili projekt. To postobjektno odnosno postvizuelno shvaćanje opredijelilo se samo za jednu stranu stvaralačkog procesa umjetnika — formiranje ideje dok je uistinu tehnička realizacija dokinuta a imaginarna se predodžbena realizacija ostvaruje u primaocu poruke. Kako je time dokinuta materijalna objektivizacija djela, ne može se više govoriti o njegovim vizuelnim estetskim kvalitetama, nego vrlo često sam jezik postaje materijal umjetnosti. Budući da je u isto vrijeme kao sastavni dio vrijednosti djela uključeno i objašnjenje njegove svrsishodnosti, konceptualna umjetnost odbacuje mogućnost njegova daljnjeg kritičkog vrednovanja, preispituje samu sebe a takvim metalingvističkim ispitivanjem ispituje samu umjetnost. Izoliranjem umjetnosti od materijalnog predmeta i preuzimanjem konceptualnih jezika nauke, vrlo često matematike, umjetnost nastoji prijeći granice koje su postavljene između nauke i umjetnosti. Zapravo, nestajanje vizuelnog na umjetničkom području paralelno je s upravljanjem aperceptivnim procesima na području nauke, i dio konceptualnih umjetnika ne vidi umjetnost samo kao ideju nego i kao znanje. Prelaženjem s izrazito vizuelnih aspekata djela na misaone i pridavajući im onu važnost koju imaju naučne discipline, konceptualna je umjetnost odredila sebi i ulogu umjetničke teorije. Ali kao što se među naučnim disciplinama postepeno počinju gubiti izričite granice, tako granice nestaju i između umjetnosti, lingvistike i filozofije. Od siromašne umjetnosti nadalje cjelokupnoj se stvarnosti nastoji dati vrijednost umjetnosti i pojam umjetnosti proširiti na cjelokupni prostor, na totalnost života — život je umjetnost, umjetnost je život. Djela umjetnika konceptualista lišena su mitskog, simboličnog, ne traže i ne daju tumačenja izvan samih sebe, ne govore o stvarima izvan sebe — poruka je djelo samo. Stara težnja da publika sudjeluje u kreaciji umjetničkog

When in 1963 the attempt was made in the catalogue of New Tendencies 2 to define the situation in the field of visual arts, the following point was stressed: "matter is by no means any longer the bearer of particular descriptive values and neither are its distinctive features appropriate any longer to carry the main or one of the main themes of the work and this is why colours have finally faded away. The charm of the accidental occurrence in the course of execution is no longer desirable and it has ceded its place to maximum technical perfection and precision; therefore execution itself is no longer in the hands of the creator of the idea or the design of the work, but is realized by specialists in workshops or else in factories." Let us presume that at that time we were still exclusively involved in the material and visual sphere; so with these words we tried to define the orientation of the followers of New Tendences, and certain new factors were delineated which, in a year's time brought about a new situation, not falling within the scope of the New Tendencies, and in which the work of art no longer carries descriptive or any other kind of similar value; it no longer carries a theme; primary importance is given to the idea or to the design itself. This post-object, i.e. post-visual view covers only one side of the creative process of the artist — the formation of the idea, while the actual technical elaboration has been set aside and the imaginary conceptual realization is achieved by the receiver of the message. Owing to the fact that at the same time, an explanation of the usefulness of the work is included as an integral part of its value, conceptual art denounces all possibility of a further critical evaluation of the work, but it re-examines itself, and through such metalinguistic investigation it explores art itself. By isolating art from the material object and by taking over the conceptual languages of science, often that of mathematics, art strives to overcome the boundaries which have been set up between science and art. Actually the disappearance of the visual in the field of art is correlative with the controlling of imperceivable processes in the field of science and even among conceptual artists there are those who do not see art only as an idea but also as knowledge. By passing from the purely visual aspects of the work to the mental aspects and by attaching the same importance to them as that attached to scientific disciplines, conceptual art has set out to play among other roles the role of an art theory. However, just as the precise boundaries between scientific disciplines are slowly disappearing, so the boundaries between art, linguistics and philosophy are also disappearing. Efforts are being made, starting from land art onwards, to give the whole of reality the value of art and to spread the idea of art to the whole of space, to the whole of life — life is art, art is life. The works of conceptualist artists are free

djela ili njegovoj nadgradnji ovdje ima priliku da se ostvari. Konceptualno djelo-ideja može se u svijesti primaoca razvijati dalje na temelju njegova prijašnjeg iskustva, sjećanja, imaginacije i vlastitih intelektualnih sposobnosti. Takvom percepcijom, bez obzira na to je li riječ o realnom ili konceptualnom postojećem predmetu, percepcija stvarnosti i ambijenata koje svakodnevno sve manje zapažamo može postati izoštrenijom. Kada kod konceptualne umjetnosti govorimo o d j e l u, govorimo o i d e j i čija forma prezentacije s estetskog stajališta nije bitno važna, ali kako ona kao poruka mora biti komunicirana, mora biti i opredmećena u nekom materijalu. Materijal koji konceptualni umjetnici upotrebljavaju kreće se od najklasičnijih: platna do najnovijih: kseroksa i videotejpa. Iako su zapravo u svom antimaterijalnom, antivizuelnom shvaćanju i antikomercijalnim težnjama u počecima vrlo radikalno odbacili klasične načine izražavanja i komuniciranja, a sada se nekima i vratili iz različitih razloga od kojih je vjerojatno komercijalni najprimarniji, ova izložba započinje sekcijom platno kako bi se pokušalo ustanoviti koliko ideja-koncept može biti relevantna za spoznaju i otkrivački karakter umjetnosti bez obzira na to kojim se sredstvima prenosila. Nove su tendencije često kao i konceptualna umjetnost iznosile misao da »pojam umjetnosti mora pretrpjeti odlučnu promjenu i izbrisati se kao takav« (Katalog nova tendencija 2), da umjetnost mora pretrpjeti nužnu scijentifikaciju te da se postavlja pitanje njezine svrhovitosti. Trebalo bi stoga ustanoviti koliko postoje ili ne postoje drugi zajednički momenti, koliko je pozitivno ili negativno odvajanje koncepta od produkta, stvaraoca od realizatora na svim područjima umjetnosti gdje do takvog razdvajanja dolazi.

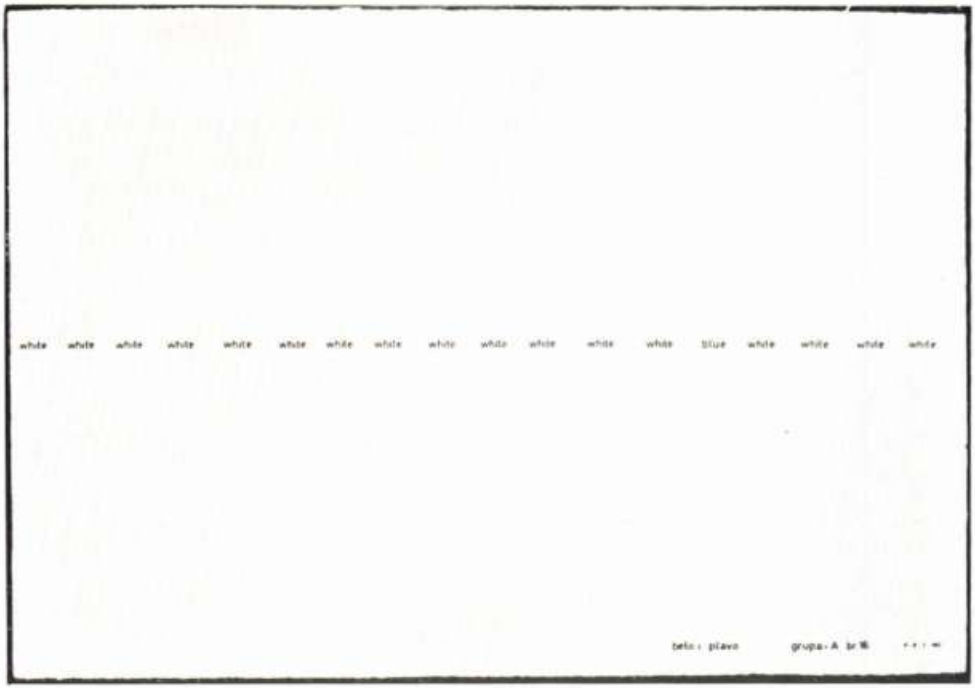
Marijan Susovski

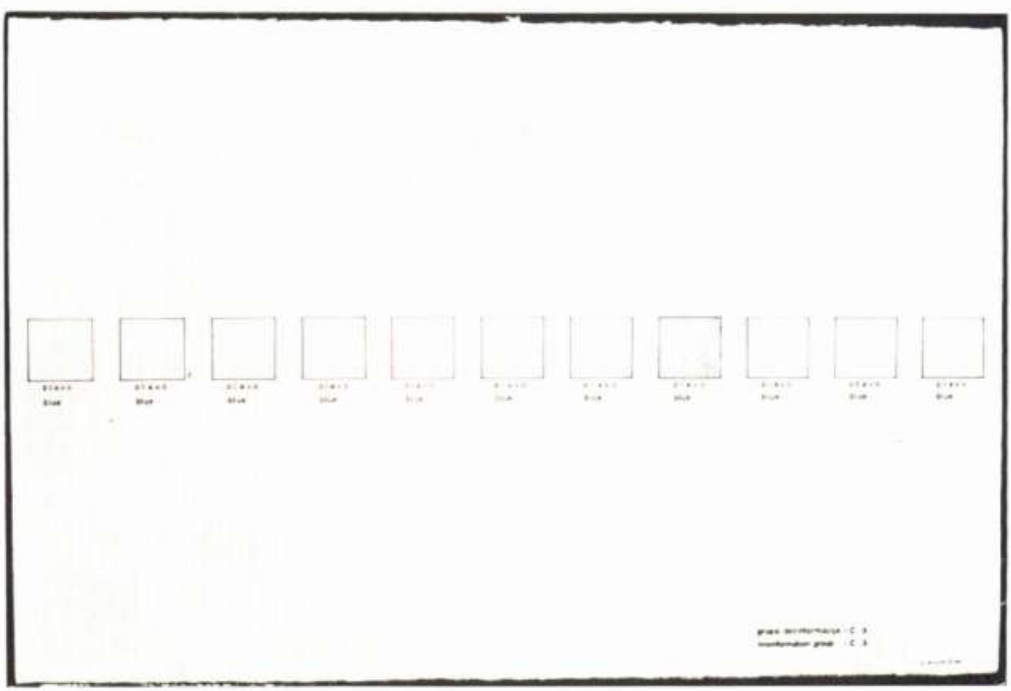
from mythical, symbolical elements; they do not seek to give and do not give explanations extrinsic to those contained in the works — the message is the work itself. The age-old aspiration to have the public participate in the creation of a work of art or in its build-up now has a chance of being achieved. The conceptual work — the idea can further develop in the consciousness of its receiver on the basis of his earlier experience, memories, imagination and his own intellectual capabilities. Through such a perception, regardless of whether it be a question of a real or conceptually existing object, the perception of reality and of the environment, which we tend to notice less and less in our everyday life, can become keener. When, in talking about conceptual art, we refer to the work, we are actually referring to the idea whose form of presentation from the aesthetic point of view is not of great importance; however, as we have to communicate it as a message it must be materialized in some way. The material which conceptual artists use ranges from the most traditional kind — canvases — to the most recent kind — xeroxes and videotapes. Although the artists in their anti-material, anti-visual attitudes and anti-commercial aspirations, have from the very beginning radically denounced the traditional ways of expression and communication, and though some of these have been used again for arious reasons (the most important being commercial consideration), this exhibition opens with a section of canvasses so as to try and establish to what extent the idea-concept can be relevant to the understanding and to the revelational character of art regardless of the means by which it is communicated. The New Tendencies, like conceptual art, often stated the idea that "the notion of art will have to undergo a crucial change and be done away with as such"; that art will have to undergo the necessary scientification and the question of its usefulness will have to be raised. It should therefore be established to what extent other common factors exist or do not exist, to what extent a positive or negative separation exists between the concept and the product, the creative artist and the implementor in all those fields of art in which such a separation occurs.

Marijan Susovski

john baldessari, 1

Per strada, fermò
allo stesso dislivello
qualitativo tra la
vita, e quello che si
faceva per rappresentarla
o per dirimerla





radomir damnjanović-damnjan, 2, 4

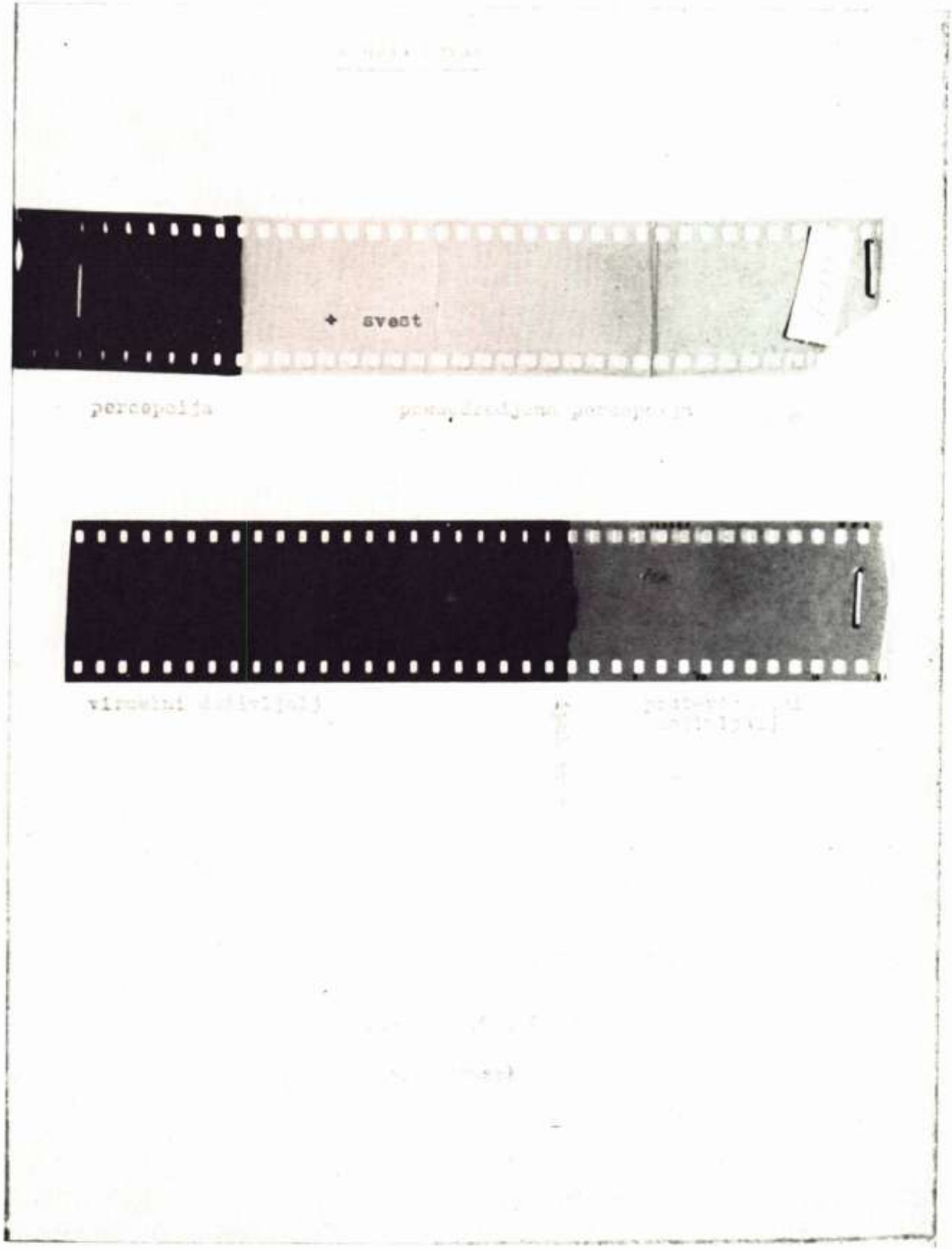
A
A*
B
B*
C

D
D*
E
E*
F

G
G*
H
H*
I

A

A'

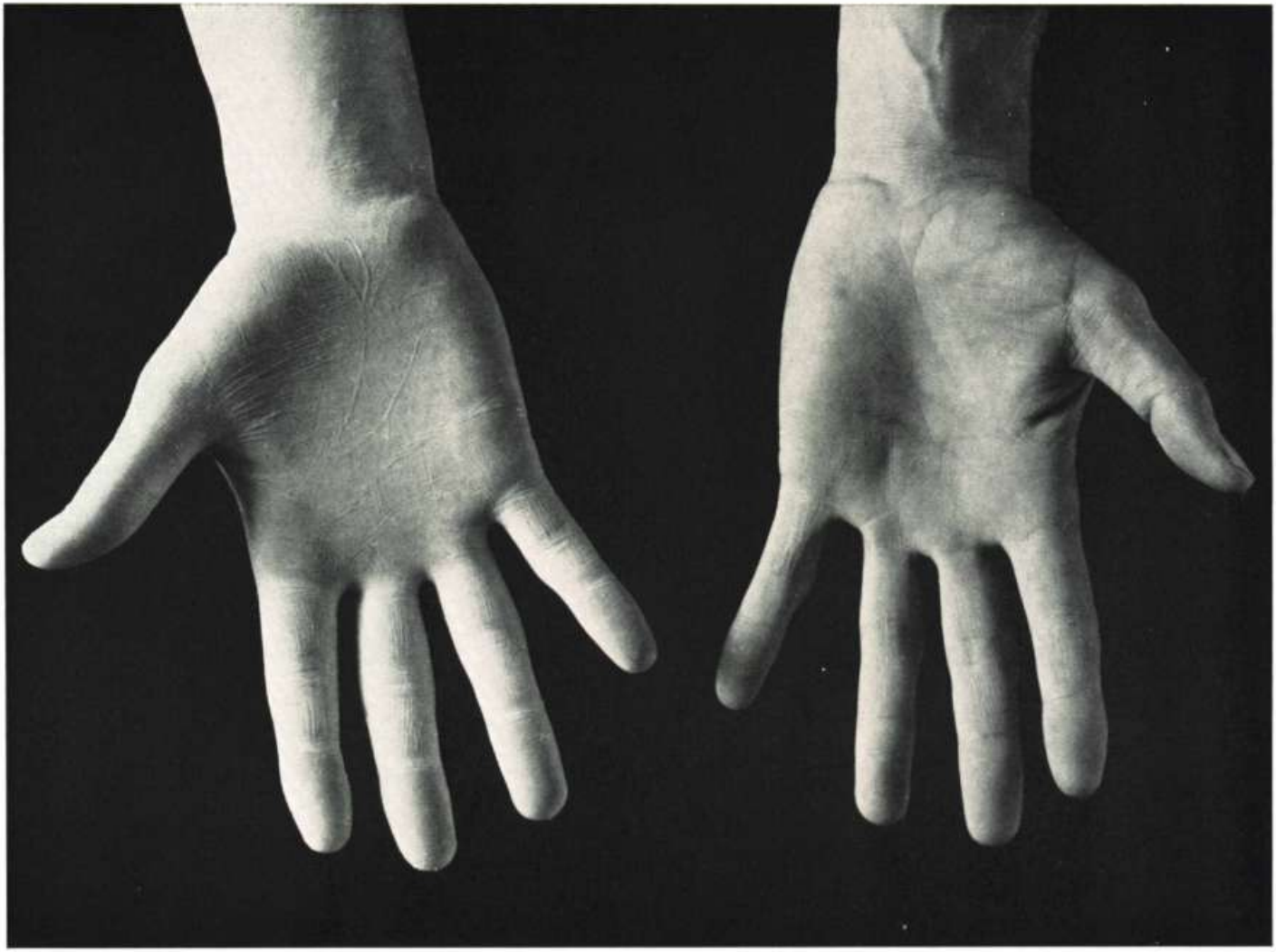


László Kerekes, 1

sol lewitt. 1

Volkswagen-i. I Volkswagen, kojega takoreći nikada (ne) vidite

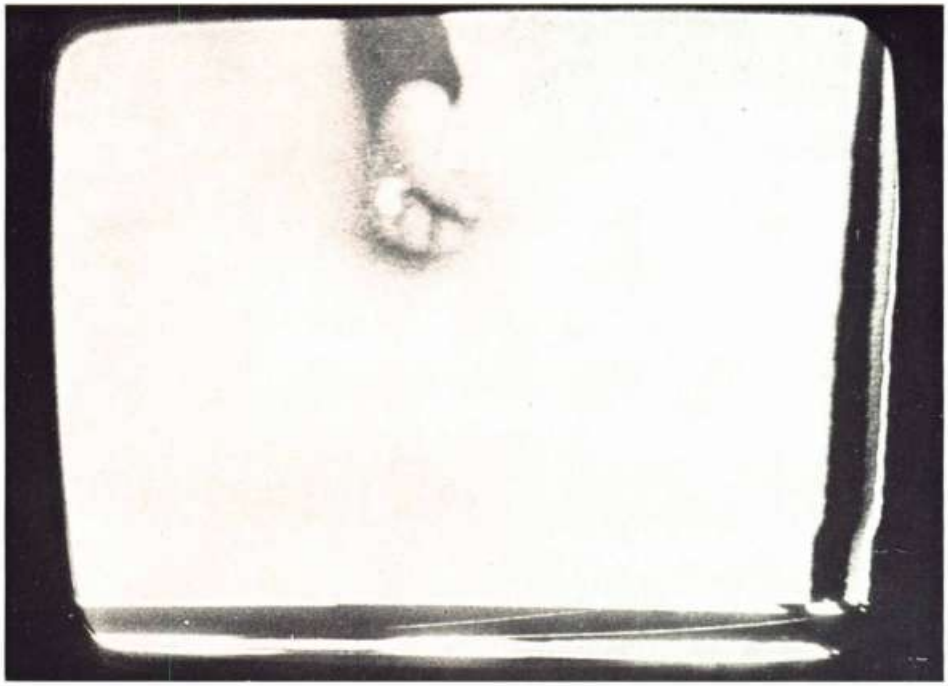
slavko matković, 1, 2

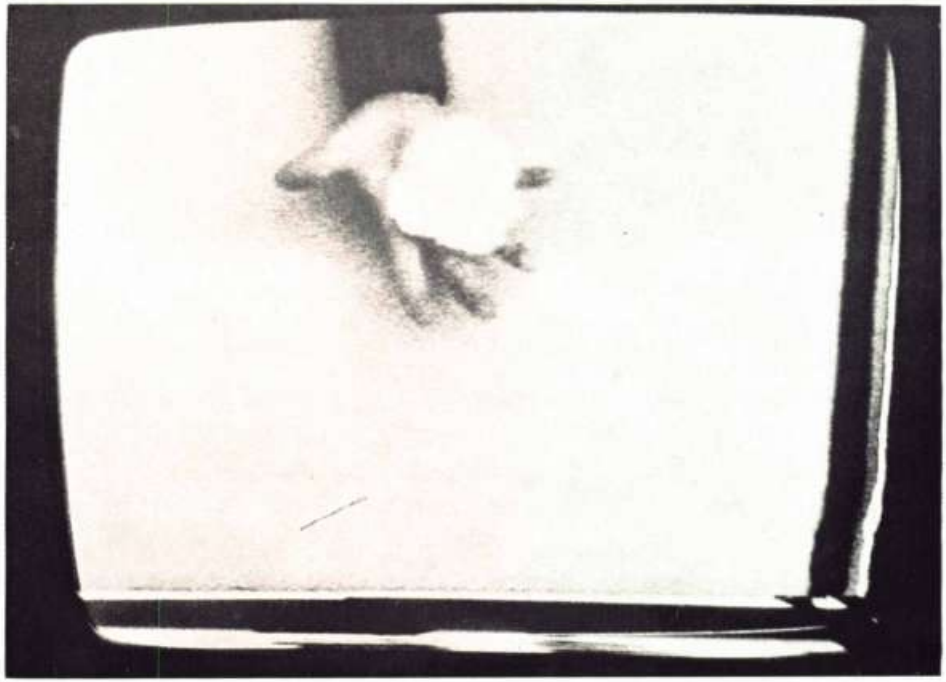


giuseppe penone, 1

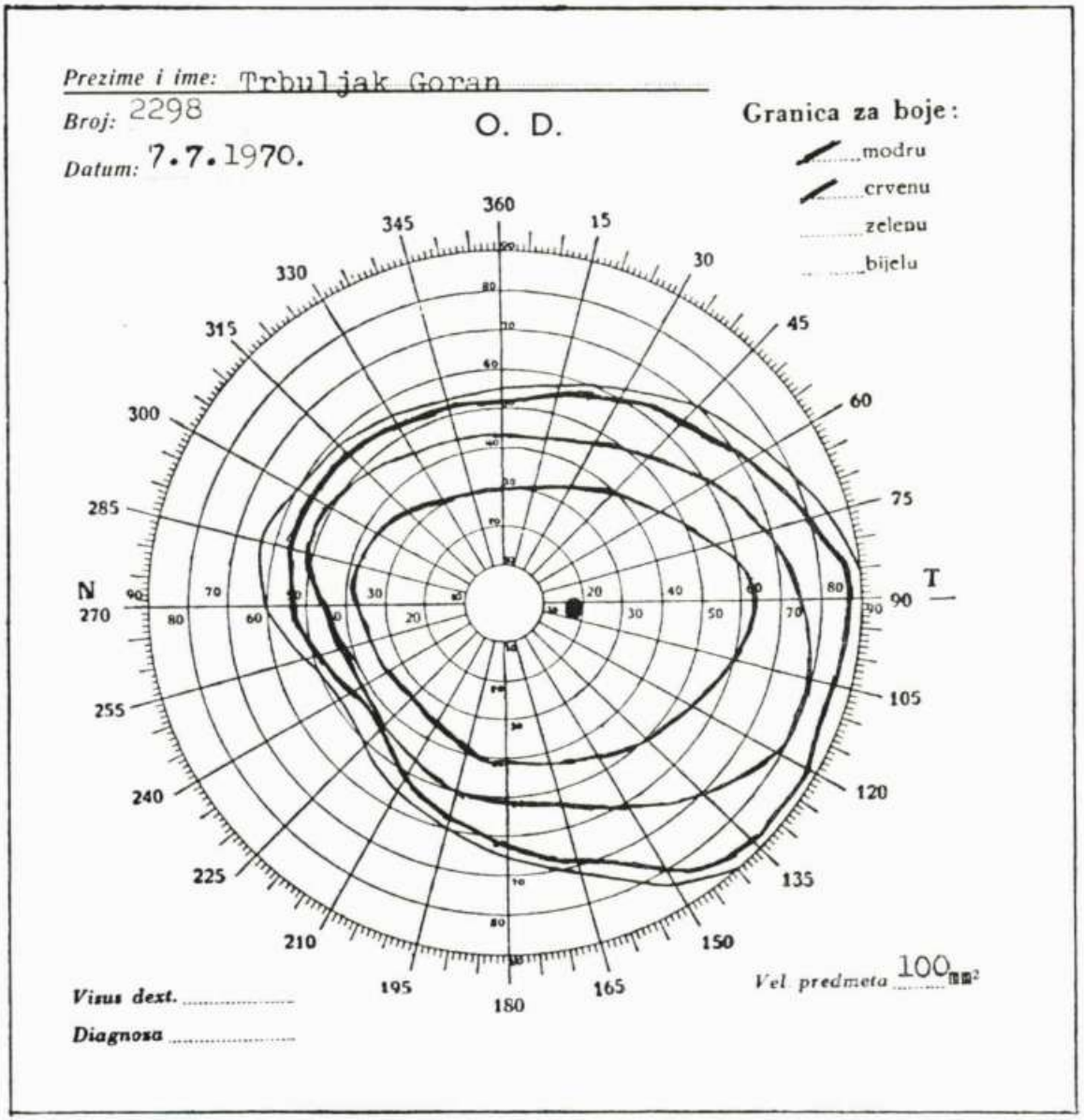
laszlo szalma. 1

balint szombathy, 1





ilija šoškić, 6



Perimetarski test vidnog polja umjetnika što ga je iscrtao plavom i crvenom olovkom dežurni bolničar u srpnju 1970

Perimetric test of the artist's range of vision drawn with a red and blue pencil by a nurse on duty in July, 1970

katalog

anonimni kolektiv

članovi anonimnog kolektiva: gyula pauer, endre tot, jános major, istván haraszty, miklós erdély, tamás szentóby, imre bak, lászló lakner, péter türk, péter legéndy, andrás baranyay, gábor attalai, györgy jovánovics, ilona keserü, tibor csiky, gyula gulyás, tamás hencze, tibor gáyor, dóra maurer.
adresa: c/o beke lászló, thaly kálmán u. 56, 1096 budapest, hungary.

1 bez naslova, 1973
knjiga: papir, plastične korice, 30 × 22 cm

john baldessari

17. VI 1931. national city, california, sad
studirao: san diego state college, san diego
izlaže od 1957.
adresa: 2405 third street, santa monica, calif. 90405, usa

1 zamislite da je ova žena ružna a ne lijepa, 1973
5 fotografija, 20 × 20 cm

angelo bozzolla

20. IX 1938. firenze, italia
adresa: aroundel gardens 2a, london, engleska.

1 bez naslova, 1972
papir, knjiga, 20 × 14 cm

»Iduči ulicom mislio je o čudnoj kvalitativnoj neusklađenosti između života i onoga što je učinjeno da ga se predstavi ili da mu se pomogne« (Jedna stranica iz knjige).

radomir damnjanović-damnjan

10. XII 1936. mostar, jugoslavija
studirao: akademija likovnih umetnosti, beograd
izlaže od 1958.
adresa: požeška 68/II, 11000 beograd, jugoslavija

1 grupa dezinformacija c br. 6, 1972
papir, 51 × 72 cm
2 grupa dezinformacija a br. 16, 1972
papir, 51 × 72 cm
3 grupa dezinformacija c br. 5, 1972
papir, 70 × 104 cm
4 grupa dezinformacija c3, 1972
papir, 70 × 104 cm
5 grupa dezinformacija c1, 1972
papir, 70 × 104 cm
6 grupa dezinformacija c4, 1972
papir, 70 × 104 cm
7 grupa dezinformacija c2, 1972
papir, 70 × 104 cm
8 grupa dezinformacija, 1972
ulje na platnu, 70 × 104 cm

catalogue

anonymous collective

members of the anonymous collective: gyula pauer, endre tót, jános major, istván haraszty, miklós erdély, tamás szentjóby, imre bak, lászló lakner, péter türk, péter legéndy, andrás baranyay, gábor attalai, györgy jovánovics, ilona keserü, tibor csiky, gyula gulyás, tamás hencze, tibor gáyor, dóra maurer.
address: c/o beke lászló thaly kálmán u. 56, 1096 budapest, hungary

1 untitled, 1973
book: paper with plastic cover, 30 × 20 cm

john baldessari

june 17, 1931. national city, california, usa
studied at san diego state college, san diego
exhibiting since 1957
address: 2405 third street, santa monica, calif. 90405, usa

1 imagine this woman ugly instead of beautiful, 1973
photograph, 20 × 20 cm

angelo bozzolla

september 20, 1938. florence, italia
address: aroundel gardens 2a, london n.w. 2, england

1 untitled, 1972
paper, book, 20 × 14 cm

"On the street he thought of the strange lack of qualitative proportion between life, and what is done to represent it or to help it". (one page from the book).

radomir damnjanović-damnjan

december 10, 1936. mostar, yugoslavia
studied at akademija likovnih umetnosti in beograd
exhibiting since 1958
address: požeška 68/II, 11000 beograd

1 group of misinformation c no. 6, 1972
paper, 51 × 72 cm
2 group of misinformation a no. 16, 1972
paper, 51 × 72 cm
3 group of misinformation c no. 5, 1972
paper, 70 × 104 cm
4 group of misinformation c3, 1972
paper, 70 × 104 cm
5 group of misinformation c1, 1972
paper, 70 × 104 cm
6 group of misinformation c4, 1972
paper, 70 × 104 cm
7 group of misinformation c2, 1972
paper, 70 × 104 cm
8 group of misinformation, 1972
oil on canvas, 70 × 104 cm

douglas huebler

27. X 1924. ann arbor, michigan, sad
studirao na university of michigan u ann arboru i na academie julien u parizu
izlaže od 1953.
adresa: 6. s. park st. bradford, mass. usa

1 izmjenično djelo # 194, 1972
fotografije: kontaktne kopije i povećanja, 16 × 11 cm
2 67/izmjenično djelo # 70, 1971
polaroid fotografije

Izmjenično djelo # 104
London

Osamnaest manekena snimano je kroz izlog robne kuće u Oxford Streetu u vremenskim razmacima od dvije minute. Neposredno nakon svakog snimljenog manekena umjetnik se okrenuo i na ulici snimio prvu osobu koju je ugledao a bila je istog spola kao i upravo snimljeni maneken, uspoređujući tako kopiju stvarnosti sa živim predloškom.
Kontaktne dokazne kopije i dvanaest fotografija koje pokazuju šest uspoređenja pridruži ovoj izjavi da tvore formu ovog djela.
Prosinac 1972. Douglas Huebler

douglas huebler

october 27, 1924. ann arbor, michigan, usa
studied at university of michigan in ann arbor and academie juelien in paris
exhibiting since 1953
address: 6 s. park st. bradford, mass. usa

1 variable piece # 104, 1972
photographs: photographic contact sheet and enlargements, 16 × 11 cm
2 67/variable piece # 70, 1971
polaroid photographs

Variable Piece # 104
London

Eighteen mannequins were photographed at two minute intervals through the windows of clothing stores on Oxford Street. Immediately after each photograph was made, the artist turned and photographed the first person that he saw who was of the same sex as the last mannequin photographed thereby juxtaposing a model of reality with a real life counterpart.
A contact proof print and twelve photographs that demonstrate six juxtapositions join this statement to constitute the form of this piece.

lászló kerekes

član grupe bosch & bosch
14. VIII 1954. stara moravica, jugoslavija
izlaže od 1970.

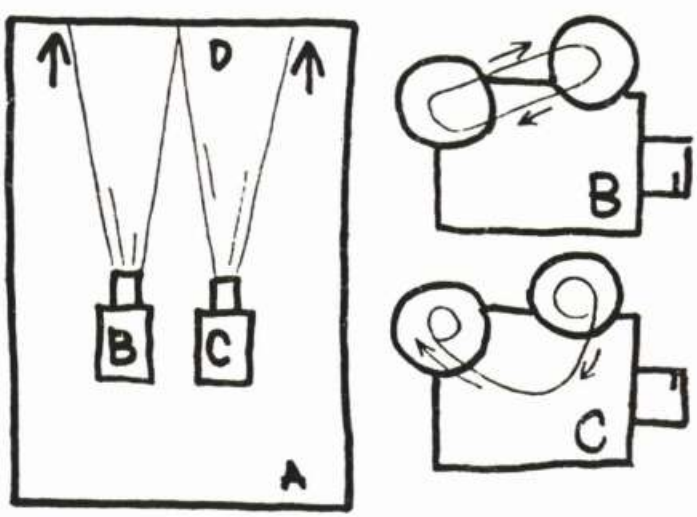
adresa: aleja maršala tita 19, 24000 subotica, jugoslavija

1 4 reda izvan, 1973
kino-film, 8 mm, 20 min.

lászló kerekes

member of the group bosch & bosch
august 14, 1954, stara moravica, yugoslavia
exhibiting since 1970
address: aleja maršala tita 19, 24000 subotica, yugoslavia

1 four rows outside, 1973
film, 8 mm, 20 minutes



Tehnička realizacija 4 reda izvan

Djelo je kinematografska traka 2,8
Trajanje 20'.
U zamračenoj dvorani (A) postavljena su dva kinoprojektora (b, c) koji usporedo emitiraju dvije trake na određenu površinu (d). Projektor (b) emitira svoju beskonačnu traku (konstantno), a (c) istodobno jednu od ostale tri. Brzina traka 16 sl/sec.

sol lewitt

9. IX 1928. hartford, connecticut, usa
studirao na syracuse university u siracusi, new york
izlaže od 1964.
adresa: 117 hester st. new york 10002. usa

1 crtež na zidu, 1973
Ravna linija od središnje točke lijevog kraja stranice, kroz centar prema središnjoj točki desne strane.

slavko matković

član grupe bosch & bosch
15. V 1948. subotica, jugoslavija
studirao: književnost na višoj pedagoškoj školi u subotici
izlaže od 1964.
adresa: stipe grgića 32, 24000 subotica, jugoslavija

1 koncept — 1.0.1., 1973
papir, letraset, 42 × 30 cm
2 koncept — 7.0.2., 1973
papir, letraset, 42 × 30 cm
3 koncept — 3.0.1., 1973
papir, letraset, 42 × 30 cm
4 koncept — 3.0.2., 1972
papir, letraset, 42 × 30 cm

giuseppe penone

1947. garessio, italija
izlaže od 1969.
adresa: c/o galleria sperone, corso maurizio 27, 10124 torino, italija

1 razviti svoju kožu, 1972
fotografija, 40 × 50 cm

laszlo szalma

član grupe bosch & bosch
22. II 1949. subotica, jugoslavija
izlaže od 1964.
adresa: zapadni vinogradi 295, 24000 subotica, jugoslavija

1 koncept — projekt, 1973
fotografije, papir, letraset, 47 × 30 cm

Technical realization of the work Four Rows Outside

The work consists of films 2 × 8 mm lasting 20 minutes. There are two movie projectors (b, c) in a dark room, projecting two films simultaieously onto a given surfice (d). While the projector (b) is projecting its endless film (constantly) c is projecting one of the other three films. The speed is 16 pictures per a second.

sol lewitt

september 9, 1928. hartford, connecticut, usa
studied at syracuse university, syracuse, new york
exhibiting since 1964
address: 117 hester st., new york 1002, usa

1 wall drawing, 1973
A straight line from the mid point of the left side of the page throught the center toward the mid point of the right side.

slavko matković

member of the group bosch & bosch
may 15, 1948. subotica, yugoslavia
studied literature at the viša pedagoška škola in subotica
exhibiting since 1964
address: stipe grgića 32, 24000 subotica, yugoslavia

1 concept — 1.0.1., 1973
paper, letraset, 42 × 30 cm
2 concept — 7.0.2., 1973
paper, letraset, 42 × 30 cm
3 concept — 3.0.1., 1973
paper, letraset, 42 × 30 cm
4 concept — 3.0.2., 1972
paper, letraset, 42 × 30 cm

giuseppe penone

1947. garessio, italy
exhibiting since 1969
address: c/o galleria sperone, corso maurizio 27, 10124 torino, italy

1 develope your own skin, 1972
photograph, 40 × 50 cm

laszlo szalma

member of the group bosch & bosch
february 22, 1949. subotica, yugoslavia
exhibiting since 1964
address: zapadni vinogradi 295, 24000 subotica, yugoslavia

1 concept — project, 1973
photographs, paper, letraset, 47 × 30 cm

balint szombathy

član grupe bosch & bosch
17. X 1950. pačir, jugoslavija
studirao: srpskohrvatsku i mađarsku književnost
izlaže od 1968.
adresa: kolašinska 12, 24000 subotica, jugoslavija

1 stvaranje i primjerci, 1973
dijafilmovi u boji, 100 kom.

Sto dijapozitiva u boji radovi su iz godine 1972/73. i prikazuju polja stvaranja / ispitivanja, obrađena u odlomku studije autora pod nazivom »uvod u stvaralaštvo« 1973, štampanom u ediciji t-5. To su znaci, objekti, pojave i situacije. Filmovi su snimljeni u Subotici 1973. i djelomično u Novom Sadu 1972. Po uputi autora djela snimke je napravio Zoltán Apró, Novi Sad, i László Kerekes, Subotica, na agfa i dia-color i orwo-chrom filmovima. Snimci su u vlasništvu autora / izlagača.

balint szombathy

member of the group bosch & bosch
october 17, 1950, pačir, yugoslavia
studied serbo-croatian and hungarian literature
exhibiting since 1968
address: kolašinska 12, 24000 subotica, yugoslavia

1 creation and examples, 1973
100 colour slides

The hundred colour slides represent the artist's works from 1972/73. They cover the fields of creative investigation dealt with in the passage from the study on the artist entitled "Introduction to the Artist's Works, 1973" and published in the T-5 series. They present signs, objects, phenomena and situations. The pictures were taken in Subotica in 1973 and partly in Novi Sad in 1972. Following the artist's instructions, Zoltan Apro from Novi Sad and Laszlo Kerekes from Subotica took the shots on Agfa Dia-Colour and Orwo-Chrom films. The photographs are the property of the artist/exhibitor.

ilija šoškić

18. VIII 1937. bar, jugoslavija
studirao: akademija likovnih umetnosti, beograd i accademia di belle arti, bologna
izlaže od 1968.
adresa: via rolandino 1, bologna, italia

1 limun 1972/73
videotape, trajanje 5 min.
2 mačka, 1972/73
videotape, trajanje 5 min.
3 žena, 1972/73
videotape, trajanje 20 min.
4 gest, 1972/73
videotape, trajanje 20 min.
5 hrana, 1972/73
videotape, trajanje 10 min.
6 čačkalice, orasi, spužva, 1972/73
videotape, trajanje 35 min.

ilija šoškić

august 18, 1937. bar, yugoslavia
studied at the akademija likovnih umetnosti in beograd and accademia di belle arti in bologna
exhibiting since 1968
address: via rolandino 1, bologna, italia

1 lemon, 1972/73
videotape, 5 minutes
2 cat, 1972/73
videotape, 5 minutes
3 woman, 1972/73
videotape, 20 minutes
4 gesture, 1972/73
videotape, 20 minutes
5 food, 1972/73
videotape, 10 minutes
6 toothpieks, nut, sponge, 1972/73
videotape, 35 minutes

goran trbuljak

21. IV 1948. varaždin, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb
izlaže od 1969.
adresa: djalskog 39, 41000 zagreb, jugoslavija

1 6 perimetarskih testova vidnog polja umjetnika što ih je iscrtao dežurni bolničar, 1970
31,5 × 90 cm
2 5 perimetarskih testova vidnog polja umjetnika što ih je iscrtao dežurni bolničar (simuliranje), 1970
papir, 31,5 × 75 cm

goran trbuljak

april 21, 1948. varaždin, yugoslavia
studied at the akademija likovnih umjetnosti in zagreb
exhibiting since 1969
address: djalskog 39, 41000 zagreb

1 six perimetric tests of the artist's range of vision drawn by duty nurse, 1970
paper, 31,5 × 90 cm
2 five perimetric tests of the artist's range of vision drawn by duty nurse (simulation), 1970
paper, 31,5 × 75 cm

platno

Ovo nije niti bi trebalo da bude izložba antologijskih primjeraka konceptualne umjetnosti koja se u posljednjih nekoliko godina potvrdila kao najdosljednija neestetska i antiformalna umjetnička praksa u povijesti. Naprotiv, obavljena selekcija imala bi biti odlučnom korekcijom jedne zablude. Danas, nakon 6—7 godina otkako postoji taj način kreativnog mišljenja u svim krajevima svijeta, kad je informacija o takvom umjetničkom djelovanju odavno već prešla granice specijaliziranih časopisa i nekoliko malobrojnih pionirskih galerija, široko je pustila korijenje zabluda. Nikada ne prihvativši zaista, zbog inertnosti ili dogmatizma, bazične premise konceptualne ideologije, većina publike, a i profesionalno uključenih promatrača (galerista, teoretičara, organizatora), jednostavno je odjenula u novo ruho i primijenila principe stare formalističke metodologije na proizvode nove umjetnosti. Mehanička primjena starih vizibilističkih metoda na neprimjerenu im novonastalu kvalitetu uzrokovala je identifikaciju konceptualne umjetnosti s njenim sredstvima prezentacije. Paradoksalno, umjetnički postupak, koji operira s izvanplastičkim i izvanpojavɔlʃiɔisoɟ 'ɯiu Tako je, zbog predrasude da se s djelom komunicira isključivo vizuelno, tehnologija konceptualne umjetnosti (fotografski predlošci, sheme na milimetarskom papiru, tekstovi tipkani strojem) preuzela dojučerašnju ulogu estetskog.

Bitan je uzrok toga nesporazuma, uz ostalo, i priroda komercijalnog sistema koji je i ovaj put uspjeh nove umjetnosti ostvario pomoću prepoznatljivosti stanovite forme. Bilo je, dakle, prijeko potrebno osigurati prepoznatljivost »koncepta«. Forme konkretizacije »koncepta« u objekt pogodan za prodaju i prisvajanje čine značajnu stranu toga fenomena, koja bi morala biti predmetom posebne studije. Oblik prodaje konceptualnog djela sada je konstitutivni dio djela samog (a ne više samo posao trgovaca), s povratnim djelovanjem na uspjelost kreativnog rješenja. U najsretnijim su slučajevima stvarna i prodajna forma djela organička cjelina[1], nasuprot mnogobrojnim primjerima gdje je akt prodaje nasilna povreda autohtonosti djela, koje je samo po sebi neotuđivo[2]. Nikada dosad komercijalna komponenta nije toliko zadirala u idejnu autonomiju djela; posjednički zahtjevi tržišta našli su se u kontradikciji s pokušajima »dematerijalizacije umjetničkog objekta«.

Smisao je tih napomena o problemima, koji sigurno zaslužuju temeljniju analizu, upozorenje da upotreba »nelikovnih« materijala (dijapozitiva, videotrake, papira A_4) ne imunizira rezultat od opasnosti samonegacije, niti osigurava »konceptualnost« ostvarenja. Naprotiv, identifikacija novoga govora sa sredstvima bilježenja pogoduje maniriz-

canvas

This is not, nor need it be, an exhibit of selected samples of conceptual art which in the last few years has become the most consistent non-esthetic and anti-formal art practice in history. On the contrary, this selection is meant to correct a certain fallacy. For six or seven years now this manner of creative thinking has been spreading into all parts of the world and today, when information about this type of art activity is no longer limited to specialized periodicals and a few pioneer galleries, a fallacy has taken deep root. Never really accepting the basic premises of conceptual ideology, either because of inertness or dogmatism, most people, and those professionally involved as well (theoreticians, organizers, art dealers), have simply altered the form, but not the essence, and applied principles of old formalistic methodology to the products of this new art. Mechanical application of old methods of perception to this new quality caused conceptual art to become identified with its means of presentation. Paradoxically, an art procedure which is basically non-formal and non- visual has become identified with a particular form of presentation. Because we are accustomed to a work of art communicating only visually, the technology of conceptual art (photographic prints, diagrams on graph paper, typed texts) has subjugated yesterday's role of the esthetic.

In addition those already mentioned, one of the basic reasons for this misunderstanding is the nature of the commercial system which, in this case too, insured the success of conceptual art through recognition of a particular form. Thus, it was necessary to guarantee the recognition of a "concept". The ways in which this "concept" was concretized into a recognizable object, suitable for sale, make up a significant part of this phenomenon, a part which should be a subject of special study. The way in which the conceptual work is sold is now a constituent part of the work itself (and not anymore the job of art dealers alone) and repeatedly influences the success of the creative solution. In the most ideal cases, the real and sale forms of the work are an organic whole[1], contrary to numerous instances where the act of selling is an encringement on the autonomy of the work which is in itself inalienable[2]. Never up until now has the commercial component so encroached upon a work's autonomy; the possessive demands of the art market have contradicted the attempts to "dematerialize the art object". The purpose of these notes on problems, which certainly merit more detailed analyses, is to demonstrate that the use of what up until now have been "non-art" materials (slides, videotapes, graph paper) does not protect the result from the danger of self-negation, nor does it insure a work's "con-

mu svih vrsta, jer omogućuje svakoj ispraznoj i plitkoj dosjetki, izvedenoj u nekom od priznatih medija (fotografija, video, film), počasni naslov »avangardizam«. Kao i dosad kad se ideologija počinje miješati s tehnologijom, najviše koristi imaju zakašnjeli eklektičari. Ne može se osporiti da su tehničke inovacije pogodovale suvremenom načinu izražavanja, ali ne treba započinjati staru priču o kokoši i jajetu jer, da nije bio ostvaren novi odnos prema entitetu umjetnosti, ni video, ni xerox, ni bilo koje od sličnih sredstava ne bi se našlo na spisku umjetničkih alata.

Taj novi odnos najizravnije se očituje u izmijenjenoj funkciji umjetničkog objekta; ne postoji više objekt kao estetski predmet, nego kao pokazatelj složene funkcije koja djelo jest. Put oslobođenju od estetskog predmeta nije u izlaganju u zaključanoj galeriji, ni u svođenju dimenzija spomenika na format A_4 papira, nego u odumiranju dominacije vizuelnog u djelu, u korist raznovrsnih poruka koje ono sadrži. Estetski objekt jučerašnjice nudio je sve podatke svojom pojavnošću, i zahvaljujući tome mogli su se jednako arbitrarno, uz pomoć formalne analize, vrednovati crteži iz Lascauxa i slike Olitskog. Intencije i ideološko stajalište umjetnika (ako se o njima išta znalo) bili su samo ne odviše značajna pomagala u tumačenju djela, čije su primarne odrednice bile uvijek njegove morfologijske odlike.

Iz te dominacije oblika nad suštinom proizlazi i shvaćanje kategorije »apstraktnog« u umjetnosti koja se nužno poistovjećuje s odricanjem mimikričkog, na putu sve većoj minimalizaciji plastičkih sredstava izražavanja. Ali apstrakcija nije forma prezentacije nego sistem mišljenja, pa apstraktnost djela ne proistječe iz pojednostavnjenja vizuelnog predloška nego iz množine nevizuelnih, misaonih poruka koje taj oblik sadrži.

Po toj se definiciji na jednakom stupnju apstraktnosti mogu naći figurativna slika, brončana skulptura i tipkani tekst ako su praćeni potrebnim kvantitetom misaonih implikacija, koje nisu nužno uvjetovane njihovim obličjem.

Razlozi su posebnog apostrofiranja radova izvedenih s platnom, materijalom koji nepogrešivo asocira na najtradicionalniju slikarsku tehniku, u vjerovanju da aktualnost umjetničke misli ne ovisi o izboru tehnike nego o novom pristupu realnosti.

Nena Dimitrijević

[1] Douglas Huebler: »Duration piece # 8«, »Duration piece # 15«, itd., zatim Sol LeWittovi zidni crteži.

[2] Na primjer, Christo prodaje potpisane crteže »packagea«. Također, neki umjetnici prodaju potpisane fotografije »body« predstava.

ceptuality". On the contrary, identification of a new language with means of notation favors a mannerism of all sorts, for it permits every shallow and uninventive idea, executed in a recognized medium (photography, film, video) the honored title of avantgardism. As in the past, when ideology starts to be mixed with technology, eclecticists profit the most. One cannot dispute that the technical innovations favored a contemporary manner of expression, however, there is no need to go into the story of what came first — the chicken or the egg, for if a new attitude had not been established with respect to art as a whole, neither Video, nor Xerox, nor any similar means would be included on the list of art tools.

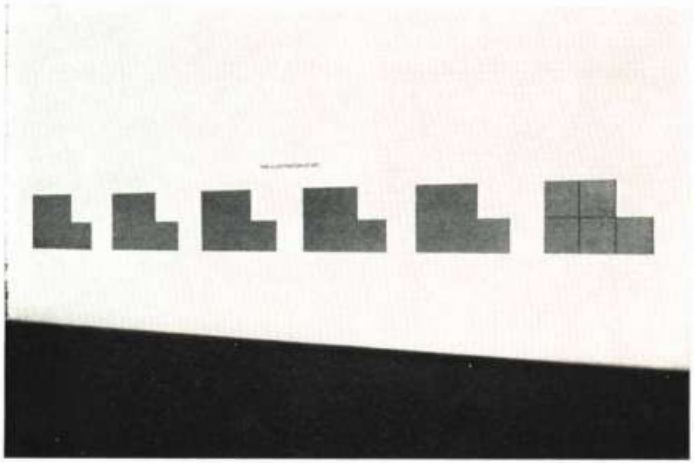
This new attitude can be best seen in the changed function of the art object; the object no longer exists as an esthetic subject, but as the indicator of a complex function which is the work. Exhibiting a closed gallery or reducing the dimensions of a monument to the format of a piece of typewriter paper is no way to free the art object from the status of an esthetic subject. Rather, it must come about by deemphasizing the visual aspect of the art work in favor of the message or messages contained in the work. Yesterday's esthetic object communicated information through its appearance, so that the drawings of Lascaux and paintings of Olitski could be evaluated with equal arbitrariness by methods of formal analyses. The intentions and ideological premises of an author or of an entire movement (if at all anything was known about them) were only insignificant instruments in explaining the work whose primary determinants were always its morphological traits.

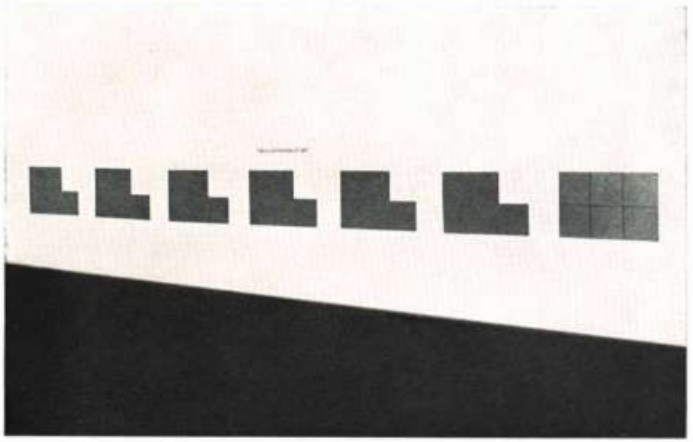
From the domination of form over essence also comes the understanding of "abstraction" in art which is necessarily identified with a denial of mimicry and an increasing reduction of formal means of expression. However, abstraction is not a form of presentation, but a system of thinking, so that a work's abstraction does not result from the simplification of the visual basis, but from the multitude of non-visual mental messages contained in that form.

According to this definition, a figurative painting, bronze sculpture and typed text may all be found on the same level of abstraction, inasmuch as they are accompained by the necessary quantity of mental implications which are not necessarily stipulated by their forms. The reason for special emphasis on works executed on canvas, a material which is unmistakably associated with traditional painting techniques, is because of the belief that the actualness of an artistic thought does not depend on the choice of technique, but on a new approach to the existing reality.

Nena Dimitrijević

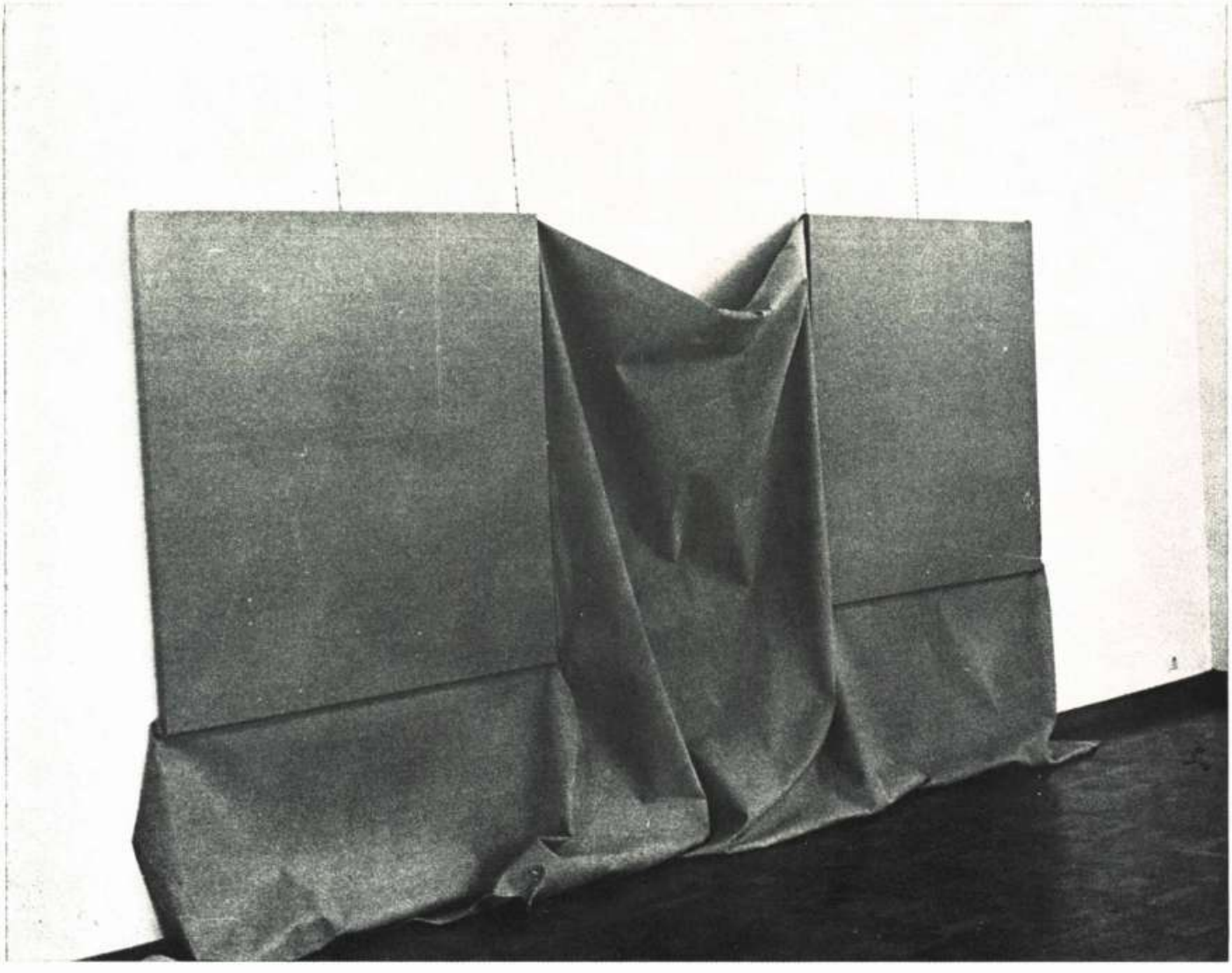
giovanni anselmo, 1





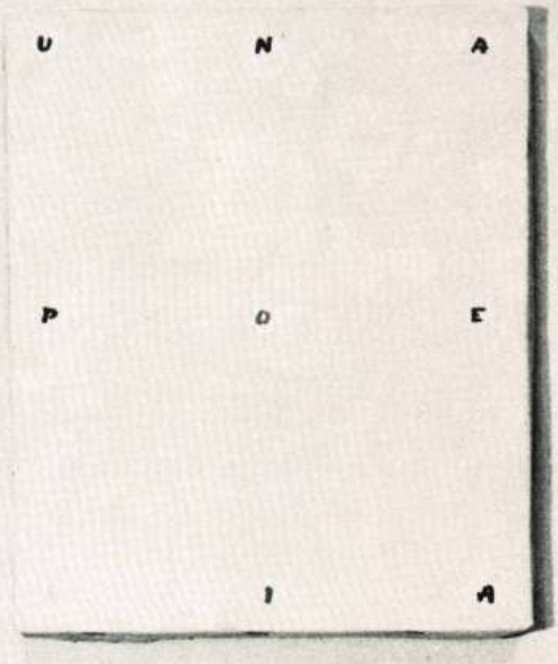
antonio dias, 1, 2, 3

braco dimitrijević, 1

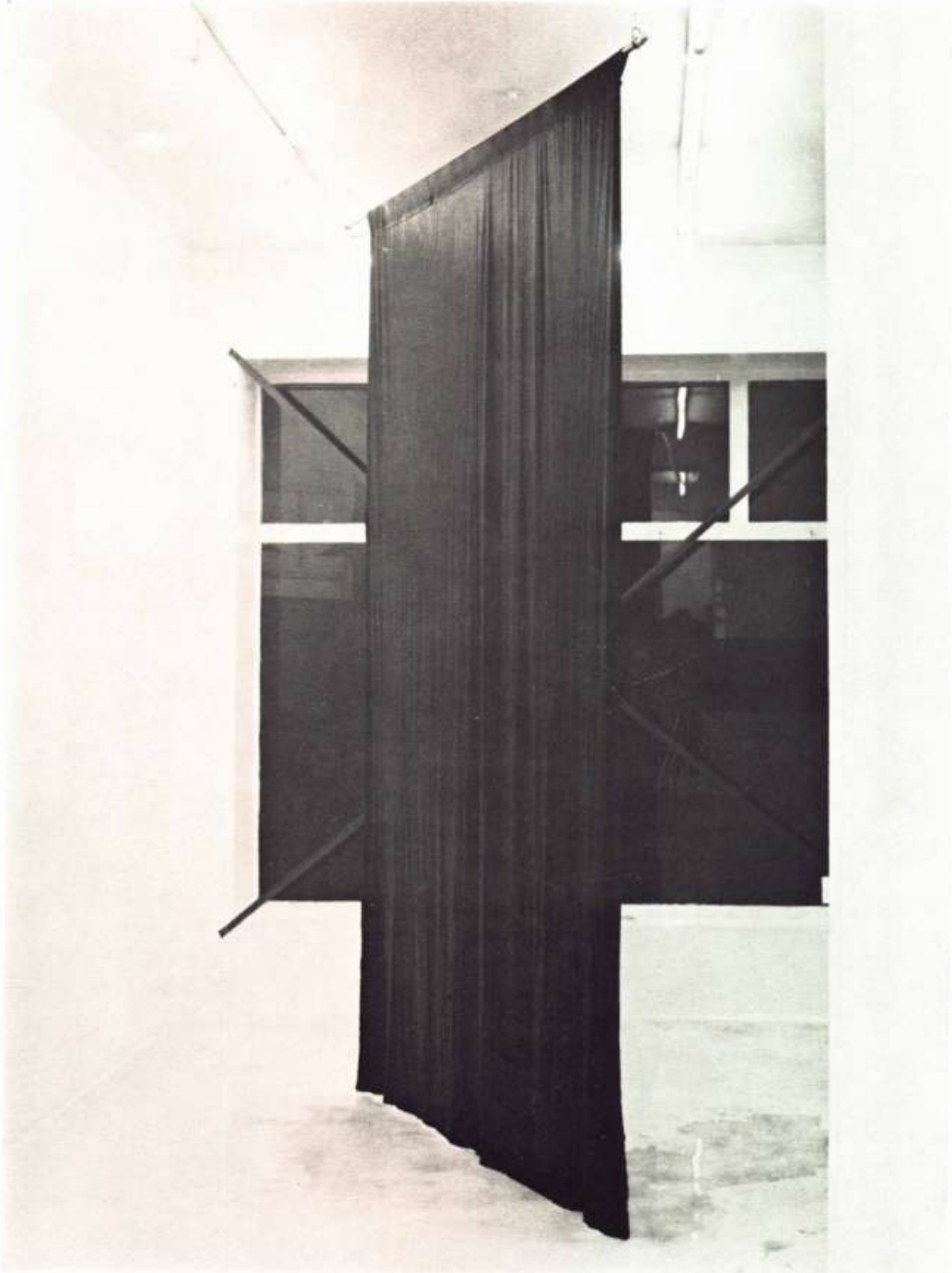


barry flanagan, 1

jannis kounellis, 1



giulio paolini, 1



reiner ruthenbeck, 1

howard selina, 1, 2

katalog

giovanni anselmo
5. VIII 1934. borgofranco d'ivrea, italija
izlaže od 1967.
adresa: via massena 68,10128 torino, italija
1 ulazak u djelo, 1971
fotografija na platnu, 130 × 205 cm

daniel buren
25. III 1939. boulogne/seine, francuska
adresa: 21 rue de navarin, 75009 paris, france

antonio dias
22. II 1944. paraiba, brazil
izlaže od 1962.
adresa: 74 foro buonaparte, 20121 milano, italia
1 2.3.1. ilustracija umjetnosti, 1972
ugljen na zidu
2 2.3.2. ilustracija umjetnosti, 1972
vinil na zidu, 460 cm
3 2.3.3. ilustracija umjetnosti, 1972
vinil na zidu, 540 cm

braco dimitrijević
18. VI 1948. sarajevo, jugoslavija
izlaže od 1969.
adresa: površje 31a, 41000 zagreb, jugoslavija
1 jedna od najnovijih slika, 1972
emajl na platnu, 120 × 180 cm

barry flanagan
11. I 1941. london, engleska
studirao: st. martin's school of arts, london, engleska
izlaže od 1966.
adresa: 8 cliff road, london, n. l., england
1 august 1, 1969
platno 18,5 × 40,5 cm

jannis kounellis
23. III 1936. pirej, grčka
izlaže od 1960.
adresa: via del banco di san spirito 21, roma, italia
1 muka po ivanu, 1971
ulje na platnu, 300 × 250 cm

giulio paolini
5. XI 1940. genova, italija
izlaže od 1961.
adresa: via cernaia 1, 10121 torino, italia

catalogue

giovanni anselmo
august 5, 1934. borgofranco d'ivrea, italia
exhibiting since 1967
address: via massena 68, 10128 torino, italy
1 entering into the work, 1971
photograph on canvas, 130 × 205 cm

daniel buren
march 25, 1939. boulogne/seine, france
address: 21 rue de navarin, 75009 paris, france

antonio dias
february 22, 1944. paraiba, brazil
exhibiting since 1962
address: 74 foro bounaparte, 20121 milano, italy
1 2.3.1. the illustration of art, 1972
characoal on wall
2 2.3.2. the illustration of art, 1972
vinyl on wall, 460 cm
3 2.3.3. the illustration of art, 1972
vinyl on wall 540 cm

braco dimitrijević
june 18, 1948. sarajevo, yugoslavia
exhibiting since 1969
address: površje 31a, 41000 zagreb
1 one of the most recent paintings, 1972
enamel on canvas, 120 × 180 cm

barry flanagan
january 11, 1941. london, england
studied at st. martin's school of arts, london, england
exhibiting since 1966
address: 8 cliff road, london, n.l., england
1 august 1, 1969
flax, 7'6'' × 16'

jannis kounellis
march 23, 1936. pireo, greece
exhibiting since 1960
address: via del banco di san spirito 21, roma, italia
1 passion after john, 1971
oil on canvas, 300 × 250 cm

giulio paolini
november 5, 1940. genova, italia
exhibiting since 1961
address: via cernaia 1, 10121 torino, italy

1 una poesia, 1967
serigrafija na platnu, 200 × 250 cm

reiner ruthenbeck

30. VI 1937. velbert, s r njemačka
studirao: umjetnička akademija, düsseldorf
izlaže od 1967.
adresa: 4 düsseldorf-oberkassel, barmerstrasse 1, b r deutschland

1 mokro platno, 1973
platno, vodovodne cijevi, voda, 300 × 200 cm

howard selina

4. II 1948. yorkshire, leeds, engleska
studirao: st. martin's school of art i royal academy schools, london
izlaže od 1971.
adresa: 5 aubert park, highbury, london n. 5, england
četiri rada 1972.

1 53°49′ n. l°34′ w, 1972 (leeds)
platno, zemlja, voda, 260 × 223 cm
2 50°49′ n. l°35′ w, 1972 (new forest)
platno, zemlja, voda, 260 × 223 cm
3 51°33′ n. 0°05′ w, 1972 (north london)
platno, zemlja, voda, 260 × 223 cm
4 54°04′, n. l°42′ w, 1972 (yorkshire dales)
platno, zemlja, voda, 260 × 223 cm

platno zemlja drvo voda

a) svaki dio rada mora upotrebljavati materijale koji su mu potrebni.
b) ne smije postojati sukob između 1. ideja, 2. materijala i 3. realizacije (prezentacije).
c) ako su ova tri faktora u jedinstvu s duhom djela i u međusobnom jedinstvu, tada su i estetska razmatranja tradicionalnog karaktera beznačajna.
d) radovi treba da budu prirodni rezultat ideje (materijala) realizacije i u to treba dirati što je manje moguće.

platno zemlja drvo voda

1 una poesia, 1967
silk-screen on canvas, 200 × 250 cm

reiner ruthenbeck

june 30, 1937. velbert, germany
studied at kunstakademie in düsseldorf, germany
exhibiting since 1967
address: 4 düsseldorf-oberkassel, barmerstrasse 1, germany

1 wet-cloth, 1973
cloth, water-pipe, water-hose, water, 300 × 200 cm

howard selina

february 4, 1948. yorkshire, leeds, england
studied at st. martin's school of art and royal academy schools in london
exhibiting since 1971
address: 5 aubert park, highburuy, london n. 5, england
four works 1972

1 53°49′ n. l°34′ w, 1972 (leeds)
canvas, earth, water, 260 × 223 cm
2 50°49′ n. l°35′ w, 1972. (new forest)
canvas, earth, water, 260 × 223 cm
3 51°33′ n. 0°05′ w, 1972. (north london)
canvas, earth, water, 260 × 223 cm
4 54°04′ n. l°42′ w, 1972. (yokshire dales)
canvas, earth, water, 260 × 223 cm

canvas earth wood water

a) Every piece of work must use the materials it needs, (demands).
b) There must be no conflict between the (1) Idea; (2) Materials; and (3) the Realisation, (Presentation).
c) If these three factors are at "one" with the spirit of the work and each other then aesthetic considerations of a traditional nature are irrelevant.
d) Works should be the natural result of idea (materials) realisation, and should be "interfered" with as little as possible.

canvas earth wood water

dodatak

a contribution

konstruktivna vizuelna istraživanja

arc (art research center group)
b. blackman, n. stephens, s. conard, t. m. stephens, j. thogmartin, l. alton
adresa: 820 e. 48th st. kansas city, missouri 64110, u s a

nancy stephens & thomas michael stephens
1 modularni prostorni environment, 1973
2 modularni prostorni environment, 1973

ivan picelj
28. VII 1924. okučani, jugoslavija
studirao: akademija likovnih umjetnosti, zagreb (1943—46), jugoslavija
izlaže od 1950.
adresa: gajeva 2 b, 41000 zagreb, jugoslavija

1 1 sfaira, 1974
svilotisak u boji
680 × 680 mm
2 3 tetraedron, 1974
svilotisak u boji
680 × 680 mm
3 4 oktaedros, 1974
svilotisak u boji
680 × 680 mm
4 5 eikosaedros, 1974
svilotisak u boji
680 × 680 mm
5 6 kylindros, 1974
svilotisak u boji
680 × 680 mm
6 7 prisma, 1974
svilotisak u boji
680 × 680 mm

grafički listovi iz albuma »geometrie elementaire« soft & hard.

sadržaj: 8 grafičkih listova, 8 obojenih geometrijskih tijela (aluminij) visine 75 mm, 8 obojenih geometrijskih tijela za napuhivanje visine 90 cm. način upotrebe: tekst raoul-jean moulin.

constructive visual research

arc (art research center group)
b. blackman, n. stephens, s. conard, t. m. stephens, j. thogmartin, l. alton
address: 820 e. 48th st. kansas city, missouri 64110 u s a

nancy stephens & thomas michael stephens
1 modular spatial environment, 1973
2 modular spatial environment, 1973

ivan picelj
july 28, 1924. okučani, yugoslavia
studied at akademija likovnih umjetnosti in zagreb (1943—46)
exhibiting since 1950
address: zagreb, gajeva 2b

1 1 sfaira, 1974
silk-screen,
680 × 680 mm
2 3 tetraedron, 1974
silk-screen,
680 × 680 mm
3 4 oktaedros, 1974
silk-screen,
680 × 680 mm
4 5 eikosaedros, 1974
silk-screen,
680 × 680 mm
5 6 kylindros, 1974
silk-screen,
680 × 680 mm
6 7 prisma, 1974
silk-screen,
680 × 680 mm

album "geometrie elementaire" (graphic folios) soft & hard

content: 8 graphic folios, 8 coloured solids (aluminous) 75 mm high, 8 coloured solids to be blown, 90 mm high. instructions on using: text raol-jean moulin.

kompjuterska vizuelna istraživanja

arc (art research center)
adresa: 820 east 48th street, kansas city, missouri, u s a, 64110

david garrison
1—3 vidi: katalog

thomas michael stephens — joseph ziegler
4—9 složena krivulja, iskrivljena ploha
6 ukrštenih varijacija, fotostatično heliografija, 6 × (28 × 42 cm)

joseph ziegler — thomas michael stephens
10—14 pascalov limecon
5 rotacionih i ukrštenih sekvenci heliografija, 6 × (34 × 34 cm)

joseph ziegler — harold chase
15—32 box plot
progresija kvadrata, serija crteža j. zieglera prema originalu h. chasea
tinta na papiru, 14 × (28×42 cm), 3 × (18×18 cm)
kompjuter: hewlett-packard 9100 A/B, 9125 A/B

cayc (centro de arte y comunicación)
adresa: elpidio gonzales 4070, buenos aires, argentina

luis fernando benedit
1937. buenos aires, argentina
diplomirao arhitekturu u buenos airesu, argentina
izlaže od 1961.
1 bez naslova
svilotisak, 33,2 × 51,2 cm

antonio berni
1905. santa fé, argentina
studirao u santa fé, argentina; pariz (o. friesz, a. lothe), francuska
izlaže od 1927.
2 bez naslova
svilotisak, 33,3 × 74,2 cm

ernesto deira
3 bez naslova
svilotisak, 37,3 × 55,3 cm

computer visual research

arc (art research center)
address: 820 east 48th st. kansas city, missouri, u s a, 64110

david garrison
1—3 see: catalogue

thomas michael stephens — joseph ziegler
4—9 complex curve, warped plane
6 overlap variations, photostatic heliography, 6 × (28 × 42 cm)

joseph ziegler — thomas michael stephens
10—14 pascal's limecon
5 rotation and overlap sequence heliography, 6 × (34 × 34 cm)

joseph ziegler — harold chase
15—32 box plot
square progression, set of drawings by j. ziegler from original by h. chase
ink on paper, 14 × (28 × 42 cm), 3 × (18×18 cm)
computer: hewlett — packard 9100 A/B, 9125 A/B

cayc (centro arte y comunicación)
address: elpidio gonzales 4070, buenos aires, argentina

luis fernando benedit
1937, buenos aires, argentina
graduated as architect in buenos aires, argentina
exhibiting since 1961
1 without title
silk-screen, 33,2 × 51,2 cm

antonio berni
1905, santa fé, argentina
studied at santa fé, argentina; paris (o. friesz, a. lothe), france
exhibiting since 1927
2 without title
silk-screen, 33,3 × 74,2 cm

ernesto deira
3 without title
silk-screen, 37,3 × 55,3 cm

eduardo mac entyre

4 bez naslova, 1969
svilotisak, 33,6 × 51,5 cm

mario mariño

5 bez naslova, 1970
svilotisak, 58 × 55 cm

rogelio polesello

6 bez naslova, 1970
svilotisak, 31,8 × 51,8 cm

osvaldo romberg

1938. buenos aires, argentina
studirao arhitekturu na sveučilištu u buenos airesu, argentina
izlaže od 1961.
7—19 bez naslova
svilotisak, 55 × 36 cm

miguel angel vidal

20 bez naslova, 1969
svilotisak, 59,5 × 41 cm
21 bez naslova, 1969
svilotisak, 37 × 55 cm
22 bez naslova, 1970
svilotisak, 32 × 51,7 cm
kompjuter: IBM 1130-16k

hans köhler

adresa: IBM deutschland gmbh, UV design, 7032-86, b r deutschland
1—8 computer art IBM
svilotisak, 60 × 60 cm
kompjuter: IBM 1130

. . . upiše se matematički program sastavljen od 18 parametara koji se međusobno mogu vezati. Tok proračuna transformira se u linearne elemente koji se vide na ekranu.
Promjenom parametra mogu se linearni elementi, koji se pojavljuju na ekranu, najrazličitije varirati i modificirati. Tako je već i u toj generativnoj fazi omogućena selekcija prema estetskim uvjerenjima.
Objekte koje smatramo dobrima nacrta tada kompjuterski upravljen plotter.

eduardo mac entyre

4 without title, 1969
silk-screen, 33,6 × 51,5 cm

mario mariño

5 without title, 1970
silk-screen, 58 × 55 cm

rogelio polesello

6 without title, 1970
silk-screen, 31,8 × 51,8 cm

osvaldo romberg

1938, buenos aires, argentina
studied at school of architecture of the university of buenos aires, argentina
exhibiting since 1961
7—19 without title
silk-screen, 55 × 36 cm

miguel angel vidal

20 without title, 1969
silk-screen, 59,5 × 41 cm
21 without title, 1969
silk-screen, 37 × 55 cm
22 without title, 1970
silk-screen, 32 × 51,7 cm
computer: IBM 1130-16k

hans köhler

address: IBM deutschland gmbh, UV design, 7032-86, b r deutschland
1—8 computer art IBM
silk-screen, 60 × 60 cm
computer: IBM 1130

. . . es wurde ein mathematisches Program geschrieben, das aus 18 miteinander verbindbaren Parametern besteht. Der Rechnungsvorgang wird auf einem Bildschirm in lineare Elemente transformiert und sichtbar gemacht. Durch Veränderung der Parameter lassen sich die auf dem Bildschirm erscheinenen linearen Objekte in vielfältigster Weise variieren und modifizieren. So ist auch schon in dieser generativen Phase die Steuerung und Selektion nach ästetischen Gesichtspunkten in hohem Masse möglich.
Die für gut befundenen Objekte werden dann auf einem vom Computer gesteuerten Plotter gezeichnet.

tomislav mikulić

5. I 1953. bobota, jugoslavija
studira: elektrotehnički fakultet i akademija likovnih umjetnosti u zagrebu, jugoslavija
izlaže od 1972.
adresa: olibska 27/I, 41000 zagreb, jugoslavija

1 INSIN, 1972
kemijska olovka, 21 × 29 cm
2 SINCO, 1972
kemijska olovka, 21 × 29 cm
3 TORUS, 1972
tuš, 42 × 30,5 cm
4 ELIPS, 1972
tuš, 42 × 30,5 cm
5 NSTAR, 1972
tuš, 42 × 30,5 cm
6 NSTAR II, 1972
tuš, 42 × 30,5 cm
7 OVEYE, 1973
kemijska olovka, 21 × 29 cm
8 LINED, 1973
kemijska olovka, 21 × 28 cm
9 ROTACIJA, 1973
tuš, 30,5 × 190 cm
kompjuter: IBM 1130, plotter IBM 1627

edvard ravnikar ml.

28. V 1941. ljubljana, jugoslavija
studirao: sveučilište u ljubljani, jugoslavija (arhitektura); sveučilište u londonu, velika britanija (matematičke metode projektiranja)
izlaže od 1970.
adresa: langusova 47, 61000 ljubljana, jugoslavija

1 »tlocrt« (program »super«), 1972
papir, tuš, 50 × 70 cm
2 »presjek« (program »super«), 1972
papir, tuš, 50 × 70 cm
kompjuter: IBM 1130; Benson 220

Kad radimo kompjuterom (bila to »umjetnost« ili obična tehnika grafičke prezentacije), radimo sredstvom kojega je najveća kvaliteta preciznost informacije. Postavlja se pitanje — informacije o čemu? A to znači veći intelektualni napor koji se promatraču isporučuje putem grafike. Znači: grafika je informacija o tome što je autor rada mislio i napravio. Uloga je grafike da to prenese i zabilježi.

tomislav mikulić

january 5, 1953, bobota, yugoslavia
studying electrical engineering and academy of fine arts in zagreb, yugoslavia
exhibiting since 1972
address: olibska 27/I, 41000 zagreb, jugoslavija

1 INSIN, 1972
ball-point, 21 × 29 cm
2 SINCO, 1972
ball-point, 21 × 29 cm
3 TORUS, 1972
black ink, 42 × 30,5 cm
4 ELIPS, 1972
black ink, 42 × 30,5 cm
5 NSTAR, 1972
black ink, 42 × 30,5 cm
6 NSTAR II, 1972
black ink, 42 × 30,5 cm
7 OVEYE, 1973
ball-point, 21 × 29 cm
8 LINED, 1973
ball-point, 21 × 28 cm
9 ROTATION, 1973
black ink, 30,5 × 190 cm
computer: IBM 1130, plotter IBM 1627

edvard ravnikar jr.

may 28, 1941, ljubljana, yugoslavia
studied at university of ljubljana, yugoslavia (architecture); university of london, great britain (mathematical methods of planing and design).
exhibiting since 1970
address: langusova 47, 61000 ljubljana, yugoslavia

1 »ground-plan« (programme »super«), 1972
paper, indian ink, 50 × 70 cm
2 »section« (programme »super«), 1972
paper, indian ink, 50 × 70 cm
computer: IBM 1130; Benson 220

In the architectural design we see the role of computer graphic essentialy as an information. It is far more precise than anything hand made. It also has a rich mathematical content, on the basis of wich logical inferences can be drawn for the successive design stages. We do not believe in a specific cathegory, usually referred to as computer art. Art can only be man made. If the nature of the work of art is such that it requires an accurate means of expression, that is if the precisse information is important, then the computer is

soledad sevilla

1944. valencija, španjolska
studirala: escuela superior de bellas artes de san carlos, valencija; e. s. b. a. barcelona, španjolska
izlaže od 1961.
adresa: o. juan ramon jimenez 22, madrid 16, españa

1 bez naslova
svilotisak na prozirnim folijama, 114,5 × 110 cm
2 bez naslova
svilotisak na prozirnoj foliji i papiru, 114,5 × 110 cm

josé maria yturralde

1942. cuenca, španjolska
adresa: centro de calculo de la universidad de madrid, avenida complutense, s/n, madrid-3, españa
1 bez naslova (XXXIV/L), 1971
svilotisak, 58,7 × 57,7 cm
2 bez naslova (31/125), 1972
svilotisak, 81,3 × 61,3 cm
3 bez naslova (32/125), 1972
svilotisak, 81,2 × 61,2 cm
4 bez naslova (102/150), 1972
svilotisak, 80,7 × 60 cm
5 bez naslova (P. A.), 1973
svilotisak, 81,1 × 61,4 cm
kompjuter: IBM 7090

in. We can sometimes enjoy architecture in the same way one can enjoy music by simply reading it. The graphic structure of the design can then become a work of art in itself — a very old story in architectural business.

soledad sevilla

1944, valencia, spain
studied at escuela superior de bellas artes de san carlos, valencia; e.s.b.a. barcelona, spain
exhibiting since 1950
address: c. juan ramon jimenez 22, madrid 16, españa

1 without title
silk-screen on transparent plastic sheets, 114,5×110 cm
2 without title
silk-screen on transparent plastic sheet and paper, 114,4 × 110 cm

josé maria yturralde

1942, cuenca, spain
address: centro de calculo de la universidad de madrid, avenida complutense, s/n, madrid-3, españa
1 without title (XXXIV/L), 1971
silk-screen, 58,7 × 57,7 cm
2 without title (31/125), 1972
silk-screen, 81,3 × 61,3 cm
3 without title (32/125), 1972
silk-screen, 81,2 × 61,2 cm
4 without title (102/150), 1972
silk-screen, 80,7 × 60 cm
5 without title (P. A.), 1973
silk-screen, 81,1 × 61,4 cm
computer: IBM 7090

konceptualna umjetnost

daniel buren
25. III 1939. boulogne/seine, francuska
adresa: 21 rue de navarin, 75009 paris, france
1 pet slika, zagreb, lipanj—srpanj 1973
(foto-suvenir, interijer i eksterijer)
bijeli akrilik na bijelim linijama,
bijelo-plavo platno, 5 (≷15 × 560 cm)

giuseppe chiari
26. IX 1926. firenca, italija
studirao matematiku i klavir
izlaže od 1962.
adresa: via chiarugi 12, firenze, italia
1 canterellare, 1972.
papir, 35 × 333 cm

nuša & srečo dragan
1943. i 1944. u ljubljani
izlažu od 1969
adresa: tabor 9, 61000 ljubljana
1 favit, časopis za film, audiovizualna istraživanja i tv, 1973
9 dijapozitiva, 9 × 12 cm

galerija studentskog centra zagreb
(upravitelj želimir koščević)
adresa: savska cesta 25, 41000 zagreb, jugoslavija
1 plakat, 1973
serigrafija, 68,5 × 48,5 cm
dizajn: Boris Bućan

gilbert i george
gilbert je rođen u rujnu 1943. u italiji
george je rođen 1942. u devonu, engleska
izlažu od 1968.
adresa: 12 fournier street, london e 1, england
1 umjetnička impresija, proljeće 1970
olovka na platnu

on kawara
1933. aichi-ken, japan
izlaže od 1967.
adresa: 180 center street, new york, n. y. u s a
1 4 telegrama

conceptual art

daniel buren
march 25, 1939. boulogne/seine, france
address: 21 rue de navarin, 75009 paris, france
1 five paintings, zagreb, june—july 1973
(photo-souvenir, inside and outside)
white acrylic on white stripes
white and blue linen, 5 (≷15 × 560) cm

giuseppe chiari
september 26, 1926. florence, italy
studied mathematics and piano
exhibiting since 1962
address: via chiarugi 12, firenze, italia
1 canterellare, 1972
paper, 35 × 333 cm

nuša & srečo dragan
1943 and 1944 in ljubljana, yugoslavia
exhibiting since 1969
address: tabor 9, 61000 ljubljana, yugoslavia
1 favit, newspaper for film, audio video research and tv, 1973
nine slides, 9 × 12 cm

students center gallery zagreb
(chief manager želimir koščević)
address: savska cesta 25, 41000 zagreb, yugoslavia
1 poster, 1973
silk-screen, 68,5 × 48,5 cm
design: boris bućan

gilbert and george
gilbert was born in september 1943 in italy
george was born 1942 in devon, england
exhibiting since 1968
address: 12 fournier street, london e 1, england
1 artistic impression, spring 1970
pencil on canvas

on kawara
1933, aichi-ken, japan
exhibiting since 1967
address: 180 center street, new york. n. y. u s a
1 four telegrams

john latham

adresa: 22 portland road, london w 11, england
1 crtež od jedne sekunde, 1973
platno, 83 × 37 cm

marko pogačnik

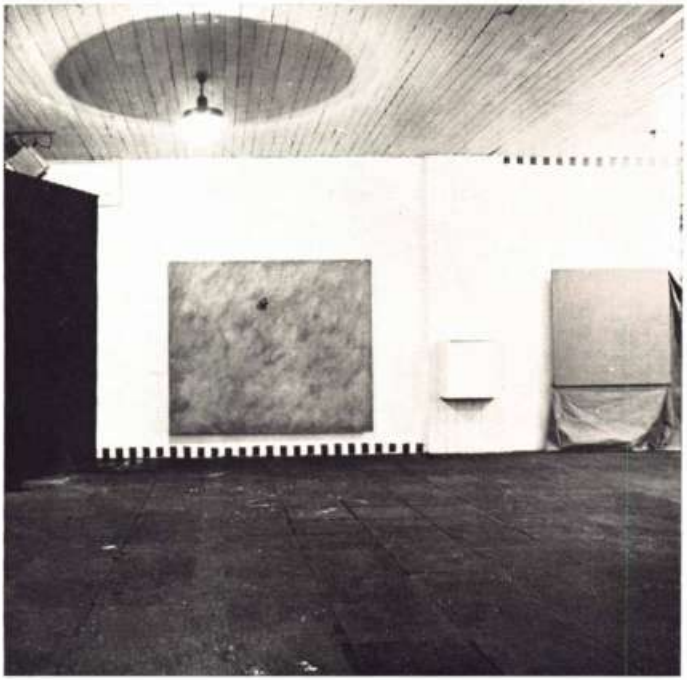
1944. kranj, jugoslavija
studirao: akademija likovnih umjetnosti u ljubljani
izlaže od 1965.
adresa: družina u šempasu, 65261 šempas 160, jugoslavija
1 3 pisma organizatorima »tendencije 5«

john latham

address: 22 portland road, london w 11, england
1 one second drawing, 1973.
canvas, 83 × 37 cm

marko pogačnik

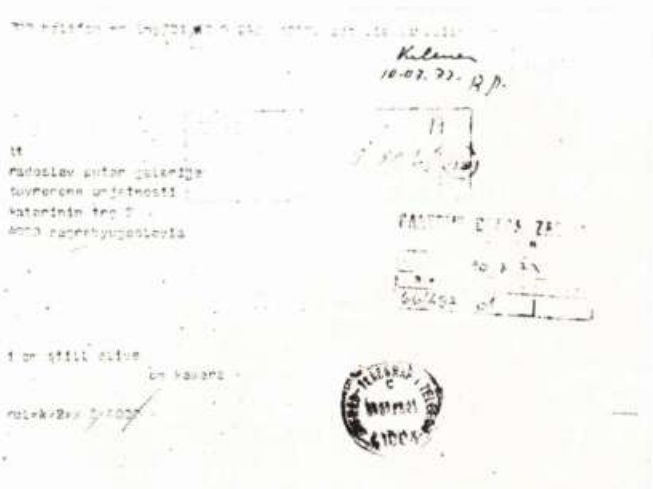
1944. kranj, yugoslavia
studied at the akademija likovnih umjetnosti in ljubljana
exhibiting since 1965
address: družina u šempasu, 65261 šempas 160
1 three letters to the organizers of »tendencies 5«



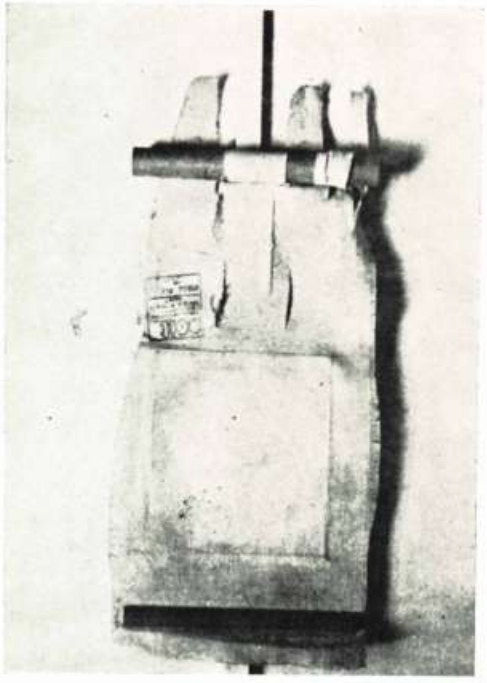
CANTERELLARE

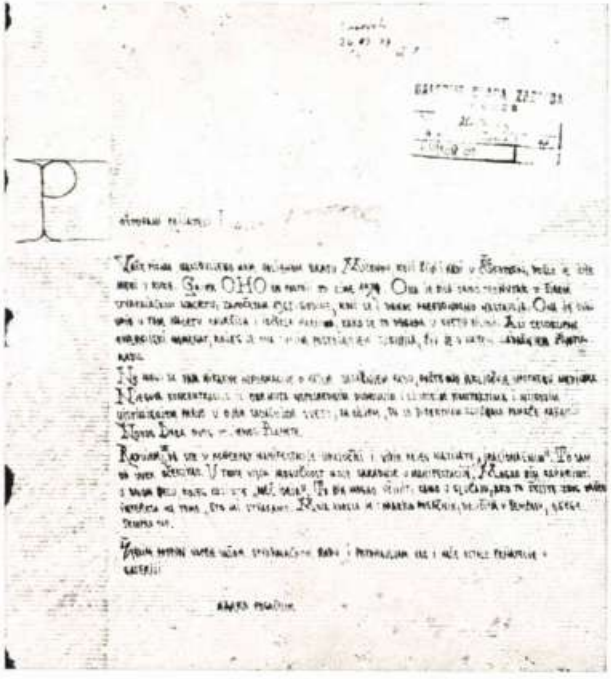
daniel buren, 1—2, 5
giuseppe chiari, 1

nuša & srečo dragan, 1
galerija studentskog centra, 1

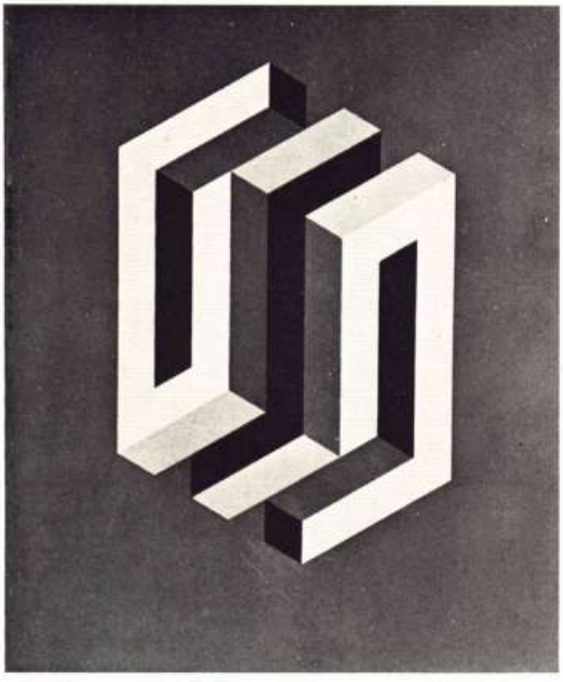


gilbert & george, 1
on kawara, 1

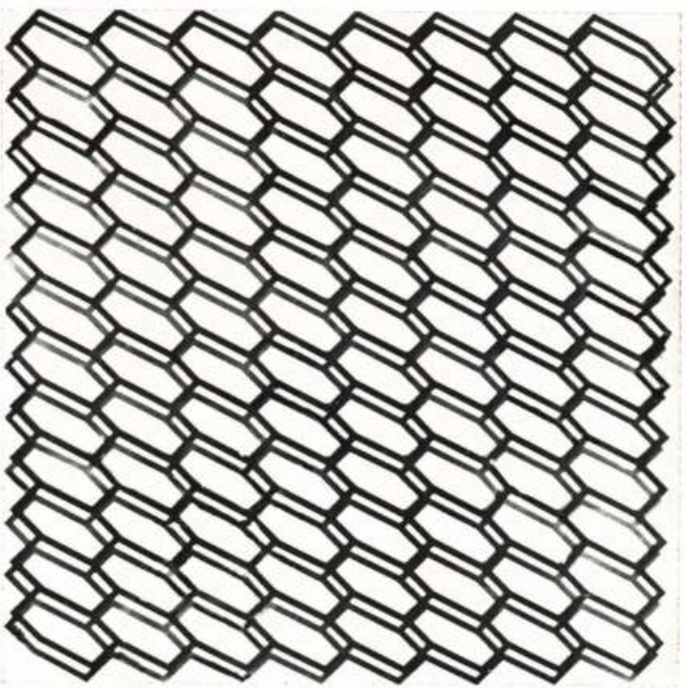




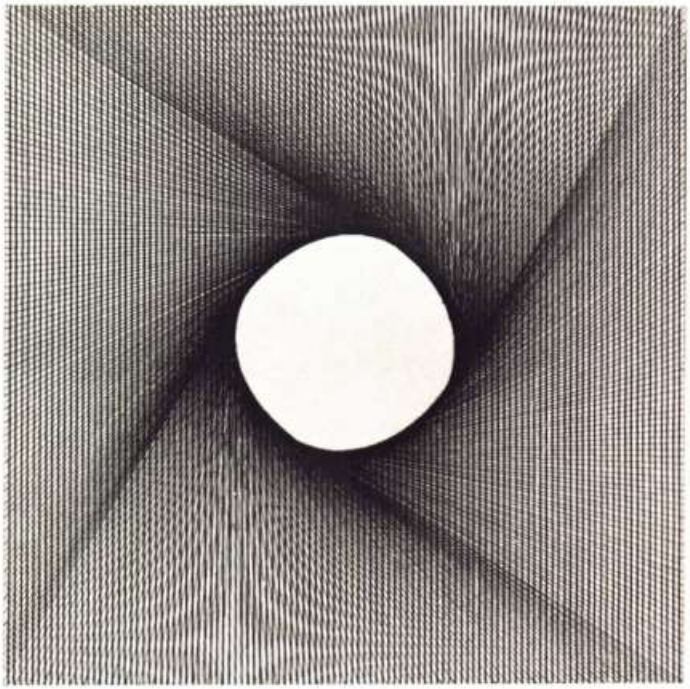
john latham, 1
marko pogačnik, 1

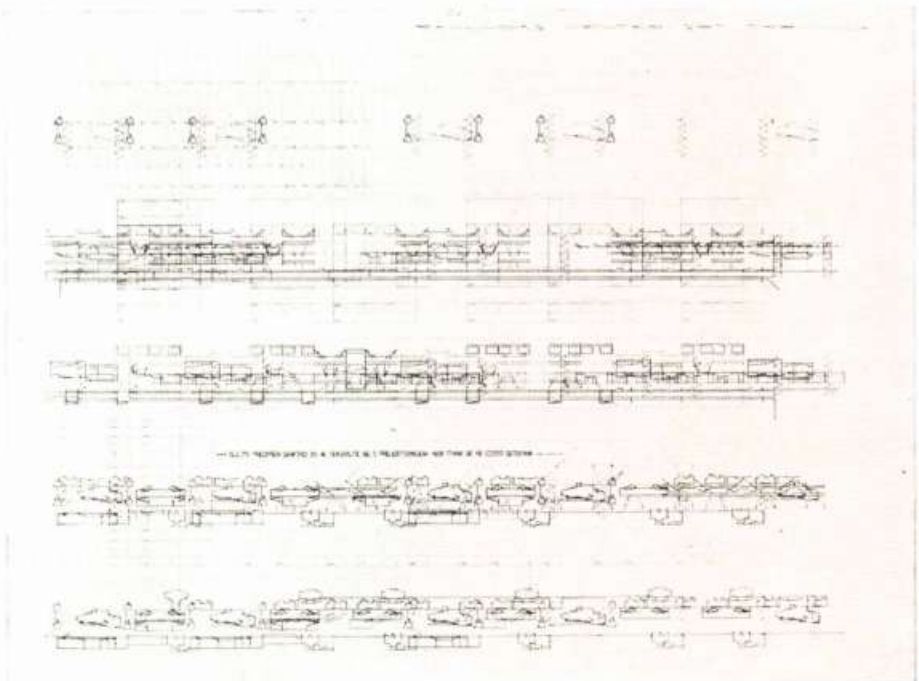


josé maria yturralde, 5

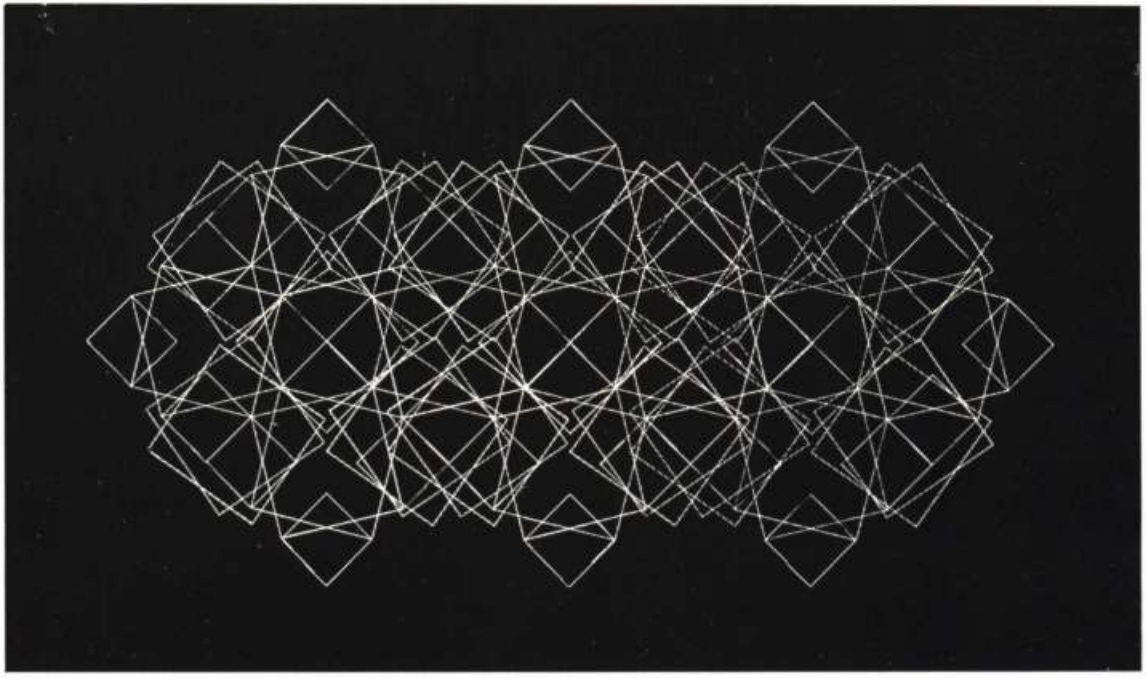


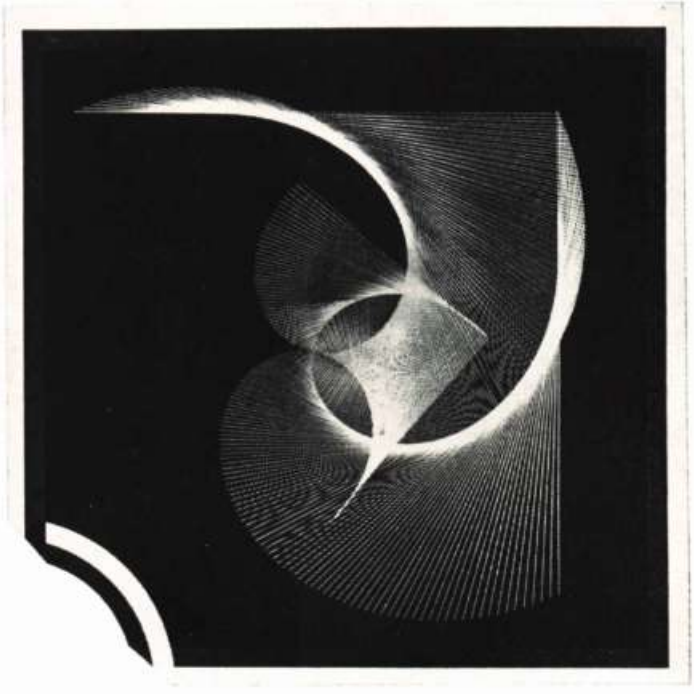
lilian schwartz, 1
soledad sevilla, 1



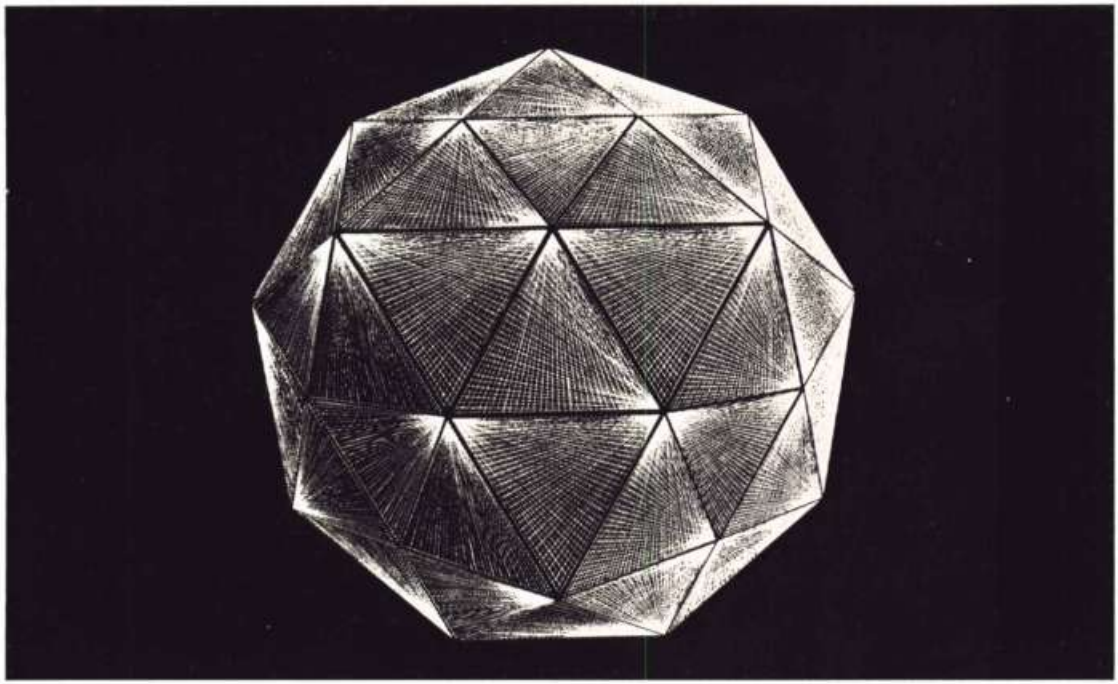


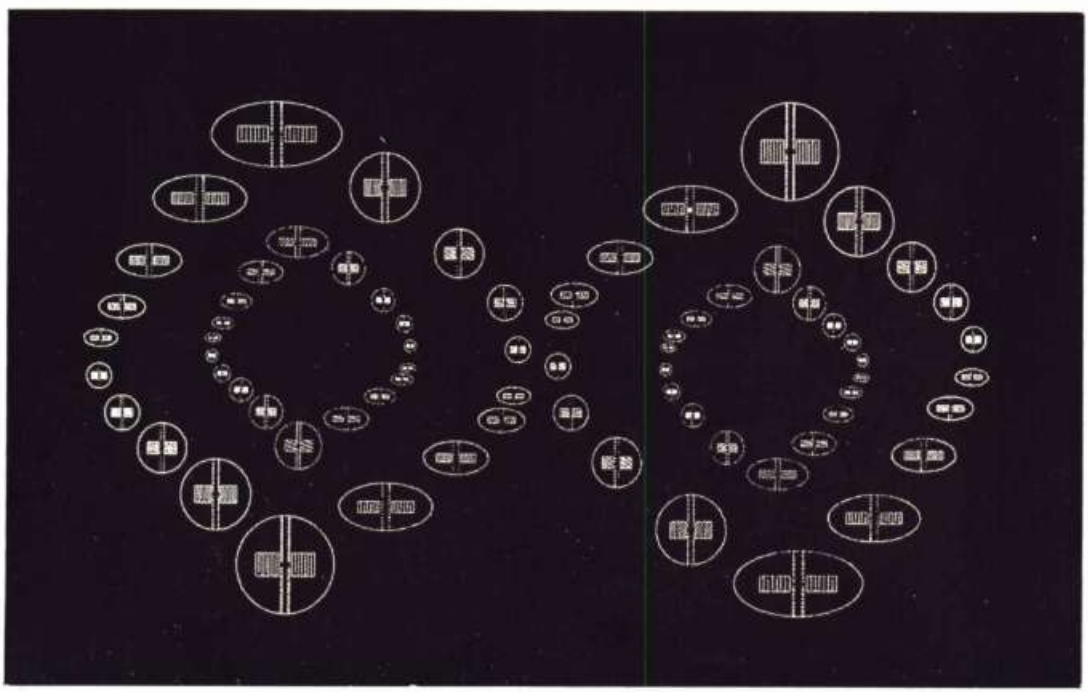
tomislav mikulić, 8
edvard ravnikar, 2



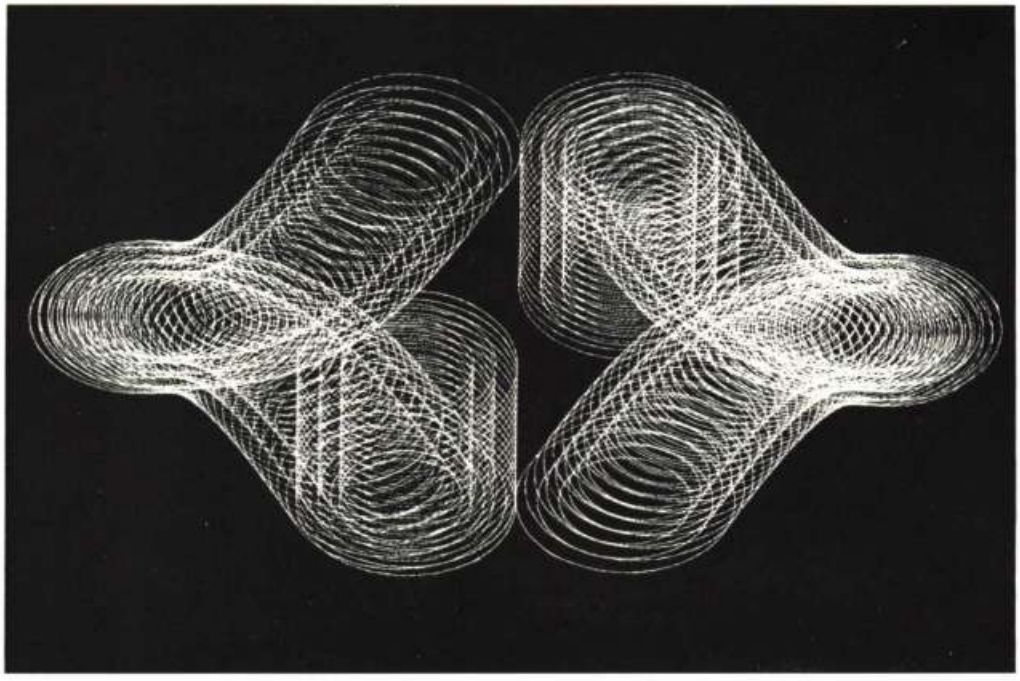


cayc — m. a. vidal, 20
hans köhler, 4

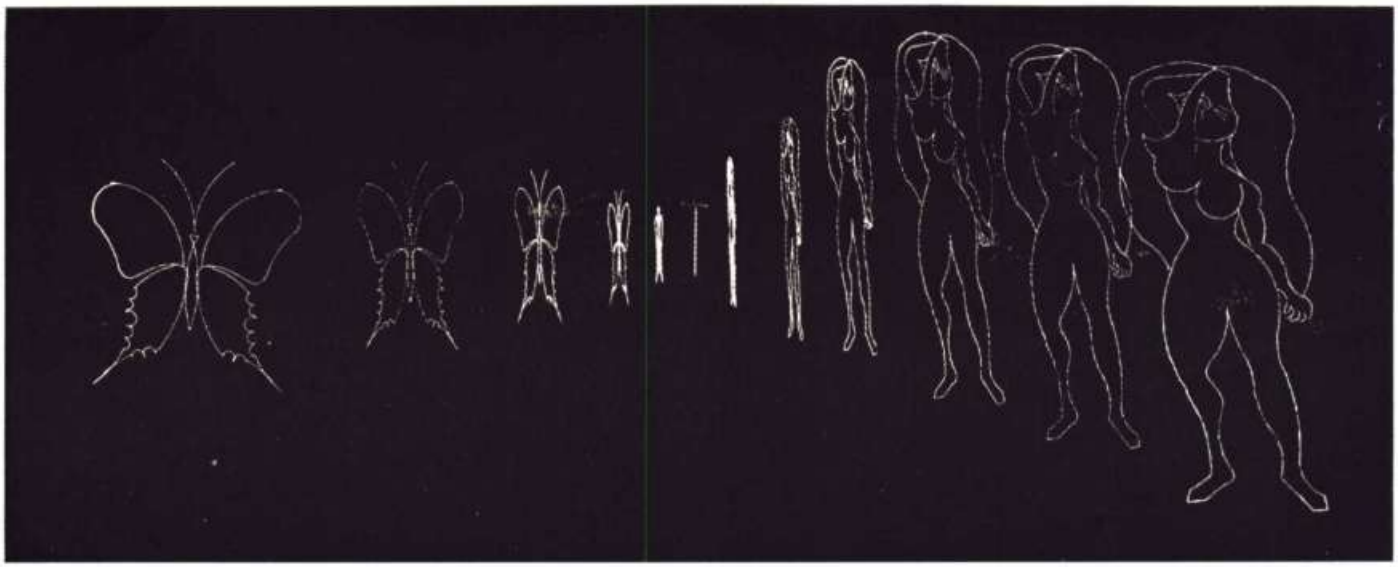


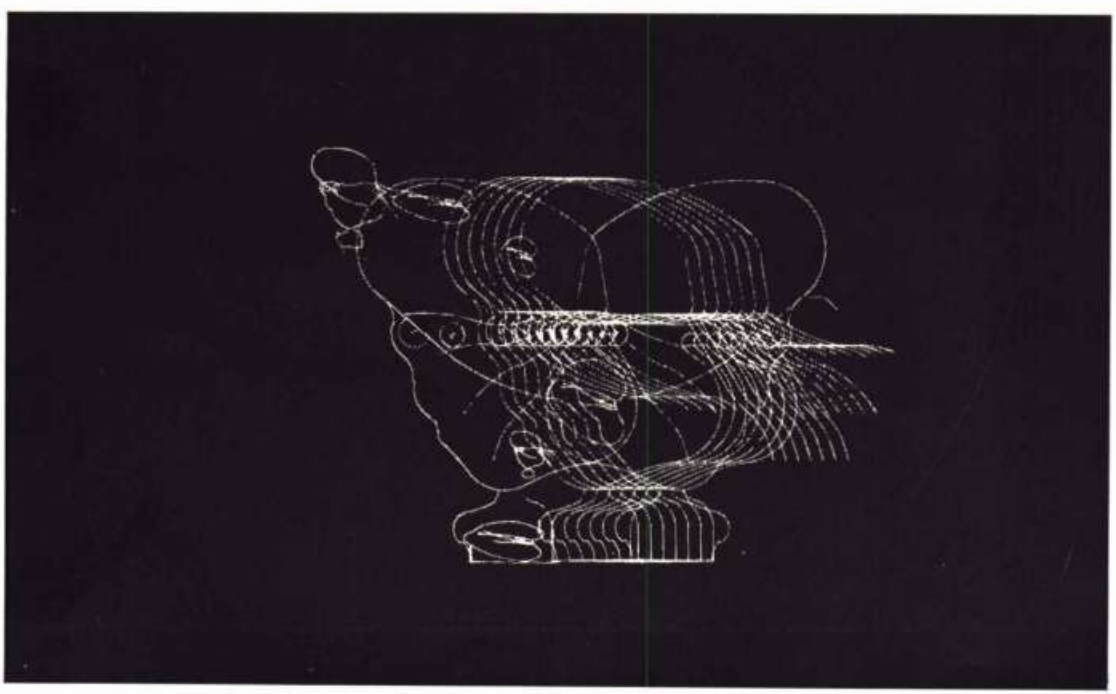


cayc — r. polesello, 6
cayc — o. romberg, 7

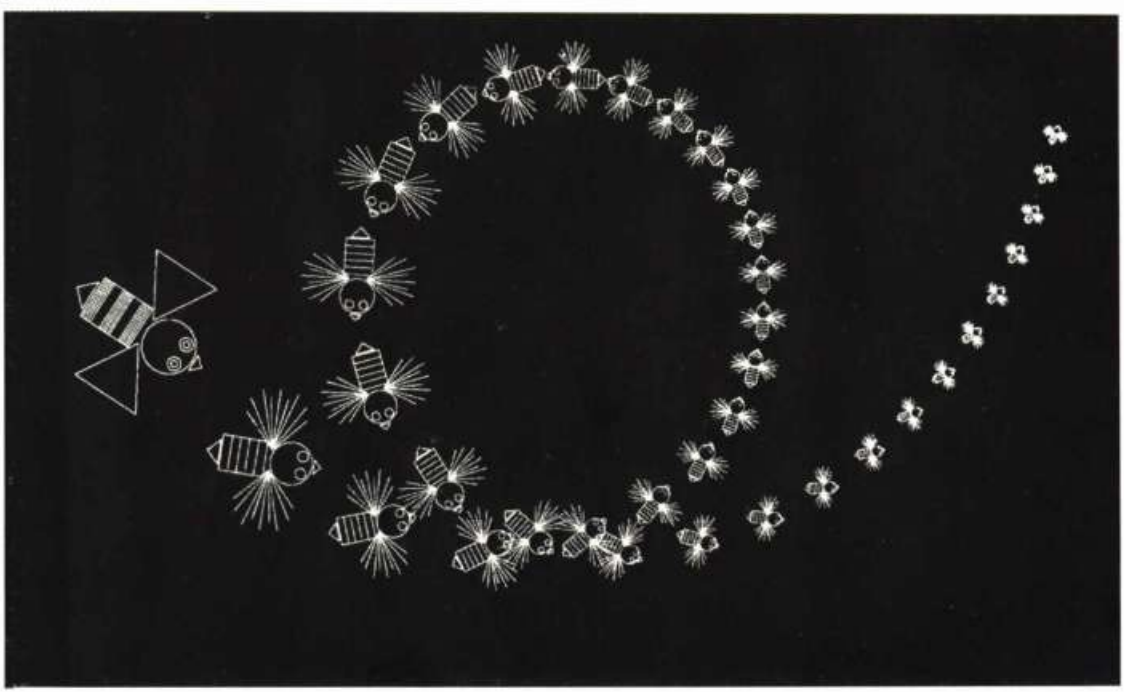


cayc — e. mc entyre, 4
cayc — m. mariño, 5

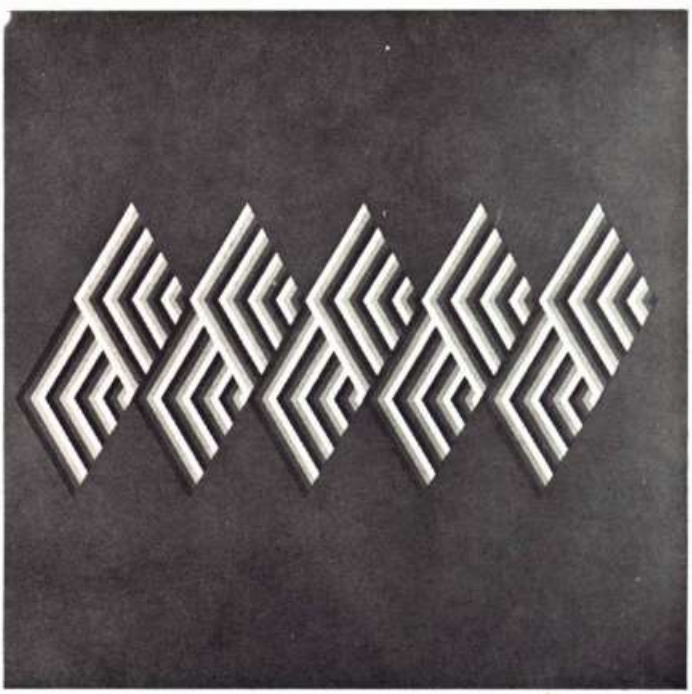




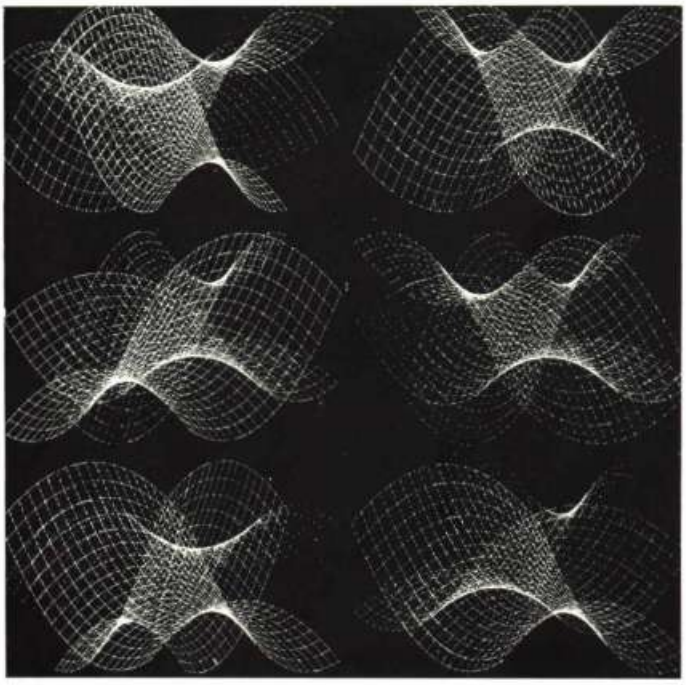
cayc — a. berni, 2
cayc — e. deira, 3



art research center — ziegler/chase, 17, 18
cayc — l. f. benedit, 1



art research center, 1
ivan picelj, 4



art research center — d. r. garrison, 3
art research center — stephens/ziegler, 4—9

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