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an NZI Corporation/Auckland City Art Gallery exhibition assisted by the Queen Elizabeth II Arts Council of New Zealand







David MEDALLA Cloud Canyons c.1967-85

David MEDALLA (b. 1942) Filipino

Cloud Canyons c.1967-85

motorized construction: aquarium air pumps, plastic tubing, fibreglass pipe, water, detergent

4000 x 3000 mm

collection, Auckland City Art Gallery

Note: This model was manufactured according to specifications provided by the artist especially for the *Chance and Change* exhibition.

Medalla's 'Cloud Canyons' were one of the sensations of kinetic art when they were first shown in England and Europe in the 1960s, and they remain one of the most delicate and ephemeral manifestations of kinaesthetics. Air is forced, by aquarium air pumps, through a mixture of detergent and water contained in a battery of vertical boxes or pipes, each of which has a single opening from which the foam oozes in a billowing tail. The form of the sculpture is indeterminate and perpetually changing. It regenerates itself from within.

My first bio-kinetic constructions examined the relationships between man, nature and machine. *Autocreative sculpture*, which I discovered in 1963, gave me my first practical insights into the paradoxical problems of *chance* and *change*, and taught me the scientific principle of *the negation of negation*. I realized gradually that it was through the correct grasp and application of this principal (*negation of negation*) that all past generations of human beings have progressed and continue to progress from a lower to a higher stage of consciousness.

David Medalla in *Contemporary Artists*, London and New York 1977 edited by C. Naylor and G. P-Orridge

International Artist's Project

Alan Sonfist



Auckland City Art Gallery, New Zealand 1985

The following works were executed by Alan Sonfist who was brought to Auckland from America under the auspices of the Auckland City Art Gallery in association with the exhibition Chance and Change – A Century of the Avant-garde, 25 October – 8 December 1985.



Noah's Ark - Skeleton Rising, Karekare Beach 1985 wood 2096 x 1048 x 915 mm

Noah's Ark — Skeleton Rising was assembled by Sonfist from the limbs of dead trees found at Karekare Beach on Auckland's West Coast. Erected on the dunes above the beach the sculpture commemorates the fallen trees and symbolises their regeneration.



Seedkeepers 1985 mixed media various sizes

In conjunction with **Noah's Ark – Skeleton Rising**, 250 fragments of the dead limbs of trees have become carriers of seeds from endangered native trees of New Zealand. Each fragment of wood was drilled, the hole was filled with seeds, and sealed with wax.

The wood capsules were then packaged in cardboard cylinders and carried by the currents of the mails to art critics, museum directors, and private collectors throughout the world. Each recipient was asked to safekeep the seeds and told that in case any of the species should become extinct "you must return the seed to recreate the lost forest".

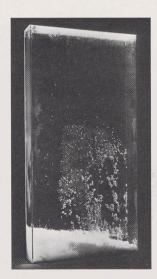


Micro/macrolandscapes 1967-85 mould and fungus, agar on blotting paper 1025 x 760 mm (x8)

Micro/macrolandscape 1967-85 mould and fungus, agar on canvas 1770 x 3370 mm

The artist as catalyst, revealing the invisible. Micro-organisms are ever present in the air we breath. By preparing blank sheets of blotting paper and canvas with an agar solution Sonfist provided a favourable environment for the spores of mould and fungus in the Gallery. As the organisms took root, flourished, reproduced and died, the 'painting' underwent a process of self transformation.

Exquisite blooms of a variety of colours and textures evoke visions of terrestial landscapes seen from the air – swamps, marshes, tundra, tropical forests, deserts. A twilight world illuminated by the artist's imagination.



Crystal Enclosure 1965-1985 natural minerals, acrylic sheet 914 x 457 x 102mm

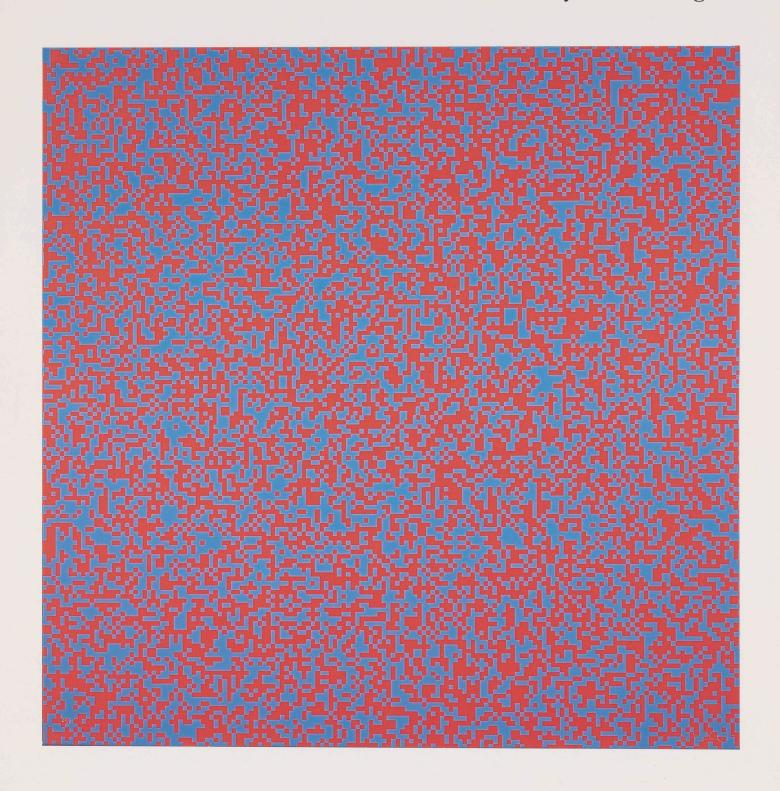
The natural mineral crystals convert to a gas then recrystallize with fluctuations of temperature and light. Composition is a state of perpetual change, as the crystals alternately grow and diminish, regrouping themselves on the interior of the enclosure. The selfcontained system, evolving and devolving, is a metaphor for the earth's ecosystem.



Mark BOYLE (b. 1934) Scottish

Study of Anthills in Central Australian Desert 1979 (detail) earth, cast polyester resin, black and white photographs (variable composition) 12 parts (various sizes), largest: 1800 x 1800 x 330 mm collection, Art Gallery of South Australia, Adelaide

For Mark Boyle everything is of equal value. Instead of making a conscious choice of which aspect of nature interests him most he leaves the decision to chance. By inviting people whom he blindfolded to throw a dart at a map of the world he randomly selected a thousand different sites around the globe that he intends to visit in the fullness of time and intimately record in his inimitable way. *Study of Anthills in Central Australian Desert* 1979 represents one of the many sites he has visited to date. The 'view' is divided into twelve parts – five polyester resin casts of an anthill, cracked mud and earth; and seven large electron micro-photographs of ants from the site. These arbitrary but faithfully rendered parcels of nature reinforce the idea that our perceptions are arbitrary anyway in view of the wealth of information they exclude. The mere antennae of one of these ants, viewed from this new perspective, presents a vast new terrain which, in theory at least, one could explore in similar detail.



Francois MORELLET (b. 1926) French

Chance Repetition of 40,000 Squares (Répartition Aléatoire de 40,000 Carrés) 1961 screenprint 800 x 800 mm collection, Auckland City Art Gallery

Morellet has regularly employed aleatory (from the Greek 'alea', a dice) techniques as determinants of composition details. In this work the distribution of red and blue squares, which are present in equal proportions, was governed by probability. Which square would be red, and which blue, was determined by consulting lists of numbers in a telephone directory — the last digit of each number equating with a value – ie, red or blue. This provided an effectively random list of values.

From 1952 onwards I have been making useless, therefore artistic, objects with the constant purpose of reducing to a minimum my arbitrary decisions. I have suppressed composition, removed all interest in the execution, and above all I have applied rigorously systems which are both simple and obvious. The only elements of 'fantasy' are brought about by genuine chance or by the spectator's participation. All this has been done in an atmosphere of total apathy as regards the general public. Recently however, the specialists have discovered in my 'work' according to their particular temperament, severity, mirth, nihilism, anguish, virtuosity, asceticism, etc. It has reminded them of planetary constellations, rain on puddles, 'la petite madeleine' of Proust and so on.

They are right in thinking all this, for the plastic arts must allow the spectator to find in them what he wants – that is to say what he brings to them himself. Works of art are like pic-nic areas or Spanish Inns, where one consumes what one takes there oneself.

Francois Morellet in *Contemporary Artists*, London and New York 1977 edited by C. Naylor and G. P-Orridge



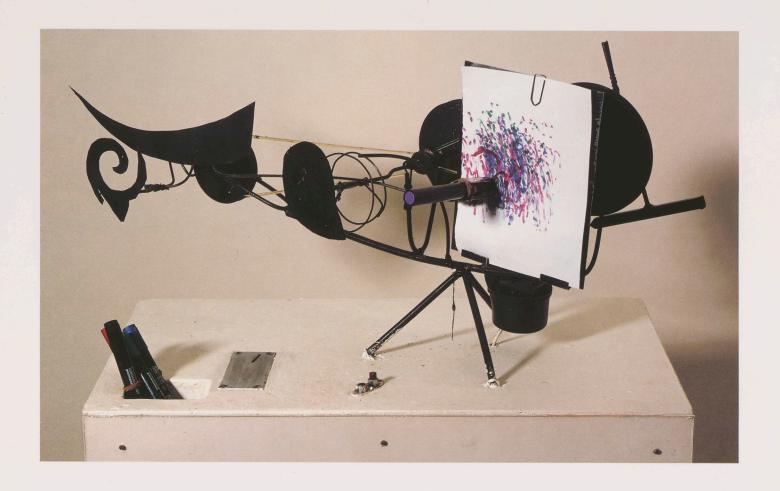
Herman de VRIES (b.1931) Dutch

Random objectivation V70-07 1969-70 480 wood blocks on wood panel, painted white 1605 x 1605 mm collection, Stedelijk Museum, Amsterdam

Probability theory, particle physics and cybernetics are moulding a new perspective of the natural world. On the subatomic level the most accurate descriptions we can give of events are probabilistic and many phenomena are attributable not to any single cause but to a very large number of independent causes, the magnitudes of which are due to chance. De Vries's 'random objectivations' might at face value seem to bear little resemblance to the natural world with which we are familiar, but in fact they are models of phenomena and processes that are occurring all about us, represented without interpretative bias according to a strictly objective system, in this case based on tables of random numbers.

I started reading the numbers from a haphazardly chosen point of the table, and gave a value to each digit. Value here means: a colour, gluing on a square or leaving it out etc.

Herman de Vries quoted in *Random Shapes*, Stedelijk Museum, Amsterdam 1975



Chance and Change a century of the avant-garde

Auckland City Art Gallery 25 October – 8 December 1985

An NZI Corporation/Auckland City Art Gallery exhibition Assisted by the Queen Elizabeth II Arts Council of New Zealand

a century of the avant-garde

As early as the sixteenth century, Leonardo da Vinci advised artists to look to the random patterns of nature for inspiration in composing their works.

Earlier still, Chinese ceramicists delighted in the accidental, random effects produced by pottery glazes. This century many artists have exploited chance phenomena, random processes, change and movement.

CHANCE and CHANGE explores this tradition, bringing together internationally, for the third time only, a

comprehensive collection of works of art which exploit chance, change and movement.

In this exhibition you will discover works of art which move, manufacture works of their own, use light, and use the sun's rays to burn patterns upon them, and works in which the artist sets up a system and then passes the result over to nature and the laws of chance.

It is an exhibition which excites the curiosity, challenges the definitions of art. If you only see one exhibition this year, make sure it's CHANCE and CHANGE.

Admission

Adults	\$5.00
Friends of the Auckland City Art Gallery	\$3.00
Senior citizens, students	\$3.00
Children, under 12 years and in school parties (all ages)	\$2.00
Family (2 adults, 2 children)	\$10.00

Hours	
Daily	10.00 am – 4.30 pm
School parties (please book in advance,	
phone 792-020 extension 697)	
Art Gallery answerphone – 30-831	

Corporate and Society Evenings

During CHANCE and CHANGE, evenings, with wine and refreshments, can be booked for groups of 250 people. For further information phone 792-020 extension 663 or 697.

CHANCE and CHANGE associated material

An attractive information folder containing reproductions, a poster and an essay will be available during the exhibition. A video introduction to the exhibition can be viewed adjacent to the exhibition.

Guided tours by docents will be available at 11.00 am and 2.00 pm daily. Tours commence near Tinguely Meta-Matic (illustrated) and last one hour. For other bookings, phone Education Service, 792-020, extension 697.

CHANCE and CHANGE lecture series

The following lectures have been organized by the Auckland City Art Gallery Education Service. Venue: Art Gallery auditorium.

29 October	7.00 pm	Alan Sonfist (New York artist): Time and Nature
5 November	7.00 pm	Professor A. S. G. Green: Chance Texts
12 November	7.00 pm	Dr Robin Woodward: Towards Kinetics
19 November	7.00 pm	Andrew Bogle: The Chance Aesthetic

Admission to Lectures

Trained to Economica	
Public	\$4.00
Friends of the Auckland City Art Gallery	\$2.00
Tickets are available in advance from the Art Gallery office. Seating limited.	



Öyvind FAHLSTRÖM (1928-76) Swedish

Section of World Map – A Puzzle 1973 screenprint on 40 vinyl squares, magnets, sheet metal back (variable composition) 457 x 711 mm published by Multiples Inc., New York collection, Auckland City Art Gallery

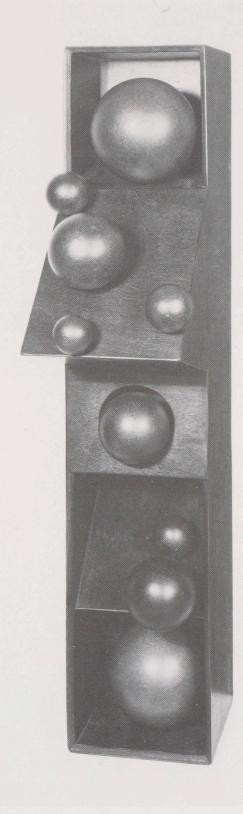
The colourful comic-book style belies the stories of corruption, suffering and oppression enacted in the interlocking frames. Exploitation of cheap labour in the Philippines; torture of political prisoners in Brazil; Watergate; death-squads in Guatemala; rape and mutilation by Tonton Macoute in Haiti; high inflation; low life-expectancy. This grim picture is divided into a grid of forty vinyl squares each attached by a small magnet to a sheet-metal back. Composition is variable, open-ended. The grid cuts across meandering national borders. Evil knows no boundaries. Corruption is universal. Megalomaniacal corporations. Oppressive regimes. Games that bigboys play. Winners and losers.

The arrangement grows out of a combination of the rules (the chance factor) and my intentions. . . . The isolated elements are thus not paintings, but machinery to make paintings. Picture and organ.

The finished picture stands somewhere in the intersection of paintings, games (type Monopoly and war games) and puppet theatre.

Just as the cut-out materializes the types, the factor of time in painting becomes material through the many, in principle infinite, phases in which the elements appear.

Öyvind Fahlström, 'Manipulating the World' 1964 in *Öyvind Fahlström*, the Solomon R. Guggenheim Museum, New York 1982



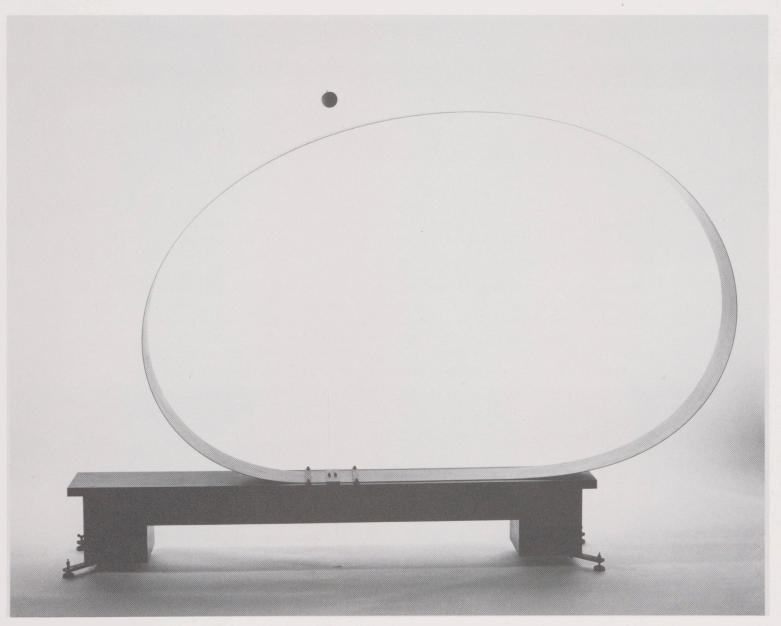
Pol BURY (b.1922) Belgian

Nine Balls on Five Planes 1964 motorized construction: wood and synthetics 1003 x 203 x 425 mm collection, Albright-Knox Art Gallery, Buffalo, New York gift of Seymour H. Knox, 1964

One's first reaction is surprise. It moved! Like a twig that suddenly becomes a stick insect. Patience reveals a conspiracy of surreptitious movements. The slowness of the wooden balls inching up and down the inclined planes erases our recollection of their journey. Indeterminacy in slow motion. Drawn by nylon threads slowly winding and unwinding on a motor-driven cam, they betray their moves with a barely audible creaking of wood on wood.

No voyage is so indecisive, so precise. But a slowness plus a slowness do not equal a quickness, on the contrary, they become intensified, they transmit to each other their acquired slowness, adding to each other in order to measure themselves, in terms of mechanics, by a subtraction.

Pol Bury, 'Time Dilates', in *Studio International*, June 1965



Len LYE Universe 1963-76

Len LYE (1901-80) New Zealander

Universe 1963-76 steel, cork, elastic thread, formica, wood electromagnets 2090 x 2700 x 280 mm collection, Len Lye Foundation, New Plymouth

The looped stainless steel band rolls back and forth as electromagnets concealed in the plinth switch on and off. There is also an aural dimension. An eerie ringing sound is produced when the up-and-down motion of the band causes it to strike against the suspended cork ball.

My tangible motion sculpture, extending the infinite variety of fundamental patterns of movement, emphasizes the beauty of motion *per se*. If Constable painted his quick oil sketch notes to convey cloud movement, he, in a sense, only pretended. Why not create cloud shapes that move in reality? . . . A limited action of chance may also be incorporated in a choreographed work. . . . This adds the important element of spontaneity and unforeseen variation within a master pattern set by the sculptor.

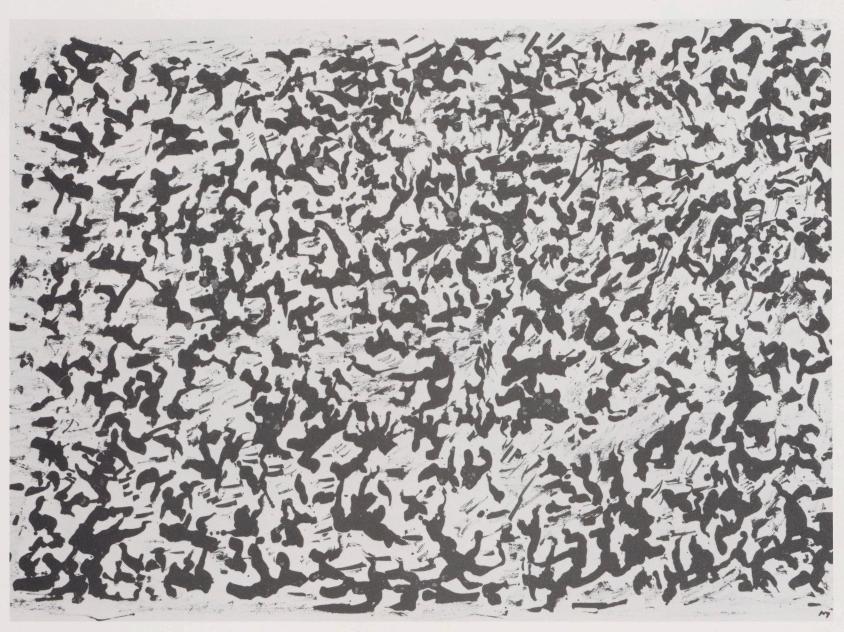
Len Lye, 'Tangible Motion Sculpture', 1961 in *Figures of Motion: Len Lye/Selected Writings*, Auckland 1984 edited by Wystan Curnow and Roger Horrocks



Daniel SPOERRI (b. 1930) Romanian

Marcel Duchamp's Dinner 1964 cutlery, dishes and napkins mounted on wood 657 x 536 x 120 mm collection of Arman, New York

Taking his cue from Duchamp, whose 'readymades' advanced the idea that anything can be a work of art simply by an act of will, Daniel Spoerri invented the 'snare-picture'. This consists of a number of common objects arranged by chance, such as the items of *Marcel Duchamp's Dinner*, which Spoerri glues to their supporting surface, in the exact positions he finds them, and hangs as a picture, the only alteration being the plane. The 'snare-picture' represents a slice of reality, an isolated moment in time. Every object tells a story and any arrangement of objects such as the remains of Duchamp's meal represents the residue of specific human actions and interactions that extend, like the roots of a tree, into the matrix of society. The principle that any object associated with an event is a key to apprehending that event, is the underlying thought behind religious relics such as thorns and splinters from the Crucifixion. It is also a key to forensic science. In his book, *An Anecdoted Topography of Chance*, Spoerri systematically reconstructs the histories of assorted items of food and common objects on his kitchen table, like a detective reconstructing the events leading up to a murder from exhibits found at the scene of the crime.



Henri MICHAUX (untitled) 1961

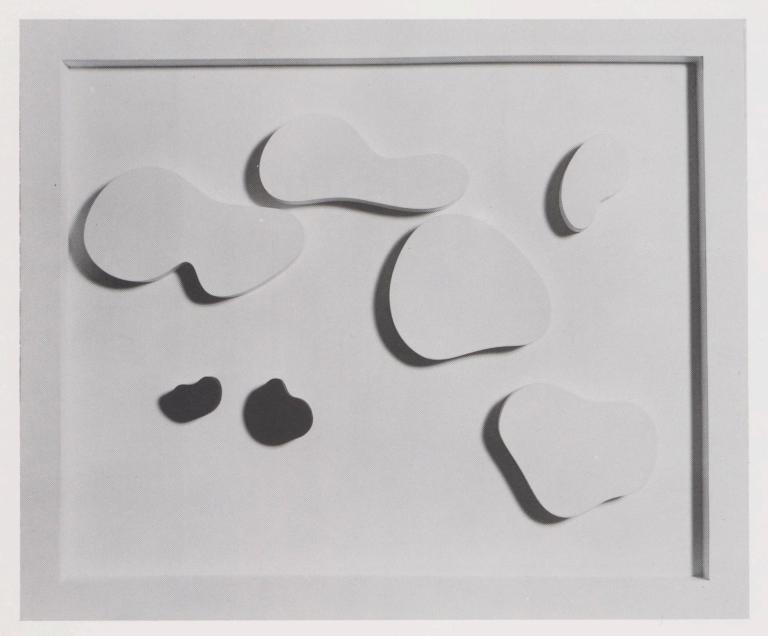
Henri MICHAUX (b. 1899) French

(untitled) 1961 indian ink on paper 750 x 1055 mm collection, Albright-Knox Art Gallery, Buffalo, New York gift of Seymour H. Knox, 1975

Unmistakably Michaux's, the ink blot drawings nevertheless have a universal quality, evoking a multiplicity of images like a Rorschach ink blot that mirrors our subconscious. Flocks of migrating birds, swarming ants, shoals of small fish, the first spots of water from a cloudburst, a secret script, stampeding wildebeest, armies doing battle, a riot, the Milky Way, speckled birds' eggs, African dancers – they are all these and more. There is no specific scale, no single point of attention. The eye roves over the energized forms at random.

What does it matter what these spots may 'mean', or what can be seen in them – a running animal, an armed warrior or a tree struck by lightning. More than ever, speed, chance and automatism alone are in control here, the only design is that of making the impatient tide of some deep torrent well up – the expressing of pure energy rather than the formation of signs.

Rene Bertile, quoted in *Henri Michaux*, the Solomon R. Guggenheim Museum, New York 1978



Jean ARP Constellation with Five White and Two Black Forms: Variation 2 1932

Jean ARP (1887-1966) French

Constellation with Five White and Two Black Forms: Variation 2 1932 painted wood relief 701 x 856 x 36 mm the Sidney and Harriet Janis Collection gift to the Museum of Modern Art, New York

Based on chance relationships of elements, the 'constellations' strike a balance between integration and disintegration. Like pebbles on a beach, or leaves under a tree, the (dis) arrangement is non-hierarchic and equally valid from whichever way it is looked at. A reaction to the rectilinear rigidity of Cubist composition, the 'constellations' are composed of biomorphic shapes. Paired values such as convex and concave, black and white, chance and design, surface and object, contribute to an assymetrical balance founded on the idea of complementarity, or the unity of opposites, analagous to counterpoint in music.

Chance opened up new perceptions to me, immediate spiritual insights. Intuition led me to revere the law of chance as the highest and deepest of laws, the law that rises from the fundament.

Jean Arp, 'Dada was not a Farce' 1949 in *The Dada Painters and Poets: An Anthology*, New York 1951 edited by Robert Motherwell

Chance and Change a century of the avant-garde

Introduction and Checklist

Auckland City Art Gallery 25 October – 8 December 1985

An NZI Corporation/Auckland City Art Gallery exhibition Assisted by the Queen Elizabeth II Arts Council of New Zealand

INTRODUCTION

This is the third exhibition only to explore the use of *chance* and *change* by artists. The first, 'Against Order: Chance and Art' was organized by the Institute of Contemporary Art of the university of Pennsylvania at the end of 1970, and the second, also a university-based project and entitled 'Toeval' (Chance), was organized in 1972 by the Rijksuniversiteit, Utrecht.

The exploration of chance phenomena, of indeterminacy, of randomness, of controlled accident, and the exploration of change and movement is one of the most fascinating chapters in the history of twentieth-century art.

As this exhibition, *Chance and Change*, demonstrates, delight in random patterns and chance effects does not originate in our time. Instead, twentieth-century artists have developed it as a *raison d'être* for new work. Disorder becomes the means by which artists seek a new order with new forms and new relationships. *Chance* is the liberating element in their quest for an aesthetic independent of the impulses of the past.

This exhibition surveys the extremely diverse uses of chance in art. It is not a definitive show by any means, but it does include a rich diversity of artists' concerns. We are indebted to the museums and collectors who have so generously lent works, some of them extremely fragile and vulnerable. Our programme of international exhibitions rests entirely upon the generosity of such people, often very remote from our shores.

It is also appropriate that we should take this opportunity to thank the Edmiston Trust for their magnificent gift of George Rickey's *Double L Gyratory*. This impressive sculpture, so beautifully and gracefully exploiting random movement, now graces the Gallery's sculpture court adjacent to the main entrance. It is especially pleasing to be able to launch a new sculpture acquisition in tandem with an exhibition that provides a rich and appropriate context for it.

The Gallery is delighted that NZI Corporation have again joined with us in bringing an important international exhibition to the New Zealand public. We are also extremely grateful to the Queen Elizabeth II Arts Council for its support of the curator, Andrew Bogle's, research and for funding assistance with the show.

Finally I would like to thank Andrew Bogle for his very able preparation of the show, as well as the various staff who have contributed to its realization. *Chance and Change* comes at the end of a memorable year for the Auckland City Art Gallery, an exciting and stimulating conclusion.

T. L. Rodney Wilson Director

CHECKLIST

Note

Artists are listed alphabetically.

Nationality usually indicates country of birth, but sometimes country of adoption. Original titles are given in brackets where translated into English. All measurements are in millimetres; height precedes width; and both precede depth for 3-dimensional works.

ARMAN (b.1928) French

1 Frozen Civilization 1971 garbage embedded in plastic 1219 x 914 x 209 mm collection of the artist, New York

Jean ARP (1887-1966) French

- 2 Squares Arranged According to the Laws of Chance 1917 cut and pasted paper, gouache, ink and bronze paint 332 x 259 mm collection, The Museum of Modern Art, New York gift of Philip Johnson
- 3 Constellation with Five White and Two Black Forms:
 Variation 2 1932
 painted wood relief
 701 x 856 x 36 mm
 the Sidney and Harriet Janis Collection
 gift to the Museum of Modern Art, New York

Stephen BAMBURY (b.1951) New Zealander

4 *Dead-pan and Ritualistic No. 1* 1978 creosote and plaster on wood (variable composition) 3 parts (various sizes), largest: 125 x 125 x 80 mm Artis Gallery, Auckland

Mark BOYLE (b. 1934) Scottish

5 Study of Anthills in Central Australian Desert 1979 earth, cast polyester resin, black and white photographs (variable composition)
12 parts (various sizes), largest: 1800 x 1800 x 330 mm collection, Art Gallery of South Australia, Adelaide

George BRECHT (b.1924) American

6 Pocket Event-Glass 1985
plate glass with 'EVENT' etched in upper right corner, enclosed in leather case
60 x 140 x 6 mm
Gilbert and Lila Silverman Collection,
Southfield, Michigan

Alberto BURRI (b.1915) Italian

7 *Combustione Plastica* 1964 burned plastic 508 x 1245 mm collection of the artist, Los Angeles 8 Cretto Nero L.A. 1978
cracked paint
1384 x 1549 mm
collection of the artist, Los Angeles

Pol BURY (b.1922) Belgian

- 9 *Nine Balls on Five Planes* 1964 motorized construction: wood and synthetics 1003 x 203 x 425 mm collection, Albright-Knox Art Gallery, Buffalo, New York gift of Seymour H. Knox, 1964
- 10 1053 White Dots 1964 motorized construction: nylon wires in wood panel 1384 x 689 x 178 mm collection, Hirshhorn Museum and Sculpture Garden Smithsonian Institution, Washington D.C.

John CAGE (b. 1912) American

- 11 17 Drawings by Thoreau 1978
 photo-etching and aquatint (colour unique)
 625 x 925 mm
 published by Crown Point Press, Oakland, California collection, Auckland City Art Gallery
- 12 Changes and Disappearances #7 1979
 photo-etching and aquatint (edition of 2)
 112 x 212 mm
 published by Crown Point Press, Oakland, California collection, Auckland City Art Gallery

Alexander CALDER (1898-1976) American

13 *Zarabanda* 1955
mobile: painted sheet metal, metal rods and wire
838 x 2273 x 546 mm
collection, Hirshhorn Museum and Sculpture Garden
Smithsonian Institution, Washington D.C.

Alexander COZENS (c. 1717-86) English

- 14 Plate no. 12 from 'A New Method of Assisting the Invention in Drawing Original Compositions of Landscape' 1785
 aquatint (after ink transfer)
 321 x 240 mm
 collection, the trustees of the Victoria and Albert Museum, London
- 15 Plate No. 16 from 'A New Method of Assisting the Invention in Drawing Original Compositions of Landscape' 1785 aquatint (after ink transfer) 321 x 240 mm collection, the trustees of the Victoria and Albert Museum, London

Neil DAWSON (b.1948) New Zealander

16 Sunset Construction (Oxidation) 1984 copper sheet 610 x 1090 mm collection of the artist, Christchurch

Hugo DEMARCO (b. 1932) Argentinian

17 Images Variables
motorized construction: wire, cork, painted wood
1140 x 1140 x 200 mm
collection, Power Gallery of Contemporary Art,
University of Sydney

Oscar DOMINGUEZ (1906-57) French

18 (untitled) 1936-7
ink transfer (decalcomania)
166 x 249 mm
collection, The Museum of Modern Art, New York
the Joan and Lester Arnet Collection

Jean DUBUFFET (b.1901) French

19 The Bearded Sea (La Mer de Barbe) 1959 oil on canvas 1160 x 890 mm Galerie Beyeler, Basel

Marcel DUCHAMP (1887-1968) French

- 20 Draft Piston (Piston de Courant d'Air) 1914
 photograph
 588 x 500 mm
 note: this is a facsimile of the original in the collection
 of Mme Marcel Duchamp
- 21 Rotary Demisphere [Precision Optics]
 (Rotative Demisphere [Optique de precision]) 1925
 motor-driven construction: painted wood demisphere,
 fitted on black velvet disk, copper collar with plexiglass
 dome, motor, pulley and metal stand
 1486 x 642 x 609 mm
 collection, The Museum of Modern Art, New York
 gift of Mrs William Sisler and the Edward James Fund,
 1970
- 22 Box in a Valise (Boîte-en-Valise) 1941
 leather valise containing miniature replicas, photographs and colour reproductions of works by Duchamp 407 x 381 x 102 mm collection, National Art Gallery, Wellington bequest of Judge Julius Isaacs, New York, 1983

EXQUISITE CORPSE (Cadavre Exquis)

composite drawing by (top to bottom): Yves Tanguy, Joan Miro, Max Morise and Man Ray

23 Nude 1926-7
pen and ink, pencil, colour crayon
362 x 229 mm
collection, The Museum of Modern Art, New York.
purchase

Öyvind FAHLSTRÖM (1928-76) Swedish

24 Section of World Map – A Puzzle 1973 screenprint on 40 vinyl squares, magnets, sheet metal back (variable composition) 457 x 711 mm published by Multiples Inc., New York collection, Auckland City Art Gallery

Florentine School (late 17th or early 18th century)

25 *The Adoration of the Shepherds*oil on marble, laid on slate
184 x 270 mm
collection, the trustees of the Victoria and Albert
Museum, London

Terry FOX (b.1943) American

26 Pendulum Spit-bite 1977
spit-bite aquatint
1015 x 1220 mm
published by Crown Point Press, Oakland, California
collection, Auckland City Art Gallery

Sam FRANCIS (b.1923) American

27 Indigo Wood 1984
lithograph
1520 x 1260 mm
published by Gemini G.E.L., Los Angeles
collection, Auckland City Art Gallery

Gerhard von GRAEVENITZ (1934-83) German

- 28 Kinetic Object: 2 Stripes 1976 motorized construction: wood, plastic, metal 1500 x 1000 mm collection, Antje von Graevenitz, Amsterdam
- 29 Series IV with 20 Serigraphs 1971 screenprint 560 x 560 mm each published by Laube, Munich collection, Antje von Graevenitz, Amsterdam

Hans HAACKE (b.1936) German

30 *Large White Sail* 1965-6 chiffon, oscillating fan, fishing weights, thread chiffon: 2438 x 2438 mm collection of the artist, New York

Jo HANSON (b.1928) American

- 31 Messages from the Street 1970-present litter (objets trouvés) enclosed in plastic covers in notebook binders (incomplete) 5 binders: 298 x 267 x 57 mm each collection of the artist, San Francisco
- 32 Sidewalks that Speak: Messages from Market Street, San Francisco 1978 white etching ink on natural muslin stained with indian ink 3912 x 1194 mm collection of the artist, San Francisco
- 33 Confessions of a Streetsweeper 1980-5 audio-visual presentation: 80 35 mm slides with audio-cassette tape collection of the artist, San Francisco

Michael HEIZER (b. 1944) American

34 Scrap Metal Drypoint No. 3 1978
 drypoint
 914 x 2159 mm
 published by Gemini G.E.L., Los Angeles collection, Auckland City Art Gallery

Dick HIGGINS (b. 1938) American

35 *Graphis #192b (first version)* 1982 silver bromide print 355 x 278 mm collection of the artist, New York

Victor-Marie HUGO (1802-85) French

- 36 (untitled) c. 1856 brown ink wash on white paper 115 x 242 mm private collection, Dijon
- 37 (untitled) c. 1853-5
 blue and brown ink wash (with two circular blots) on
 white paper
 379 x 241 mm
 private collection, Dijon

John HURRELL (b.1950) New Zealander

38 43° 32" 1" "Pasto Appassionato" 172° 38' 16" E 1985 acrylic and felt-tip marker on maps 2880 x 4347 mm collection of the artist, Christchurch

Jasper JOHNS (b. 1930) American

39 Good Time Charley 1972 lithograph 1118 x 736 mm published by Gemini G.E.L., Los Angeles collection, Auckland City Art Gallery

Joe JONES (b. 1934) American

40 *Paul's Piece* 1980 zither, wire, battery-powered motor, rubber beaters 560 x 330 x 195 mm Gilbert and Lila Silverman Collection, Southfield, Michigan

Alison KNOWLES (b.1933) American

41 *Onion Skin Song* 1982 blueprint 2894 x 914 mm collection of the artist, New York

Sol LeWITT (b.1929) American

42 Instructions for Tokyo Biennale, 1970 ink on paper
2 sheets: 254 x 203 mm each
Gilbert and Lila Silverman Collection,
Southfield, Michigan

Len LYE (1901-80) New Zealander

- 43 Fountain c.1959
 motorized construction: steel rods, formica, wood
 2700 x 1600 x 1600 mm
 collection, Len Lye Foundation, New Plymouth
- 44 *Universe* 1963-76 steel, cork, elastic thread, formica, wood, electromagnets 2090 x 2700 x 280 mm collection, Len Lye Foundation, New Plymouth

George MACIUNAS (1931-78) American

- 45 (untitled) c.1960 indian ink on white formica, laminated on plywood 505 x 417 mm Gilbert and Lila Silverman Collection, Southfield, Michigan
- 46 Music for Everyman 1961 blueprint negative 1228 x 304 mm published by the artist Gilbert and Lila Silverman Collection, Southfield, Michigan
- 47 Diagram of Historical Development of Fluxus and other 4 Dimensional, Aural, Optic, Olfactory, Epithelial and Tactile Art Forms (Incomplete) 1973 unknown reproductive process, possible photostat or offset, on white paper, two sheets glued together vertically 585 x 1755 mm published by the artist Gilbert and Lila Silverman Collection, Southfield, Michigan

Cork MARCHESCHI (b. 1945) American

48 Electric Box
neon tubes, electric transformer, metal, wire, in wood box
609 x 457 x 165 mm
Glibert and Lila Silverman Collection,
Southfield, Michigan

Kenneth MARTIN (1905-84) English

49 Chance and Order IV 1972
 screenprint
 685 x 685 mm
 published by Waddington Galleries Ltd, London collection, Auckland City Art Gallery

David MEDALLA (b. 1942) Filipino

50 Cloud Canyons c. 1967-85
motorized construction: aquarium air pumps, plastic tubing, fibreglass pipe, water, detergent 4000 x 3000 mm collection, Auckland City Art Gallery

Henri MICHAUX (b. 1899) French

51 (untitled) 1961 indian ink on paper 750 x 1055 mm collection, Albright-Knox Art Gallery, Buffalo, New York gift of Seymour H. Knox, 1975

Gustave MOREAU (1826-98) French

52 The Temptation of Saint Anthony c.1890 watercolour, gouache on paper 135 x 240 mm collection, Musée Gustave Moreau, Paris

Francois MORELLET (b.1926) French

53 Chance Repetition of 40,000 Squares (Répartition Aléatoire de 40,000 Carrés) 1961 screenprint 800 x 800 mm collection, Auckland City Art Gallery

Wolfgang PAALEN (1905-59) Austrian

54 (untitled) 1938
coloured inks
551 x 722 mm
collection, The Museum of Modern Art, New York
gift of Mrs Milton Weill

Jonathan PRICE (b.1945) American

55 Instructions for I-Ching Piece 1977
 mixed media on paper
 2 sheets: 565 x 438 mm each
 Gilbert and Lila Silverman Collection,
 Southfield, Michigan

Charles ROSS (b.1937) American

- 56 Sunlight Convergence/Solar Burn 1972
 3 painted wood panels (partly charred) from series of 365
 1524 x 304 mm each
 Gilbert and Lila Silverman Collection,
 Southfield, Michigan
- 57 Sunlight Convergence/Solar Burn 1972 photographs, pencil on paper 584 x 762 mm Gilbert and Lila Silverman Collection, Southfield, Michigan

Alan SONFIST (b.1946) American

58 Andover Trees 1972
charcoal rubbing on unstretched canvas
2185 x 3550 mm
collection, Power Gallery of Contemporary Art,
University of Sydney

Jesus Raphael SOTO (b. 1923) Venezuelan

59 London Writing (Ecriture de Londres) 1965 wire, nylon thread, painted wood, paper 1019 x 1721 mm collection, National Gallery of Victoria, Melbourne Felton Bequest, 1966

Daniel SPOERRI (b.1930) Romanian

60 Marcel Duchamp's Dinner 1964 cutlery, dishes and napkins mounted on wood 657 x 536 x 120 mm collection of Arman, New York

Yves TANGUY (1900-55) French

61 (untitled) 1936
ink transfer (decalcomania)
323 x 500 mm
collection, The Museum of Modern Art, New York
the Alva Gimbel Fund

Jean TINGUELY (b.1925) Swiss

62 Meta-Matic No. 8. "Meta-Moritz" 1959 motorized construction: iron on wood base 305 x 635 mm collection, Moderna Museet, Stockholm

Herman de VRIES (b. 1931) Dutch

63 Random Objectivation V70-07 1969-70 480 wood blocks on wood panel, painted white 1605 x 1605 mm collection, Stedelijk Museum, Amsterdam

Chance and Change in the new arts

by Andrew Bogle

Auckland City Art Gallery New Zealand 1985

Historical Background

In 1894 August Strindberg (1849-1912) published a radical essay entitled 'The New Arts, or The Role of Chance in Artistic Creation' in which he predicted the thrust of the most innovative art of this century. "The art to come (and go like all the others!): Imitating nature almost; above all imitating nature's way of creating!" 'The New Arts' is a pot-pourri of Strindberg's own experiments with chance (he dabbled in painting), historical precedents such as the aeolian harp and the kaleidoscope, and some of Strindberg's ideas for inventions such as a musical kaleidoscope made from a music box, the drum of which would be pierced at random.

After the publication of 'The New Arts' chance played an increasingly important role in Strindberg's writings as a result of the instability of his visual perceptions. Unsettled by privation, absinthe and emotional stress, Strindberg's mind became excited to the point of hallucinating. His short autobiographical novel, *Inferno*, abounds with his hallucinatory experiences, many of which were triggered by an insignificant shape such as a puddle of water in the street, or a splash of ink in his writing paper, or a humble object seen in an ambiguous light.

. . . I was never haunted by visions, but real objects did often appear to me as being endowed with human shapes, often producing effects of startling grandeur. My pillow for example, pushed out of shape during my afternoon nap, presented me with heads sculptured in the style of Michelangelo.²

On another occasion the zinc bowl he used in his alchemy experiments revealed

A landscape formed on its curved interior by residues of evaporating iron salts. . . . There are hills covered with coniferous trees, especially firs; then, between these rounded hills, plains covered with fruit trees, fields of wheat, the whole indicating the presence of a river nearby. One of the hills, with precipitous cliffs of stratified rock has a ruined castle on its summit.³

Among his Inferno experiences Strindberg relates several which accord closely with the pictorial experiments of the great French poet and novelist, Victor Hugo (1802-85), the leader of the French Romantic movement. Although it is not widely known, Hugo was a superb amateur artist whose innovative drawings often incorporate automatic rubbing, ink transfer and stencilling techniques that the Surrealists were later to explore in greater depth. In fact in the 1920s the Surrealists adopted Hugo as a precursor of their movement, though on account of his writings rather than his drawings which they appear not to have known about. Some of Hugo's drawings, especially those which have crystallized around an accidental shape, such as an ink blot [36, 37] or coffee stain on his writing paper, suggest that he practised this form of pictorial improvisation as a distraction from writing or in order to express certain images in a more informal and immediate way than was possible verbally. From these spontaneous forms and textures Hugo fashioned fantastic landscapes with alpine lakes; dark castles with drawbridges and hanged men; and coastal scenes with raging seas, lighthouses, shipwrecks, and even a sea giant. The following passage from Strindberg's Inferno parallels Hugo's objective methods and subconscious imagery:



Victor HUGO (untitled) c.1853-5 blue and brown ink wash, 379 x 241 mm private collection, Dijon



Florentine School (17th or 18th century)

The Adoration of the Shepherds
oil on marble, 184 x 270 mm
collection, the trustees of the Victoria and Albert Museum, London

In the afternoon, as I sat writing at my table in front of the window, a storm broke. The first drops of rain blew in on my manuscript and splashed on it in such a way that the letters making up the word "alp" ran together and made a blot like a giant's face.

In a similar vein the French Symbolist painter Gustave Moreau (1826-98) improvised *The Temptation of St. Anthony* c.1890 [52] from random blots of ink in which he divined the anguished figure of St. Anthony surrounded by apparitions of grimacing heads and chimerical beasts. He then clarified these 'hidden' forms with additional lines by his own hand so that the final image represents a collaboration of chance and design.

While late nineteenth-century Romanticism was responsible for a growing acceptance among artists and poets of chance as a vital creative principle, historical precedents can be found as far back as the Italian Renaissance. Giorgio Vasari, in his book, *Lives of the Most Famous Painters* (1550), relates that Piero di Cosimo divined in the stains on a wall that sick people habitually spat on "equestrian battles, fantastic towns and the most magnificent landscapes" which he converted to paintings. Apparently he did the same with the clouds in the sky. Di Cosimo's method, as Vasari describes it, is a copybook realization of Leonardo's famous lesson to artists in his *Treatise on Painting* (c.1498):

Do not despise my opinion, when I remind you that it should not be hard for you to stop sometimes and look into the stains of walls, or the ashes of a fire, or clouds, or like things, in which if you consider them well, you will find really marvellous ideas. The mind of the painter is stimulated to new discoveries, the composition of battles of animals and men, various compositions of landscapes and monstrous things, such as devils and similar creations, which may bring you honour, because the mind is stimulated to new inventions by obscure things. ⁶

Although Leonardo and Piero di Cosimo both recognized the creative potential of random textures and shapes, neither appears to have used them directly in their work. Andrea Mantegna (1431-1506) and Carlo Crivelli (active 1457-93) devised a way of incorporating marbling - chance patterns usually associated with decorative endpapers of books - into their paintings. But the most imaginative realization of Leonardo's lesson is a class of paintings on slices of veined marble, invented by some anonymous North Italian or South German artist around the seventeenth century. This innovation was taken up by other artists of the area who adapted traditional religious subjects such as the Nativity. The Adoration of the Shepherds [25] is an example of the technique. By adopting the natural configurations of the marble as a readymade naturalistic backdrop, such as a grotto or an alpine scene. and simply painting in the figures, these artists produced pictures that meet nature on its own ground.

In 1785 or 1786 the British landscape artist Alexander Cozens (1717-86), published a treatise entitled *A New Method of Assisting the Invention in Drawing Original Compositions of Landscape*, in which he described a way in which chance could assist the artist to generate landscape compositions founded "on the general principles of nature" instead of an imitation of "individual nature". Cozens's method utilized ink blots made from sketches produced with the "swiftest hand". He explained:

To sketch in the common way, is to transfer ideas from the mind to the paper or canvas in outlines, in the slightest manner. To blot is to make varied spots and shapes without lines, from which ideas are presented to the mind. This is conformable to nature: for in nature forms are not distinguished by lines but by shade and colour. To sketch, is to delineate ideas; blotting suggests them. . . . ⁷

As a drawing master and a prolific deviser of systems, Cozens's aim was to provide his students and other artists – Joseph Wright of Derby and George Romney subsequently experimented with blots – with a method of producing landscapes that derived neither from the Old Masters nor from "nature herself". To illustrate *A New Method* Cozens made aquatints from some of his most spirited blots. The beautiful examples [14, 15] exhibited here testify to the efficacy of his novel technique.

In the late eighteenth century Staffordshire potters discovered that a colorant of an acid nature, called 'tea', applied as a blob or a simple line to an alkaline ground colour, produced a chemical reaction resulting in curious tree-like growths. By carefully tilting his vessel to control the direction of these 'growths' the potter could artfully contrive an automatic landscape image. Generally confined to a range of utilitarian wares, such as beer-mugs, this type of decoration, called 'mocha', usually takes the form of a dark frieze of trees around the base of the vessel silhouetted against a pale slip-glaze.

During the Sung Dynasty (AD960-1279) in China, Chun potters discovered that at extremely high temperatures spots of copper in their glaze oxidized during firing to produce crimson and purple splashes called 'flambé', an indeterminate effect they employed with exquisite restraint.

Chemically related to 'flambe' is a range of random glaze effects of the 'temmoku' variety, to which Chinese potters gave such names as "hare's fur" and "partridge markings", caused by ferric oxide in glaze aggregating in streaks and spots in a microcrystalline structure. Originally fortuitous occurrences, potters learnt how to precipitate them at will, although the details of the patterns were contingent on a host of indeterminate variables.

That the Chinese potter consciously sought to emulate nature's mode of decoration is evident in the following stanza from a Chinese poem:

Let neither man nor animal wandering through the forest recognise the potter's work therein arranged.8

Dada and Duchamp

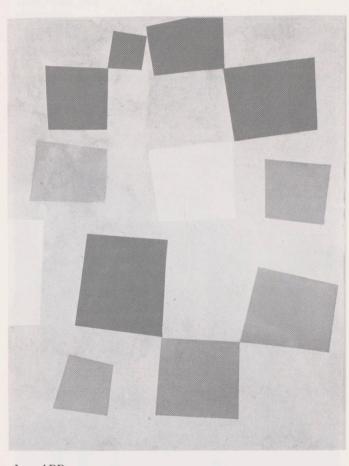
While the above cases show that chance has long played a creative role, albeit a specialized one, in Eastern and European art, it was the early decades of the twentieth century that saw it most enthusiastically adopted by artists and poets, first by the Dadaists, and later by the Surrealists. Of the Dadaists who used chance, Marcel Duchamp, Tristan Tzara, Hans Arp, Hans Richter and Max Ernst were its main exponents.

Chance was seen by these artists as a way of subverting the traditional hierarchy of values and giving expression to something deeper and more basic. The carnage of the First World War demanded a re-evaluation of the premises of Western civilization. If reason and passion were responsible for



Alexander COZENS

Plate No. 12 from 'A New Method of Assisting the Invention in Drawing Original Compositions of Landscape' 1785 aquatint (after ink transfer), 321 x 240 mm collection, the trustees of The Victoria and Albert Museum, London



Jean ARP Squares Arranged According to the Laws of Chance 1917 cut and pasted paper, gouache, ink and bronze paint 332 x 259 mm collection, The Museum of Modern Art, New York gift of Philip Johnston

the deaths and mutilation of millions of people then a radical response was called for. "Dada," wrote Hans Arp, "wished to destroy the hoaxes of reason and to discover an unreasoned order."

Rational answers, these artists felt, would only perpetuate the vicious cycle. But chance, spontaneity and the unconscious were antidotes to logic and the laws of causality. To find new solutions the human mind had to put itself into positions that of its own conscious volition it could not achieve. As Hans Richter (1888-1976) put it:

Chance appeared to us as a magical procedure by which one could transcend the barriers of causality and of conscious volition, and by which the inner eye and ear became more acute, so that new sequences of thoughts and experiences made their appearance. For us chance was the 'unconscious mind' that Freud had discovered in 1900.10

Arp's collages, generically called 'Arranged According to the Laws of Chance', incorporated chance in the form of fluttering scraps of paper he let fall on to a flat surface. These formed the starting point for a new non-hierarchic type of composition that strikes a balance between integration and disintegration. In *Squares Arranged According to the Laws of Chance* 1917 [2] something other than pure chance seems to have had a hand in the final composition. When challenged some years later Arp conceded that in a number of the early works chance was simply a point of departure, although he subsequently gave it greater rein.

From these collages Arp developed his 'constellations,' or painted reliefs of cut-out shapes of wood. The randomly composed biomorphic forms of the 'constellations' embody the idea of simultaneity, or organization independent of causal relationships. This principle, significantly, accounts for the apparent proximity of stars in the night sky to one another even though they may be separated by hundreds of thousands of light-years. In *Constellation with Five White and Two Black Forms: Variation 2* 1932 [3] paired values such as positive and negative, biomorphic and geometric, surface and object, abstract and figurative and chance and design contribute to a new type of balance, independent of conventional formal relations, founded on complementarity or the unity of opposites.

In his Dada *Manifesto on Feeble Love and Bitter Love* (c. 1918) Tristan Tzara (1896-1964) outlined a recipe for a poetry of chance:

To make a dadaist poem

Take a newspaper

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

Then cut out each of the words that make up this article and Shake it gently [put them in a bag

Then take out the scraps one after the other in the order in Copy conscientiously [which they left the bag

The poem will be like you

And here you are a writer, infinitely original and endowed with a sensibility that is charming, though beyond the understanding of the vulgar.¹¹

Five years earlier Apollinaire composed a poem, 'Rue Christine Monday' (*Lundi Rue Christine*) by writing down scraps of conversation he overhead in a café in the rue Christine in the form of a verbal collage. The following stanza from the poem

demonstrates the immediacy and realism of this aural simultaneity:

Those pancakes are delicious
Got the clap
A dress as black as her fingernails
It's completely impossible
Here you are sir
A malachite ring
There's sawdust on the floor
So it's true
The red-headed waitress eloped with the man from the

[bookshop. 12

The poetics of disintegration was a subject very much in the air in Paris at the time. A year earlier Marcel Duchamp (1887-1968) composed his *Musical Erratum* 1913 (scored for three voices) by picking musical notes, written on slips of paper, out of a hat. And in 1919 Duchamp sent instructions from Buenos Aires to his sister Suzanne and her husband Jean Crotti, in Paris, to hang a geometry book out on the balcony of their apartment where, as Duchamp later said in an interview ". . . the wind had to go through the book, choose its own problems, turn and tear out the pages". ¹³ In this way, he maintained, "the treatise got the facts of life". The title for this ephemeral work was *Unhappy Readymade*. Impermanence was now a conscious principle in art. Richter summarized the new attitude:

The official belief in the infallibility of reason, logic and causality seemed to us senseless – as senseless as the destruction of the world and the systematic elimination of every particle of human feeling. This was the reason why we were forced to look for something which would re-establish our humanity. What we needed to find was a 'balance between heaven and hell', a new unity combining chance and design. We had adopted chance, the voice of the unconscious – the soul, if you like – as a protest against the rigidity of straight-line thinking. ¹⁴

Duchamp used chance ("my chance") to create his own crooked units of measurement, possibly inspired by Einstein's theory of relativity which in 1913 was getting superficial attention from the media.

By dropping a one-metre-long sewing thread from a height of one metre on to a horizontal surface he obtained a wavy line which was a product of chance. By repeating this operation twice, and tracing each of the three configurations, he was able to cut templates from slats of wood that match the curves of the pieces of thread.

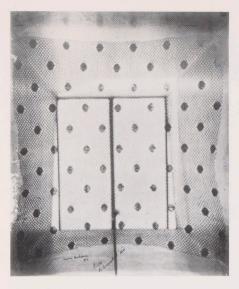
He subsequently used these three wavy rulers, or 3 Standard Stoppages 1913-14 to draw the Capillary Tubes that feature in several of his paintings such as Network of Stoppages 1914 and his most important work, The Bride Stripped Bare by her Bachelors, Even (The Large Glass) 1915-23. The Large Glass as it is more commonly called, was for Duchamp a kind of apotheosis of chance, since it played a major part in several aspects of the work. The precise shapes of the three squarish openings called the Draft Pistons, in the painted cloud or Blossoming near the top of the work, were determined by suspending a one-metre square piece of net curtain above a radiator, where rising currents of warm air disturbed it, and photographing it three times. Draft Piston 1914 [20] is a facsimile of the only extant photograph produced by this



Marcel DUCHAMP

3 Standard Stoppages 1913-14 assemblage: three threads glued to three printed canvas strips 133 x 1200 mm:

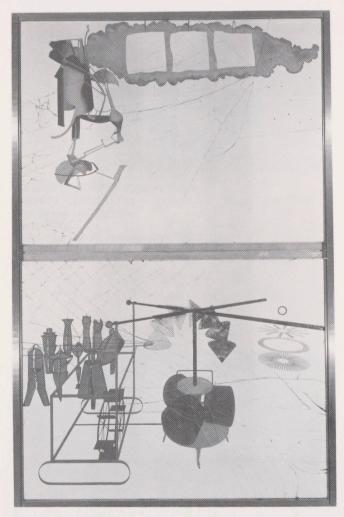
each mounted on a glass panel, 184 x 1254 x 6 mm; three wood slats 62 x 1092 x 2 mm, 61 x 1194 x 2 mm, 63 x 1097 x 2 mm collection, The Museum of Modern Art, New York. Katherine S. Dreier Bequest



Marcel DUCHAMP

Draft Piston 1914

photograph
588 x 500 mm
collection, Mme Marcel Duchamp,
Villiers-sous-Grez



Marcel DUCHAMP

The Bride Stripped Bare by Her Bachelors, Even
[The Large Glass] 1915-23
oil, varnish, leadfoil, lead wire and dust on two glass panels
(cracked), each mounted between two glass panels, with five glass
strips, aluminium foil, and a wood and steel frame
2275 x 1758 mm
collection, Philadelphia Museum of Art.
bequest of Katherine S. Dreier, 1953

exercise, in the collection of Mme Marcel Duchamp. The nine points, or Shots, at the top right corner of the Bachelors' Glass, were located by firing matchsticks dipped in paint from a toy cannon, three times, from three different locations. Although each shot missed its designated target it left a mark which was recorded on the glass.

By entrusting such compositional decisions in the *Large Glass* to chance, and by using unusual and impersonal materials such as plate glass (the idea being that the changing images seen through it became part of the work), lead foil, lead wire, aluminium foil and even dust (which he fixed with varnish for the Sieves), Duchamp, ironically, created an artwork that is substantially personalized.

Duchamp felt precision was necessary to demonstrate chance with the greatest fidelity, and to this end he employed the drawing methods of the technical draughtsman. "By using the technique of mechanical techniques there is no taste possible. A mechanical drawing has no taste in it."15 In 1923 he decided no further work on the Large Glass was possible and the unfinished work was exhibited publicly for the first time in 1926, at the Brooklyn Museum. While it was being returned to its owner after the exhibition the work bounced in its crate and was shattered into long arcing shards that bear an uncanny resemblance to the superimposed Capillary Tubes. When Duchamp discovered the disaster he was unperturbed and in the perfect spirit of 'meta-irony' ("there is no solution because there is no problem")¹⁶ he embraced this unplanned intervention of chance as a necessary addition. In 1936 he painstakingly reassembled the broken panes of glass with lead wire and varnish and, with its fortuitous network of cracks, the work was complete. Chance had achieved what Duchamp of his own volition had been unable to achieve - a truly objective physical manifestation of spontaneity.

An essential part of Duchamp's creative process was the divination of forms by chance. This was done by repeating each operation three times (dropping three pieces of thread in the *3 Standard Stoppages*, photographing the net curtain buffeted by air currents three times for the Draft Pistons; and firing three matchsticks three times from three different locations to obtain the nine Shots), operations that recall the tossing of three coins to select a hexagram from the *I-Ching*. For Duchamp, chance was a means of confronting the Absolute just as it is for the diviner. He saw chance as a way of revealing the individual nature of the artist by freeing him or her from superficial taste and facility of hand. "Your chance is different from mine," he said.

Divination and Synchronicity

Underlying all divination is the concept of an objective authority arbitrating in an equivocal situation. Divination is usually resorted to when an individual is at a crossroads and cannot decide which way to turn. In such critical situations which require a yes or no decision, and which may mean life or death for the subject, it is easier to defer to a completely superordinate judgement than to accept the advice of another human being. Chance fulfils the requirement because it is acausal and blind. It is objective, and impartial in the affairs of man. And yet, curiously, chance personalizes the subject's

predicament in a special way, by creating a sense of meaningful coincidence.

All divination is predicated on a connecting principle operating in the universe, uniting all things great and small, from the stars in the heavens to the blades of grass in the field.

There is one common flow, one common breathing, all things are in sympathy. The whole organism and each of its parts are working in conjunction for the same purpose . . . the great principle extends to the extremest part, and from the extremest part it returns to the great principle, to the one nature, being and not being. ¹⁸ (Hippocrates)

In divination chance restores the individual to his/her rightful place in the macrocosmos by means of a microcosmic event. Because the universal principle operates in even the smallest particle as well as the whole it follows that the microcosmos must mirror the macrocosmos.

To see a World in a Grain of Sand And a Heaven in a Wild Flower, Hold Infinity in the palm of your hand And Eternity in an hour.¹⁹

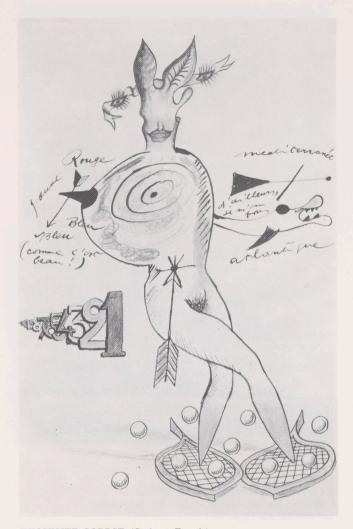
(Blake)

Since chance is time and space specific, and because the fate of the subject is inextricably bound up with the divining operation, its outcome is not surprisingly viewed as special or even divine, rather than arbitrary. It is in this sense that chance is felt to have personal significance. Carl Jung called this principle, which accounts for the meaningful relationship of events that are causally unrelated, 'synchronicity'. Other names for it are simultaneity and coincidence.

Oriental mystics have long understood this principle and it is fundamental to the Taoist, Buddhist and Zen perception of the natural world. The Chinese enshrined it in the *I-Ching* (or Book of Changes) which contains the distilled wisdom of more than 3,000 years. The foremost of the six Confucian classics, the *I-Ching* lies at the very root of Chinese thought and culture. Its basis is the interplay of Yin and Yang, a primordial pair of opposites governing all processes, psychic and physical. These are portrayed in different combinations by sixty-four figures or hexagrams that represent cosmic archetypes. The purpose of the *I-Ching* is to enable the individual to grasp the total situation by placing details against a cosmic background. Founded on the idea of the unity of nature, the *I-Ching*, when used as an oracle, enables the diviner to establish a link between the psychic inner world and the physical outer world.

The Western myth, held since Descartes, that the world is deterministic and that everything in it can be explained rationally, has no place in the Eastern scheme of things. To Taoists the Newtonian concept of matter as comprising little hard particles interacting causally, like so many billiard balls on a table, is schematic and absurd because it fails to take account of events that are happening outside of the 'billiard table'. This mechanistic view of events isolates them from their total context. By contrast, Taoism takes a holistic view of events, perceiving them in their total context, against a cosmic background. To the Oriental mind the cosmos is seen as one inseparable reality, complete and organic. For Taoists the single unifying principle at work in the cosmos is change. Change, they hold, is the only constant in the universe and all things are subject to it to one degree or another.

There is a Creative principle which is itself uncreated; there is



EXQUISITE CORPSE (Cadavre Exquis) composite drawing by (top to bottom): Yves Tanguy, Joan Miro, Max Morise and Man Ray Nude 1926-7 pen and ink, pencil, colour crayon, 362 x 299 mm collection, The Museum of Modern Art, New York purchase



Oscar DOMINGUEZ (untitled) 1936-7 ink transfer (decalcomania), 166 x 249 mm collection, The Museum of Modern Art, New York the Joan and Lester Arnet Collection

a Principal of Change which is itself unchanging. The Uncreated is able to create life; the Unchanging is able to effect change. That which is produced cannot but continue producing; that which is evolved cannot but continue evolving. Hence there is constant production and constant evolution. The law of constant production and of constant evolution at no times ceases to operate.²⁰ (Lieh-Tzŭ.)

Change affects different things at different rates. The clouds in the sky change rapidly; rocks change imperceptibly slowly. The Taoist concept of change is a fluid, continuous process that unites all things in an all-embracing, seamless web of interactions.

Surrealism

By 1922 Dadaism had been superseded by its more vigorous offspring, Surrealism, a movement that took its name from a word coined in 1917 by Apollinaire. In its early years the main participants were André Breton, André Masson, Paul Eluard, Louis Aragon, Joan Miro, Man Ray, Yves Tanguy, René Magritte, Max Ernst and Giorgio de Chirico.

To Breton, who was their undisputed leader, fell the task of defining the new movement and articulating its aims. In his Manifesto of Surrealism, written between 1924 and 1929, Breton listed the precursors of the movement (Lautrémont, Rimbaud, Jarry, Apollinaire, Moreau, Hugo and Redon among them), explained its philosophy, and defined it "for once and for all".

SURREALISM n. Psychic automatism in its pure state, by which one proposes to express verbally, by means of the written word, or in any other manner – the actual functioning of thought. Dictated by thought, in the absence of any control exercised by reason, exempt from any aesthetic or moral concern.²¹

To Breton, Surrealism meant the kind of 'thought-writing' he produced when unrelated ideas and disconnected images came to him in a state of mental excitation. This kind of interior monologue, spoken without the inhibition of the critical faculties, became a model for the group of innovative poets and painters who assembled about him. Breton and his colleagues felt it was high time that the power of the dream and the unconscious was restored to art. They wanted their art to celebrate the marvellous and the ordinary, to legitimate everything in the world, to pay homage to unreason and absurdity, to exalt the incongruous and inexplicable in life.

A collaborative exercise the Surrealists practised, to sidestep subjective control and open themselves to the unexpected, was *Cadavre Exquis* (Exquisite Corpse) based on an old parlour word game involving several players. The name derives from a line obtained by the Surrealists from an initial round of the game: "le cadavre exquis boira le vin nouveau" (the exquisite corpse will drink the new wine). To play the game one person writes a phrase on a piece of paper, folds it from view and passes it on to the next person and so on. Each player is unaware of what the others have written until all have contributed a part of the collective sentence and the paper is unfolded.

This word game was subsequently adapted to drawing, each

player executing a segment of a composite picture, usually of a figure, with one person doing the head, another the trunk and so on. Exquisite Corpse *Nude* 1926-7 [23] was a collaborative effort between (from top to bottom), Yves Tanguy, Joan Miro, Max Morise and Man Ray.

Max Ernst (1891-1976) explored the endless possibilities of rubbing, that same technique that children use to get an impression from a coin. His first experiments were with pieces of paper dropped at random on to the wooden floor of his room, the grain of which had been etched by countless scrubbings.

Excited at this rich mine of automatic images, he began to explore all manner of textures at hand with black lead and paper.

There my eyes discovered human heads, animals, a battle that ended with a kiss (the bride of the wind), rocks, the sea and the rain, earthquakes, the sphinx in her stable, the little tables around the earth, the palette of Caesar, false positions, a shawl of frost flowers, the pampas.²²

Oscar Dominguez (1906-57) invented a new technique, 'decalcomania' [18] by spreading gouache on a sheet of paper, laying another sheet on top, pressing with his hands, then peeling the two apart to reveal an 'accidental' image. 'Decalcomania' was enthusiastically adopted by other members of the group such as Yves Tanguy (1900-55) whose (untitled) 1936 [61] suggests pools of tepid water like the thermal springs at Rotorua.

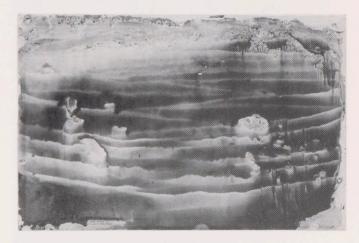
The Austrian, Wolfgang Paalen (1905-59), added 'fumage' to the Surrealists' repertoire of automatic image-making techniques. By manipulating a burning candle under a piece of paper Paalen found a sooty image could be obtained from the smoking flame. Leonardo explained how the artist could look into the glowing embers of a fire to divine new ideas for landscape compositions and the like. By using fire itself, Paalen gave Leonardo's lesson new meaning.

Another technique Paalen used, though not of his own invention, involved manipulating droplets of ink on a sheet of paper by tilting it first one way then another, and also blowing on them to make the liquid ink fan out into a pattern of feathery rivulets, as in (*untitled*) 1938 [54].

Almost a hundred years earlier Victor Hugo used this technique of blowing on wet ink in his drawing *Chimerical Bird* (*Oiseau chimerique*) retouching the undifferentiated pattern to enhance the birdlike form that initially suggested itself to him.

Micro-realism and Macro-realism

The French artist, Jean Dubuffet (b.1901) has intimately explored the teeming micro-landscapes of the forgotten corners of our domestic and natural world. Spurning the scenic wonders of exotic lands and directing his gaze instead to the humble places – "a crack in the ground, sparkling gravel, a tuft of grass, some crushed debris" – he discovered the universe in microcosm at his very feet. In the *empreinte* (as he calls it), effectively a kind of monoprint from indian ink and debris, Dubuffet discovered a spontaneous way of unleashing a turmoil of forms that reflect every aspect of the natural world: "sandy deserts, skins, soils, milky ways, cloudy tumults, explosive forms . . ." His description of his random exploration of this



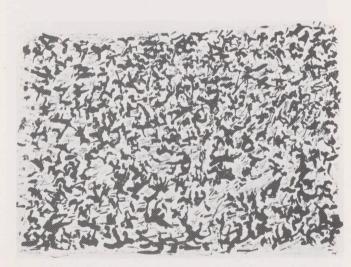
Yves TANGUY (untitled) 1936 ink transfer (decalcomania), 323 x 500 mm collection, The Museum of Modern Art, New York the Alva Gimbel Fund



Wolfgang PAALEN (untitled) 1938 coloured inks, 551 x-722 mm collection, The Museum of Modern Art, New York gift of Mrs. Milton Weill



Jean DUBUFFET *L'humus* 1958 (from the series 'Phenomenes') lithograph 470 x 400 mm private collection



Henri MICHAUX (untitled) 1961 indian ink, 750 x 1055 mm collection, Albright-Knox Art Gallery, Buffalo, New York gift of Seymour H. Knox 1975

immediate environment is so vivid and poetic, even in translation, that I quote from it at length.

What then are my methods - my ink, liquid vehicle of a fine pigment, my scattered dust, the pressure of my hands on the paper – but methods borrowed from nature, those she repeats everywhere, always the same? For there is a key to natural mechanisms, just as what happens in a grain of sand or water exactly reproduces that which happens in a mountain, or an ocean – aside from scale, aside from the rate of speed which vary. As a painter I am an explorer of the natural world and a fervent seeker of this key. Eager, like all painters, I think perhaps like all men, to dance the same dance that all of nature dances, and knowing no richer spectacle than to take part in that dance, I declare that every phase of the natural world (and the intellectual world is of course included), every part of every fact - mountains or faces, movements of water or forms of beings - are links in the same chain, and all proceed from the same key, and for this reason I declare that the forms of screaming birds which appear on my ink-spotted page have the same source as real birds, have at least some common origins. . . . 25

For the British artist, Mark Boyle (b.1934), everything is of equal value. Instead of making a conscious choice of which aspect of nature interests him most, Boyle leaves the decision to chance. By inviting people, whom he blindfolded, to throw a dart at a map of the world in his studio, he obtained one thousand different sites that he intends to visit, in the fullness of time, and record in his intimate and inimitable way.

Boyle's *Study of Anthills in Central Australian Desert* 1979 [5] represents one of these sites that he has visited to date. The work consists of twelve parts in all – five polyester resin casts of an anthill, cracked mud and soil; and seven large electron micro-photographs of ants from the site. The electron microscope reveals, as Dubuffet so enthusiastically discovered intuitively, that there exist worlds within worlds, and landscapes within landscapes. The mere antennae of one of these minute creatures, viewed from this new perspective, presents a vast new terrain, which in theory at least, one could explore in similar detail.

Chance in Boyle's case is a tool for unlocking the mysteries of the natural world that in ordinary circumstances we are blinded to by a syntactically organized vision and consciousness that classifies reality in terms of domination and subordination.

In the 1960s the French artist Yves Klein (1928-62) produced a series of 'cosmogonies' by fixing powdered pigment to canvases and driving through the rain with them strapped to the bonnet of his car. He also placed canvases prepared in this way in the outdoors where, subjected to wind and rain and the impressions of long grasses, they received a direct imprint of nature. In this way Klein annexed the inclemencies of climate, bypassing the interpretative process of representation. When he said "I am a partisan of a sort of depersonalisation of art", 26 Klein meant he wanted to develop a new method of perception of cosmic energies – a new realism – that allowed natural forces to participate directly in the creation of the work. A Rosicrucian, he sought to express the universal and the immaterial in its purest symbolic form, colour; but more specifically the trilogy of colours of the flame of fire: blue, rose and gold.

For Klein fire had a particular mystical significance which could only be represented in its own terms. For his 'fire



paintings' he obtained permission from the French Gas Company to use their flame-throwers. His arms protected with large asbestos mitts, Klein simultaneously trained great jets of flame on to panels of compressed cardboard and doused them with jets of water from a hose. The resulting chance-derived charred forms constitute the completed work – a visual testimony to the harmonious resolution of creative and destructive energies.

Another who has harnessed combustion to creative ends is the Italian artist, Alberto Burri (b.1915). Burri's 'combustione' works, which date roughly from the early to the late sixties, are (de)composed of layers of industrial plastic sheeting that have been smoked, melted and cauterized by searing flame. Depending on the colour and transparency of the plastic, the effects range from intangible smoky veils to avalanches of black volcanic lava, the ethereal to the highly tactile. For Burri the crinkles, stretches and rents are alchemical transmutations of an ubiquitous and impersonal twentieth-century industrial material. Every feature of Combustione Plastica 1964 [7] is the residue of an automatic event resulting from the deliberate invocation of accident. As responsive to the breath of fire as the retractible horns of a snail are to the human touch, plastic is a suitably sensitive medium for expressing the most subtle poetry of disintegration.

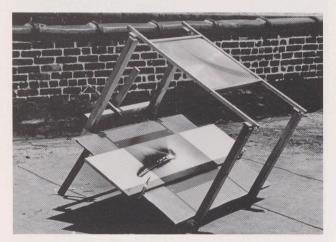
After his 'combustione' series Burri went on to explore the mysterious 'handwriting' of crackle, another random, disintegrative phenomenon. Crackle – that network of fissures that we find in such diverse places as the surface of a porcelain cup, the painted wall of an old shed and the dried-up bed of a muddy creek – has long held a special fascination for artists. Chinese potters, as early as the T'ang dynasty, learnt to precipitate it by adding judicious quantities of a catalyst to their glazes. Although originally an accidental occurrence caused by the unequal rate of expansion and contraction of the glaze and body of a clay vessel during firing, crackle could be controlled by the T'ang potter to the extent that he could predict whether the network of cracks would be dense or sparse.

Burri's *Cretto Nero L.A.* 1978 [8] demonstrates the same phenomenon with a heavy layer of impasto. As the impasto dries and contracts a random network of fissures appears which he arrests with an application of glue as soon as its appearance satisfies him. Like Klein's 'cosmogonies' and 'fire paintings', Burri's *combustione* and *cretti* are a celebration of the unpredictability of certain natural processes. Like the Tibetan

Alberto BURRI Combustione Plastica 1964 burned plastic, 508 x 1245 mm collection of the artist, Los Angeles



Alberto BURRI Cretto (white zinc oxide) 1973 zinc white and glue on cellotex 1250 x 1000 mm collection of the artist



Charles ROSS $Sunlight\ Convergence/Solar\ Burn\ (during\ execution)$ apparatus: flat plate fresnel lens (482 x 635 mm) wood, clamps, painted wood



Alan SONFIST

Andover Trees 1972
charcoal rubbing on unstretched canvas,
2185 x 3550 mm
collection, Power Gallery of Contemporary Art,
University of Sydney

shaman who divines from the cracks in mutton bones heated over a fire, Burri solicits chance in the form of fire and fissures. Like the Chinese potter who, by inviting crackle and flambé to decorate his vessels, established a dialogue with the unfathomable operations of the macrocosmos, Burri, in these works, has harmoniously reconciled the objective and subjective forces of chance and design.

How to represent light in pictorial terms has long been a burning issue for artists, but none has attacked it as literally as the American, Charles Ross (b.1937), in his *Sunlight Convergence/Solar Burn* 1972 project [56;57]. With the aid of a large fresnel lens set on top of a Manhattan apartment building he focused the sun's rays at a point where he fixed a painted wooden panel treated with a flame-resistant chemical. As the sun moved across the sky its concentrated rays burnt a 'signature' of the day on the panel which he changed daily over a period of a year.

The character of the charred 'signatures' on the 365 panels varies according to the weather conditions prevailing on each day of the year. Rain, cloud, mist and smog, for example, were inhibiting factors that equate with the periodic breaks in the 'signature'. On some days no 'signature' was recorded at all because of prolonged adverse conditions. In his book of the same name that documents the project, Ross explains his intentions:

Energy to image without manipulation. Primal forces captured by the primal camera. Speculation is unnecessary when the invisible is allowed to take form on its own terms. The work could not be made. It had to be derived from the source, from the focused point of light.

The artist as catalyst, precipitating form without interference or interpretation. Simple and direct tools and methods. Any interference from the hand or personal intervention would negate the work.²⁷

Two New York artists, Gordon Matta-Clark (1945-1978) and Alan Sonfist (b.1946) have gone a critical step further than simply representing primal forces by incorporating them in their works in the form of living organisms that flourish and respond indeterminately to changing environmental factors such as heat, light and humidity. Matta-Clark's 'agar growths' of the late 1960s were an alchemical transmutation of discarded food scraps such as fatty meat which he cooked up in large flat pans over a butane flame until a gelatinous agar was produced. Sheets of this material were then presented as living paintings, the ensuing putrefaction resulting in exquisite blooms that changed as mould spores took root, flourished, reproduced and died. Sonfist's 'micro-organic landscapes' on canvas and sheets of paper which he impregnates with solutions of organic material likewise transform themselves as micro-organisms that feed on such material react to ambient climatic conditions.

Chance in Motion: Kinetic Art

For all their professed realism, the paintings of the Old Masters severely lack one vital ingredient, movement. Charging horses, fighting soldiers, swaying trees and roaring cataracts are all portrayed as though completely stationary. But since the early decades of the twentieth century a new school

of realists, seeking to redress this omission, have made movement and change a central aspect of their work, seeing in it a universal principle that is a key to a realism based on process rather than appearance. The Swiss sculptor, Jean Tinguely (b.1925), echoed the words of the Chinese sages when he proclaimed:

Movement . . . is the only immutable thing – the only certainty, the only unchangeable. The only certainty is that movement, change and metamorphosis exist. 28

Duchamp was among the first artists to incorporate living movement into his works. His *Rotary Demisphere* [*Precision Optics*] 1925 [21] creates a hypnotic illusion of space as eccentric circles painted on the demisphere are rotated by an electric motor. Most early kinetic works are powered by electric motors which turn cutout shapes of wood or metal, including those of Alexander Calder (1898-1976), the artist the public most readily associates with mobility. The idea of sculptures that moved occurred to him during a visit he made to Piet Mondrian's studio in New York in 1930. He admired Mondrian's stripped-down aesthetic and primary colours but thought "how fine it would be if everything there moved", ²⁹ an idea that did not appeal at all to Mondrian.

Duchamp dubbed Calder's first motorized constructions, 'mobiles'. Before long Calder became disenchanted with the repetition of mechanical movement and he turned to a more irregular source of motive power to promote indeterminate motion and ceaseless change.

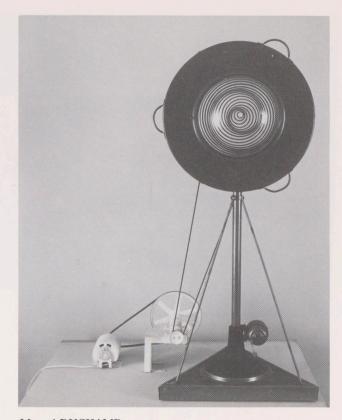
By converting his electric 'mobiles' to wind-power Calder tapped an inexhaustible source of unpredictable energy. Composition could be open-ended, a state of flux. Now that they were wind-powered, Calder's 'mobiles' took on a stylized organic appearance, the independently rotating armatures ramifying like the branches of a tree as in the graceful *Zarabanda* 1955 [13].

Other artists who have harnessed air currents as motive power for their works are the Argentinian, Julio Le Parc (b.1928), the Venezuelan, Jesus Raphael Soto (b.1923) the German, Hans Haacke (b.1936) and the American, George Rickey (b.1907). Le Parc's 'continuel-mobiles' consist of rows of reflective squares of metal on suspended threads that move with the slightest of draughts. This irregular movement is amplified by light reflected from the mirrored surfaces which plays on to surrounding walls and objects like sunlight sparkling on a moving body of water.

In Soto's *London Writing* (*Ecriture de Londres*) 1965 [59], bent lengths of fine wire suspended by threads in front of a black-and-white pin-stripe pattern induce an effect of optical vibration as they are slowly rotated by the slightest of currents. Soto's mesmerizing optical reliefs, which incorporate aspects of Op art, exploit the instability not only of their moving components but also of the viewer's retinal responses to the interference patterns they create.

Hans Haacke's *Large White Sail* 1965-66 [30] moves like a sea swell as a gossamer-like sheet of chiffon is kept airborne by updrafts of air from an electric fan.

The Auckland City Art Gallery's most recently acquired outdoor sculpture, George Rickey's *Double L Gyratory* 1985, comprises two great stainless steel L-shaped vanes pivoted to a tall column in such a way that they can move freely through an arc of 180 degrees, set in motion by gusts of wind. With Auckland's erratic weather its indeterminate transformation is

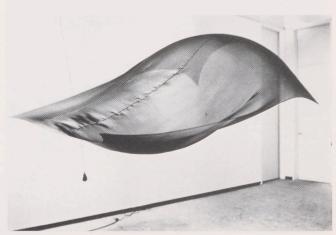


Marcel DUCHAMP

Rotary Demisphere [Precision Optics] 1925

motorized construction: painted wood demisphere, fitted on black velvet disk, copper collar with plexiglass dome, motor, pulley and metal stand, 1486 x 642 x 609 mm

collection, The Museum of Modern Art, New York gift of Mrs William Sisler and the Edward James Fund

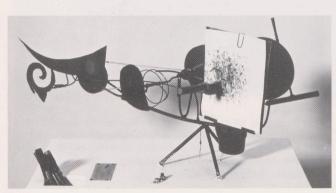


Hans HAACKE

Large White Sail 1965-6

chiffon, oscillating fan, fishing weights, thread, 2438 x 2438 mm

collection of the artist, New York



Jean TINGUELY

Meta-Matic No 8, "Meta-Moritz" 1959
motorized construction: iron on wood base 305 x 635 mm collection. Moderna Museet. Stockholm

assured. Rickey has stated:

I think that randomness is a component of nature, a pervasive component of nature, and this is one way in which nature is introduced into art, not as something to imitate, but as a kind of component or partner, and it gives it a very special kind of life.³⁰

Cloud Canyons c.1967-85 [50], an evanescent foam sculpture by the expatriate Filipino artist, David Medalla (b.1942), must rate as one of the most inventive applications of air power. A cross between a washing machine and a church organ, Cloud Canyons excretes an oozing cascade of suds from a battery of vertical, cylindrical pipes, as air, which is fed down them by a series of aquarium pumps, percolates through a mixture of detergent and water. Ethereal and delicate, in contrast to the more obviously mechanical manifestations of kinaesthetics, Cloud Canyons is curiously lifelike in that its constantly changing forms renew themselves from within, like a snake sloughing off its old skin.

The Swiss artist, Jean Tinguely (b.1925), next to Calder, is the artist most popularly associated with kinetic art. Tinguely's first kinetic works were motorized reliefs constructed from simple shapes of scrap metal and powered by small electric motors concealed behind a wood panel. Because the shapes were driven independently it was relativity in motion, the composition changing perpetually and indeterminately. The more complex Tinguely's machines became the more they took on an animate quality that has charmed audiences world wide. The auto-creative "meta-matic" [62] is one of Tinguely's most engaging and entertaining inventions. When a sheet of fresh paper is pinned to its easel, a felt pen is placed in the grip of its arm, and the electric current is switched on, the 'meta-matic' makes erratic jerking movements that translate into abstract pictures, no two of which are alike.

There is something distinctly human and creative about a machine that makes unique instead of identical products. But when Tinguely programmed his kinetic contraptions to self-destruct the effect was both compelling and disturbing. The sheer futility of a machine whose purpose is simply to annihilate itself is a supreme irony in the best Dada tradition of meaningful purposelessness.

The Greek artist, Takis (b.1925), has created kinetic sculpture around the erratic vibration of tethered metal objects such as needles and plumb bobs energized by magnetism. *Electromagnetic Sculpture II* 1965, for example, is programmed to alternately attract and repel a large cork sphere, with a magnetic core, suspended above it like a pendulum. The looped stainless steel band of New Zealand-born Len Lye's *Universe* 1963-76 [44] is rolled back and forth across its wide plinth by concealed electromagnets that are programmed to switch on and off, while the up-and-down motion of the band produces a metallic ringing sound as it strikes against a cork ball suspended just above its zenith. *Electric Box* [48] by the American, Cork Marcheschi (b.1945), lights up with neon flashes as suspended strips of metal, electromagnetized by a strong current, alternately attract and repel one another.

The problem of mechanical repetition associated with electric motors that led Calder to forsake them for wind power was a challenge to other artists. The Italian, Pol Bury (b.1922), making slowness the pre-eminent feature of his kinetic sculptures, confounds the viewer's ability to trace the journey of their mobile components and endows his creations with an

animate quality. The wooden balls of his *Nine Balls on Five Planes* 1964 [9] inch up and down inclined planes at a glacial pace, drawn by nylon threads winding and unwinding on a primitive motor-driven cam. The nylon filaments of his 1053 White Dots 1964 [10] twitch so slightly and unpredictably that the effect is more organic than mechanical, in spite of the fact that they, too, are driven by small electric motors. The expression "watching grass grow" aptly describes the experience of this compelling work in operation.

Gerhard von Graevenitz (1934-83), a German artist who made his first kinetic work in 1960, has achieved great compositional variation within a highly restrained format. His kinetic reliefs are a model of formal simplicity (the bar [28] and the disk are recurring motifs) but the end product is endless transformation. In *Object With White Moving Disks* 1965, each of the thirty-seven disks is revolved by its own small electric motor, some clockwise, some anti-clockwise, about an eccentric axis. The effect is a kind of slow "Brownian" polka that frustrates any logical reading and indeed cannot be contained by any conceptual frame we may impose on it since it is essentially non-hierarchic. Not only do the elements revolve, the greater circle that contains them revolves also, so that the ground constantly shifts on the viewer. Von Graevenitz has stated of these works that they are

structures: networks of connections of elements or simple processes. . . . Because the organisation is open – as it has been developed in the theory of games – there is playfulness involved. . . . The number of possible situations is so great that a repetition is very improbable. ³¹

Some artists have incorporated change in their works by dividing them into self-contained components that can be manipulated to make variable compositions, for example, *Transformable Painting* 1967 by the Israeli, Yaacov Agam (b.1928) which enables the viewer to redistribute the simple relief elements and orientate them in a variety of directions.

The person who has done most with the idea is the Swedish artist, Öyvind Fahlström (1928-76), whose colourful comic-book style belies the barbed social-political messages lurking beneath the beguiling surfaces of his variable paintings. The "picture-organs" of these open-ended works are sometimes attached by small magnets to a metal base-plate as in *Section of a World Map – A Puzzle* 1973 [24] which comments on the callous 'games' that greedy multinational companies, in league with repressive totalitarian regimes, 'play' with the lives of the impoverished masses in Third World and developing nations. Rauschenberg has written of Fahlström's variable works:

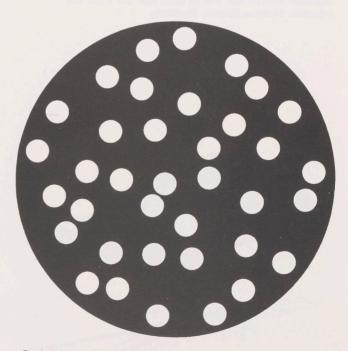
The logical or illogical relationship between one thing and another is no longer a gratifying subject to the artist as the awareness grows that even in his most devastating or heroic moment he is part of the density of an uncensored continuum that neither begins with, nor ends with, any decision or action of his.³²

De-creative Art and Objets Trouvés

This idea that beginning and end are arbitrary concepts – conceptual snapshots – since all things are subject to a continual process of evolution and devolution, has gained increased

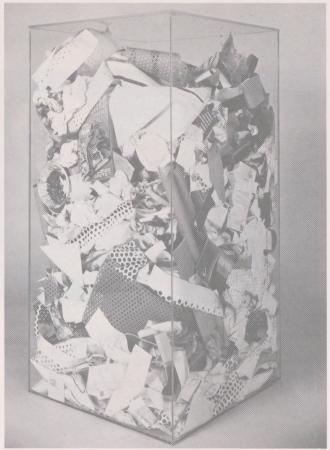


Pol BURY 1053 White Dots 1964 motorized construction: nylon wires in wood panel, 1384 x 689 x 178 mm collection, Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington D.C.



Gerhard von GRAEVENITZ

Object with White Moving Disks 1965
motorized construction: iron, wood
diameter 1200 mm
collection, The University Art Museum, University of California,
Berkeley



ARMAN

Roy Lichtenstein's Studio Refuse 1970-71

plexiglass box with refuse 1219 x 1219 x 609 mm

Gilbert and Lila Silverman Collection, Southfield, Michigan



Daniel SPOERRI

Marcel Duchamp's Dinner 1964
cutlery, dishes and napkins mounted on wood,
657 x 536 x 120 mm
collection of Arman, New York

currency in recent decades among artists and writers as new ideas about the nature of matter have gained general acceptance. Physicists no longer speak of objects but of events, and reality is perceived not as collections of objects but as networks of relations between events. Likewise, as creation and destruction have come to be accepted as relative concepts, de-creation has come to play an important role in art. Richter once claimed, "Destruction is a legitimate element of creation, its brother. It is what Cain was to Abel."³³

Certain artists like Tinguely, Gustav Metzger and Arman feel that a self-destructive society demands or deserves an autodestructive art response. In 1960 Metzger (b.1926) began painting on stretched sheets of nylon with acid, which on contact dissolves the fabric. He executed these works (performances) in public places before an audience, since the process of transformation was more compelling to him than the end result. Metzger intends these and other auto-destructive works of his to be seen as metaphors for the destructive course on which he believes Western society is headed. He later went on to explore metal corrosion in his works, and in a lecture entitled 'Auto-Destructive Art', delivered in 1965, he outlined a proposal for a massive sculpture made from three great slabs of mild steel that over a period of ten years would completely corrode away from the effect of the industrial atmosphere.

The French artist, Arman (b.1928), who in his student years was impressed by the work of Schwitters, Arp, Duchamp and Tzara, has since the 1950s burnt, sliced, broken and exploded his way through a wide range of ready-made objects, including coffee-pots, violins, chairs and even an MG sports car which he dynamited. The remnants of these objects he then preserves in their chance positions on boards, to be hung like pictures, or embalms in polyester resin. Ironically the life span of these objects, though charred and disintegrated, has undoubtedly been extended by his contradictory operations.

Ever since the German Dadaist, Kurt Schwitters (1887-1948) began using litter he picked up off the street for his 'Merz' compositions, artists have been fascinated by refuse as a source of ready-made images. Arman's accumulations of trash enclosed in plexiglass boxes, such as *Roy Lichtenstein's Studio Refuse* 1970-71, or set in solid plastic, such as *Frozen Civilization* 1971 [1] are predicated, in the artist's own words, on "a very simple theory. I have always pretended that things compose themselves. My composition consists of letting objects compose themselves."³⁴

Taking his cue from Duchamp, whose 'ready-mades' advanced the idea that anything could be a work of art simply by an act of will, the Romanian, Daniel Spoerri (b.1930) invented the 'snare picture'. This consists of a number of common objects arranged by chance, such as the remains of the meal in *Marcel Duchamp's Dinner* 1964 [60], which Spoerri glues in the exact positions he finds them, to their supporting surface, and hangs as a picture, the only alteration being the plane.

In his 1962 book, An Anecdoted Topography of Chance, Spoerri reconstructs the histories of assorted items of food and common domestic objects on his kitchen table, like a detective reconstructing the events leading up to a murder from exhibits found at the scene of the crime. Every object, however humble, tells a story, and any pattern of found objects such as the items in Marcel Duchamp's Dinner represents the convergence of a network of human interactions that extend

back, like the ramifying roots of a tree, into the matrix of society. Any manufactured item is the product or residue of human decisions and actions that, theoretically, can be traced along a labyrinth of interconnecting paths to a common source.

The San Francisco artist, Jo Hanson (b.1928), has continued this tradition of *objets trouvés* with her daily harvests of urban detritus from the sidewalk directly outside her apartment in the Haight-Ashbury district. *Messages – From The Street* [31] is an ongoing project she started in 1970, in which she records the fortuitous juxtaposition of articles of litter, by preserving them in plastic envelopes arranged serially in volumes of ringbinders. Ever since Dada shifted the emphasis from aesthetics to poetic relationships between logically disparate things, in the manner of "the chance meeting of an umbrella and a sewing machine on the dissecting table" in Lautréamont's novel *Maldoror*, artists have accepted that they could simply appropriate items from their immediate environment, arranged by chance.

Hanson's compilations are a kind of storybook of the life of the street – a real slice of life, like the cross-sections of excavated soil that archaeologists study. Each item tells a personal story, sometimes humorous, sometimes tragic. Bus tickets, rainchecks, love letters, business cards, school reports, medical reports, baggage checks, food stamps, religious material, food wrappers, pornography, cancelled cheques, handbills, and used heroin sachets and needles are composed by chance in ways that range from amusing to thought-provoking.

In recent years a number of American environmental artists such as Robert Smithson, Michael Heizer, Alan Sonfist, Hans Haacke and Robert Morris, whose works are created in the open spaces of the landscape, have harnessed natural elements and forces in the form of mud, earth, fog, tar, steam, rain, ice, wind, snow and associated processes of weathering, erosion, and corrosion to create an art that is subject to the same processes of transformation as the ecology.

In 1969 Michael Heizer (b.1944) executed enormous *Primitive Dye Paintings* on the expansive 'canvas' of Coyote Dry Lake, in the Californian desert. Subjected to the ravaging effects of the weather these were "altered", as opposed to destroyed, eventually becoming invisible.

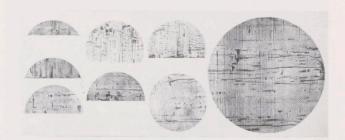
Heizer's Scrap-Metal Drypoint No. 3 1978 [34] also demonstrates this positive acceptance of objective factors such as erosion and corrosion as agents of an indeterminate imagery. The scrap-metal drypoints, which are monumental by printmaking standards, are derived from deeply scratched and rusty sheets of metal Heizer found on an industrial scrap-heap, their 'images' already etched on their flat surfaces by abrasion and oxidation. He then cut the sheets into circles and segments of circles - the geometry of the mind versus the chaos of nature – before printing them by the standard intaglio method. Although large for prints, the scrap-metal drypoints are among Heizer's most diminutive works. His colossal earthworks in the Nevada desert, in the form of massive depressions and trenches involving the displacement of thousands of tons of soil and sand, also exhibit a minimal geometry that stands out (even from a high-flying aircraft) against the random topography of the natural landscape.

Central to Robert Smithson's realized and proposed earthworks (he died in a plane crash in 1973, aged 35), such as *Tar Pool Project* 1966, *Asphalt Rundown* 1969, *Mudslide* and *Texas Overflow*, is the concept of entropy which is bound up with the second law of thermodynamics. Entropy is the natural



Jo HANSON

Miscellaneous objects collected in sweeping the street at 201 Buchanan, San Francisco. The "Go Bears Go" button of 1967 appeared on the street in 1978. The small rubber sachet, top centre, contained heroin.



Michael HEIZER Scrap Metal Drypoint No. 3 1978 drypoint, 914 x 2159 mm collection, Auckland City Art Gallery

tendency of all states of order towards an ever-increasing disorder, the ultimate situation of the universe, predicted by this law, being maximal disorder. By working with materials such as tar, sulphur, mud, water, asphalt, stone and earth that are naturally volatile, viscous or inchoate, Smithson sought to give expression to the entropic forces that shape the landscape we live in and condition our lives.

Chance and Indeterminacy: The Scientific View

On the subatomic level disorder also reigns. In 1927 the great German physicist, Werner Heisenberg, published his celebrated principle of indeterminacy, also known as Heisenberg's uncertainty relation, by which he demonstrated that there is a causal threshold beyond which it is impossible to 'see'. Basically Heisenberg's principle of indeterminacy states that it is impossible to know the position of certain fundamental particles, such as electrons, as well as their momentum, since in the act of observing such infinitesimal entities we alter what we are observing, thus corrupting objectivity. Just at the point where science thought the ultimate mysteries of matter would be revealed once and for all, Heisenberg pulled the rug from under the twin pillars of causality and determinism on which the whole classical edifice of Newtonian physics rested. The most profound implication of Heisenberg's principle of inderterminacy was the blow it dealt to objectivity. No longer could one speak of observer and observed; both are locked together in an inseparable embrace. Instead of talking of objects, which are idealizations of classical physics, physicists now talk of events, and matter has dissolved into pure energy transmuting from one condition to another. On the subatomic level the most accurate descriptions we can give of events are probabilistic. Even something as finite as the air pressure in a tyre is simply the average effect of millions of molecules of gas randomly colliding with each other. Thus the phenomenon of air pressure is not attributable to one cause but to a very large number of independent causes, the magnitudes of which are due to chance.

In biology too, chance also holds a position of pre-eminence. In his book *Chance and Necessity* ("Everything in the universe is the fruit of chance and necessity." Democritus), published in 1970, the French molecular biologist and Nobel prize-winner, Jacques Monod, explains that chance is at the root of all evolution. What is more remarkable in Monod's eyes than the infinite variety of life is the prodigious stability of certain species that have not changed appreciably in hundreds of millions of years. According to Monod the inherent invariability of the genetic system is responsible for this extraordinary stability. The mechanism would, in fact, be foolproof were it not for inevitable quantum perturbations, or accidents, which cause errors in the accurate translation of the genetic text. In Monod's words:

... these events are accidental, due to chance. And since they constitute the *only* possible source of modifications in the genetic text, itself the *sole* repository of the organism's hereditary structures, it necessarily follows that chance *alone* is at the source of every innovation, of all creation in the biosphere. Pure chance, absolutely free but blind, at the very root of the stupendous edifice of evolution . . . There is no scientific position, in any of the sciences, more destructive of

anthropocentrism than this one, and no other more unacceptable to the intensely teleonomic creatures that we are.³⁷

John Cage and Fluxus

No artist since Duchamp has done more to promote the cause of chance in art than the American composer, John Cage. Cage, who studied counterpoint with Arnold Schoenberg in Los Angeles in the early 1930s, first met Duchamp at the home of Max Ernst and his wife, Peggy Guggenheim, in New York in 1942. Together Duchamp and Cage have dominated the avant-garde this century, almost in spite of themselves.

A turning point in Cage's music career was his discovery of the writings of the Indian curator of Oriental art at the Boston Museum, Ananda Coomaraswamy. In particular Cage was intrigued by Coomaraswamy's statement that the role of the artist is not so much to imitate nature in her appearance as to "imitate nature in her manner of operation". 38 Subsequently Cage became deeply interested in Eastern philosophy and its relationship to art and for two years attended classes in Zen Buddhism conducted by Dr Daizetz Suzuki. Central to Zen is the concept of 'no-mindedness' which can roughly be equated with the Western concept of *tabula rasa*. By emptying the mind one can achieve a more direct and intense experience of life without the mediating filters of conventional patterns of perception and thought.

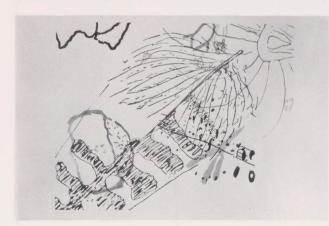
Cage set about assiduously applying this new understanding to composition by employing the ancient Chinese divinatory system, the *I-Ching* (or Book of Changes) to throw up hexagrams.

The moment I opened the book and saw the charts and hexagrams which were used for obtaining oracles according to the tossing of coins or yarrow sticks . . . it was immediately apparent to me that I could devise a means of composing by using these operations, and right then and there I sketched out the whole procedure for my *Music of Changes*, which took its title from the book.³⁹

The consequence of Cage's attitude is that few performances of his compositions are ever alike. His scores are invariably variable, allowing the performers a considerable degree of freedom in the way the instructions are interpreted or the order in which they will be played. The result is a performance that the composer, and for that matter the performer, cannot entirely foresee – that is, inherently indeterminate or openended like the changing composition of a Calder mobile.

One device Cage has used to facilitate indeterminacy is a set of transparent plastic sheets on which instructions for the performers are printed. By superimposing these sheets in different ways multiple permutations of a score can be obtained, each of which will result in a different performance of the piece. In his search for new ways to introduce transformation and surprise into his compositions Cage has investigated masking astronomical maps with transparent score sheets to determine where the staves should fall (a kind of music of the spheres). He has also done the same with sheets of paper, the imperfections of which can be read as notes or silences.

Since 1969 when he made his first print, Not Wanting to Say



John CAGE

Changes and Disappearances #7, 1979
photo-etching and aquatint 112 x 212 mm
collection, Auckland City Art Gallery

Anything About Marcel, Cage has become increasingly involved with printmaking and to date has made twelve different prints, using screenprint, etching, engraving, drypoint, photo-etching and lithography. An artist who resists pigeon-holing, Cage's activities have always been interdisciplinary in an effort to blur the traditional distinctions between the different arts and, more importantly, between art and life. Robert Rauschenberg's famous statement that "painting relates to both art and life. Neither can be made – I try to act in the gap between the two" was in fact based on Cage's example. In 1952 Cage conceived the first happening at Black Mountain College in which Rauschenberg participated.

Cage read a lecture, Merce Cunningham danced, David Tudor played the piano, M.C. Richards and Charles Olson read poetry and Rauschenberg's 'White Paintings', hung from the ceiling, recorded changing shadows on their 'blank' surfaces. By applying the indeterminacy principle to printmaking, which traditionally has been a means of replicating a graphic image, Cage was inspired to produce editions of unique prints, the compositional details of which were decided by chance. The colours of the Auckland City Art Gallery's impression of Cage's 17 Drawings by Thoreau 1978 [11] differ from the colours of the other 24 aquatints in the edition, although the forms remain the same throughout. Changes and Disappearances #7 1979 [12] is even more distinctive since all the prints in the edition are completely different.

Both series, '17 Drawings by Thoreau' and 'Changes and Disappearances' are based on thumbnail sketches Henry Thoreau (1817-62) made to illustrate points in his *Journal* of 1837-62 about such things as ice-cracks, a feather and a crow's track. Using charts he derived from the *I-Ching*, Cage employed chance to make compositional decisions regarding the number of drawings to be used, their orientation, scale and colour.

The 'Changes and Disappearances' series, which took almost four years to complete, was extraordinarily complicated. Each image was created from a different number of small etching plates of varying shapes and sizes. The contours of these were determined by dropping a piece of string (in homage to Duchamp) from varying heights and cutting the metal to the resulting lines. These small plates also acted as 'nets' to trap the photomechanically transposed drawings. In their turn the drawings ran a gauntlet of chance operations in the darkroom prior to transferral to the plates. In this way decisions about such variables as F-stop, exposure time and enlarger distance were objectively determined. Sometimes the combination of these 'choices' meant certain of the drawings got lost in the wash, while others that survived missed the nets and disappeared also. These eventualities account for the word "disappearances" appended to the original title, 'Changes'. Ironically, though chance plays a major role in the way the final images came about, the ways it was invoked were exceedingly strict and protracted. Chance, for Cage, is not a way of avoiding making decisions, as he has pointed out:

Most people who believe that I'm interested in chance don't realize that I use chance as a discipline, they think I use it – I don't know – as a way of giving up making choices. But my choices consist in choosing what questions to ask. 41

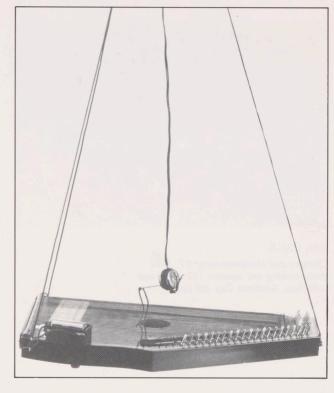
However much Cage entrusts decisions to chance, the fact is that he sets the parameters within which chance operates. If choices are to be made by a dice or a hexagram then he determines the range of choices from which the dice or hexagram can choose. These are subjective and therefore personal decisions reflecting the personality of the instigator. Cage accepts that the perfect effacement of the artist's personality from the work of art is in practice unattainable. But in the pursuit of enhanced objectivity the artist is presented with a range of possibilities that consciousness precludes for consideration, Cage believes, and it is here that the importance of chance lies for him. "I never imagine anything until I experience it," he has said.

Cage's influence on a younger generation of experimental artists has been profound and out of all proportion to the general public's awareness or acceptance of his own work. In particular Cage's anarchic responses to artistic conventions and his belief in art as a kind of "purposeless play" has been exemplary to a loose-knit group of artists, poets and composers gathered under the banner, Fluxus. An international movement, founded in 1962 by the American artist, George Maciunas (1931-78), Fluxus is characterized by a kind of wisecracking anarchy that recalls the theatrical antics of the Zurich Dadaists almost half a century earlier. By means of staged events in public places and unlimited editions of cheap ready-mades. assemblages, gags, games, scores and 'events'. Fluxus artists have sought to bypass the stranglehold of the art dealer/museum monopolies and create an art that is potentially accessible to everyone. Maciunas's Diagram of Historical Development of Fluxus and other 4 Dimensional, Aural, Optic, Olfactory, Epithelial and Tactile Art Forms 1973 [47] puts Fluxus in an extremely broad art historical context that includes futurist theatre, musique concrete, Schwitter's 'Merz', EAT (Experiments in Art and Technology), games and puzzles, vaudeville, earth art and kinetic art.

A number of Fluxus members such as George Brecht, Dick Higgins, Joe Jones, Al Hansen and Richard Maxfield attended Cage's music course at the New School for Social Research in New York in 1958 and 1959 and met for the first time as a result. In consequence Cage's ideas about indeterminacy were signal to them. As well as Maciunas, other Fluxus members, Nam June Paik, Alison Knowles and Yoko Ono, participated with Cage in performances and events of one kind or another in places as diverse as Damstadt and Tokyo.

Paul's Piece 1980 [40] by Joe Jones (b. 1934) is a whimsical cross between Cage's 'prepared piano' and Tinguely's motorized 'meta-matics'. In its construction Paul's Piece is as ingeniously simple as its music is random and entertaining. A small battery-powered motor, of the kind found in small mechanical toys, is suspended above the strings of a chord-harp zither. When the power is switched on two rubber beaters attached to the axle of the motor erratically flail the strings, creating a delightfully indeterminate music. Jones has extended this principle to a wide range of musical instruments, including a toy violin, a xylophone, a drum kit and even a full-size harpsichord. Maciunas' score, Music for Everyman 1961 [46] comprises a vertical list of virtually every conceivable method of making noises, both "rational and determinate" as well as "automatic and indeterminate", under such headings as "Gases", "Liquids", "Semi-Liquids" and "Solids" which are divided into sub-categories such as "pouring", "dripping", "piercing", "ripping", "breaking", etc.. By ticking off corresponding boxes in the adjacent chart anyone can compose a score for a unique musical event.

Alison Knowles and Dick Higgins have been associated with



Joe JONES $Paul's\ Piece\ 1980$ zither, wire, battery-powered motor, rubber beaters, 560 x 330 x 195 mm Gilbert and Lila Silverman Collection, Southfield, Michigan

Fluxus since the time of the first Fluxus festivals that Maciunas organized in Europe in 1962. Knowles *Onion Skin Song* 1978 [41] was made by running onion skins through a blueprint machine. These were crushed by the machine and printed by voltage to produce chance configurations that ostensibly serve as a model for a musician to interpret in terms of sound. "The interpreter or performer studies these skin patterns in their lights and darks, breakings and spaces one from another and relates them to his/her own performance capabilities," Knowles has written. *Onion Skin Song* lends a new ring to that catch-cry of artists, "back to nature", that has rung down the centuries.

In a similar vein Higgins has produced variable scores that allow multiple interpretations of the materials by the performer. For example *Piano Sonata No 2* (Graphis #192) comes with a set of four transparencies, printed with a swirling pattern of arrows that the pianist is directed to place over sheets of music of his/her choice. The instructions tell the pianist to follow the underlying score in the normal way until an arrow is reached, then choose to follow the arrow and pick up the score again where the head of the arrow points, like a game of snakes and ladders, or ignore it. When an arrow leads to the left the pianist may play backwards and so on.

Aleatory Art

In 1966 George Brecht (b.1924), a major personality in the Fluxus movement, published an essay called *Chance-Imagery* – a landmark of literature about the subject – in which he defines chance and randomness, lists ways in which artists have exercised it (for example, coins, dice, numbered wheels, cards and charts of random numbers), summarizes its role in twentieth-century art from Dada and Surrealism to Jackson Pollock, and explores concurrences with developments in statistics, the physical sciences and philosophy. In the coda to *Chance-Imagery* Brecht states:

Chance in the arts provides a means for escaping the biases engrained in our personality by our culture and personal past history, that is, it is a means of attaining greater generality. . . . The receptacle of forms available to the artist thus becomes open-ended, and eventually embraces all of nature, for the recognition of significant form becomes limited only by the observer's self.⁴³

Probability theory, particle physics and cybernetics have all contributed directly or indirectly to a new perception of the natural world and to an aleatory art characterized by uniform elements, the relationships of which are governed by chance. Highly formalized, these works would appear at face value to be a far cry from the natural world that is familiar to us. But in fact they are often models of phenomena and processes that are occurring all about us, represented without interpretative bias according to a strictly objective system. In order to ensure that personal bias does not intrude, these artists variously use dice, cards, coins, charts of random numbers and computers, to select values from a given set of variables. Since chance used in this way necessitates a programme of operations, which can become impossibly complicated if not rigorously formalized, it is not surprising that a number of artists who have employed

such methods have confined themselves to a vocabulary of simple geometric forms.

One of the artists who best represents this position is the English painter and sculptor Kenneth Martin (1905-84) whose 'Chance and Order' series, begun in 1969 and pursued until his death, displays an exquisite synthesis of formal and informal properties: "Chance and programmed structures are ostensibly opposites – they constitute, as it were, two poles in the manifestation of our reality,"⁴⁴ he has written. The 'Chance and Order' images are composed solely of straight lines, the coordinates of which were determined by randomly selecting numbers, corresponding with intersections of a grid, by the dice method. By pairing the numbers a line could be drawn from the first to the second on the grid plan, the two numbers determining the length and the orientation of the line.

I then found I could make the time sequence show itself. My next pairing could have two lines on the side already decided upon, the next three lines and soon I could further use and reveal the passage of time by the further running of parallels under the preceding one.⁴⁵

These images, which in a sense make themselves once the procedure is established, are so 'logically' constructed that once the key is known the exact sequence of steps followed can be reconstructed from the information in the work itself. *Chance and Order IV* 1972 [49] shows the effect of incorporating colour values into the system, further clarifying the time aspect.

The Dutch artist, Herman de Vries (b.1931) used charts of random numbers in his 'random objectivations'. "I started reading the numbers from a haphazardly chosen point of the table, and gave a value to each digit. Value here means: a colour, gluing on a square or leaving it out, etc." *46 Random Objectivation V70-07 1969-70 [63] is composed of 480 small white wood blocks randomly disposed about a white square board paralleling the distribution of autumn leaves, for example, under a tree, or pebbles on a sandy foreshore.

The French artist Francois Morellet has consistently employed aleatory (from the Greek root 'alea', a dice) techniques as determinants of colour elements in his graph-like compositions. One of his methods is to consult lists of numbers in a telephone directory, the last digit of each number providing an effectively random colour determinant. In *Chance Repetition of 40,000 Squares* 1961 [53] Morellet explains

. . . the principle of the picture in blue and red squares is probability: 50% red squares, 50% blue of the same intensity are unequally distributed over the surface by a combination based on chance. 47

Summary

Chance now pervades the whole spectrum of the arts from literature to music, from painting to happenings and from earth art to cinema. Terms like random, indeterminate, fortuitous, aleatory, entropic, stochastic and non-hierarchic are now parts of our cultural vocabulary. And concepts like variability, flexibility, change, impermanence, disintegration, de-creation, complementarity, discontinuity, disorder and incompleteness are now part and parcel of post-modernist art.

In a highly original book, Man's Rage for Chaos, first



Herman de VRIES

Random Objectivation V70-07 1969-70
480 wood blocks on wood panel, painted white, 1605 x 1605 mm collection, Stedelijk Museum, Amsterdam



Marjorie STRIDER Clocktower Project 1976 polyurethane foam

published in 1967, Morse Peckham advances his novel theory that the discontinuities of the most innovative art of all periods in history are a "rehearsal for those real situations in which it is vital to endure cognitive tension". 48 Man's rage to order his behaviour (a necessary biological urge), Peckham maintains, can also be an urge to get stuck in the mud by preventing us from coming to terms with the disparity between our behavioural patterns and the demands consequent upon our interaction with the environment.

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1 Strindberg p. 103 25 Chipp p.608 2 Strindberg p. 166 26 McShine p.22 3 Strindberg p. 182 27 Ross n.p. 4 Strindberg p. 183 28 Davis p.54 29 Hulten 1968 p.148 5 Chipp p. 429 6 Leonardo da Vinci Vol.1 p.51 30 Selz 1967 p.48 7 Cozens p.8 31 Selz 1966 p.34 8 Prodan p. 79 32 Lippard 1966 p. 180 9 Rubin p. 12 33 Watts p. 132 10 Richter p. 56 34 Naylor p.43 11 Motherwell p.92 35 Ruben p. 19 12 Steegmuller pp. 225-7 36 Monod p.6 13 d'Harnocourt and McShine pp. 288-9 37 Monod p. 110 14 Richter p.56 38 Tompkins p.98 15 Watts p.35 39 Tompkins p. 106 16 d'Harnocourt and McShine p.38 40 Naylor p. 795 17 Watts p.40 41 White p.5 18 Jung 1955 p. 101 42 Knowles n.p. 19 Bronowski p.67 43 Brecht p.14 20 Cranmer-Byng pp. 16-17 44 Martin p.8 21 Breton p.26 45 Martin p.9 22 Motherwell 1948 p.7 46 de Vries n.p. 23 Chipp p.611 47 Rickey p. 157 24 Chipp p. 608 48 Peckham p.314

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