ABSTRACTS

Introduction

The objective of this part of the abstract research was to determine the degree to which the American landscape, under the influence of the interstate highway system had been destroyed, re-shaped or modified through applicable literature. Another objective was to determine the range of existing formal design concepts, theoretical bases and intentions that underlie highway planning processes. This information includes the determination of the "state of the art" form response.

The acquired data and information fell into three distinct categories: functional and safety, techno-material and formal. Of the available material, a significant majority fell into the first two categories. Since the primary emphasis of this project was to further the formal design issues, the abstracted books and journals, within this section, reflect a desire to introduce material that meets four specific conditions: cultural, natural, historical and environmental factors.

The cultural selection presents ideas that deals with aesthetics, art, sculpture, painting and architectural issues. The natural of motion and its effect on human vision is covered in a number of abstracts. The literature covering the natural landscape stresses the ecological, geological and topological aspects of
the land. In addition, issues of land preservation, conservation and development are addressed. The historical literature focuses on the value of the land within the historical framework of America. The archaeological value of the landform is also discussed at the rural and urban scales. Lastly, the environmental literature stress the role of planning as a major component in the design of the highway corridor. Further, the relational aspects of the highway and its context are explored.

The abstracts are intended to present formal design viewpoints that, in and of themselves, represent an ideology that stresses the value of the landscape and the potential for a much higher level of "expressive content". Ideas, directions, attitudes and philosophies are presented to suggest the untapped design potential that is available. The abstracts synthesize each piece of literature to highlight the issues that are most applicable to the project.
AMERICA'S HIGHWAYS; 1776-1976


This book deals with the nation's highways on two fronts: the general history of the system's development parallel with the country's, and matters relating to technical aspects of highway transportation. The country's development as a great power is attributed to the success of the highway system.

The historic section begins with the primitive state of overland transportation in the colonial period. Wheeled vehicles had no place on the early roads - the norm was travel by foot or horseback. Soon after came a period marked by turnpike works undertaken by private interests authorized by the states. These soon turned westward.

The federal government was slow to get involved despite a comprehensive study and set of recommendations by Secretary of the Treasury Albert Gallatin in 1808. States were largely responsible for road construction. A number of military roads in the territories were developed by the federal government for defense. These were often the only paths available to settlers.

In the years between 1850 and 1900 1.5 million miles of rural roads were built, mainly on section lines. However, these roads were little competition for the railroads and their ability to handle freight.

It was not until the 1890's that the states, and later the federal government, felt the need for improved surfaces and mapping as part of the "Good Roads" movement. The Office of Road Inquiry (begun in 1983) within the Department of Agriculture had the influential and dynamic General Roy Stone at its head. He inaugurated a policy of "object lesson roads" which were successful. In 1907 a National Road Inventory was completed. With 2,151,510 miles of rural public roads only 152,662 had any kind of special surfacing.

The Motor Age changed the nation's perception of travel and led to formation of such groups as the American Automobile Association, the American Highway Association, and eventually the American Association of State Highway Officials. These groups were instrumental in lobbying the federal government for funds. The Shackleford Bill, passe in 1916, was the beginning of the federal subsidy to the states for road construction.

With World War I and the war effort came the beginnings of the trucking industry and the demonstrated need for interstate travel, even in severe weather. In the following years the railroads lost millions of tons of freight to trucking.

Production of automobiles increased dramatically between 1921 and 1929. Accompanying that was an overwhelming
increase in traffic congestion and accidents. This period saw a decided improvement in road construction technology and design for safety - parkways and divided highways being the best examples. This period saw the construction of the Mount Vernon Memorial Parkway and the Bronx River Parkway.

The next significant period was that of the mobilization effort for World War II. While 1941 saw the peak of the construction boom begun in 1921, by 1943 the only work done was strictly for defense purposes. Production of cars stopped. Shortages of steel, rubber and oil stalled civilian development and caused a marked drop in tax revenues to the states.

The postwar period was one of a massive shift to peacetime economy. States expanded their highway funding, finding increasing revenue in gasoline taxes. A significant toll road era began, resulting in a high standard of engineering and amenities unmatched by state highways. There arose, however, a fear that free access roads would disappear and that free transportation would be stifled. The issue of national defense was raised again and again.

President Eisenhower inspired the states' governors and Congress to legislate a new grand plan for federally funded interstate roads. This led to the Federal-Aid Highway and Highway Revenue Acts of 1956 and the guarantee of a standardized regulated interstate system.
ARCHIGRAPHIA

Walter Herdigr, Editor
Hastings House, New York, 1978

Archigraphia reviews some of the most recent and effective attempts at graphics that put order into the optical chaos of contemporary society. The first principle of the environmental designer should be the integration of art and architecture and the unity of function and aesthetics. The city dweller should be provided with easily comprehensible orientation and signage both aesthetically attractive and effective.

There are six sections in the book:

1. Pictograms and Symbol Signs
2. Traffic and Highway signage
3. Visual Guidance Systems
4. Graphics and Lettering on Buildings
5. Super-graphics and Animated Walls
6. Transportation and Vehicle Graphics

It becomes obvious that there is a connection between the need for such graphics and the speed and separation of the viewer relative to the highway environment. Most of this work is for the person traveling at relatively high speed in an automobile. Symbols, animated walls, Super-graphics, Visual Guidance, etc. - these are for individuals who have
no time and no opportunity to move closer to the sign or synthesize a wordy message. Images with instant recognition are necessary.

Included are two case studies - American Institute of Graphic Art's signs for the U.S. Department of Transportation and Vignelli's standards manual for the New York Transit Authority.
ARCHITECTURE 2000: PREDICTIONS AND METHODS

Charles Jencks

The future is unavoidable and so are the methods of predicting future events. The interplay between expectation and confirmation forms the basic model of the hypothesis for future events.

The influence of the "Oedipus effect" on population suggests that, firstly, there is an irreducible element of uncertainty in all social predictions caused by an interaction between observer and observed, and, secondly, the effect of ideas and predictions on the actual course of events is the essential key. Future trends appear on the surface to be inevitable, but they can be altered. If trends did not exist, argues Jencks, we would have to invent them, because to a large extent they constitute the common framework of continuities on which we speculate and act.

By using six major traditions that remain essentially autonomous, a structural analysis is established by Jencks to develop future models. The six classifications comprise the major tendencies which have occurred since 1920, as well as demonstrate how civilizations tend to pulsate between opposing terminologies. Thus when a cluster of concepts is explored, exhausted, and used up by the society, either a new stage appears or a reaction to the
previous cluster emerges.

With modern techniques, the indoors and outdoors are merging, as are the qualities of night and day, summer and winter, and north and south. The thesis is advanced that in the near future large populations will inhabit a city/country which is air-conditioned, lit for the 24 hour cycle, fully serviced, and continually alive with activities. The visual blurring of the differences between nature and the culture of the environment is paralleled by the reconceptualization of nature and culture as people’s knowledge and development increases. The state of complex ordering is transferred through a work of art, ultimately transforming the viewer so that he too can attain a balance within the framework of nature and culture.

Jencks maintains that future discoveries which will appear on all fronts will lead to new forms of belief that will have strong similarities to those of the past. In this sense, those cultural 'object models' that shape the environment will evolve into each other creating a transient perception of change. The duality created by future change between people and their environment will require 'critical rationalism' to underline the fact that if humans are to survive we will need both rational thought and constructive criticism to work in a synergistic manner.
ART AND TECHNICS

Lewis Mumford
Columbia University Press, New York, N.Y. 1952

Art and Technics is a series of six lectures delivered at Columbia University in 1951. Each lecture is devoted to a specific aspect of the artistic, or subjective, and the technical, or objective, impulses in the human being. In Art and the Symbol, the role of scientific learning and mechanical invention is investigated at the expense of the spiritual and philosophical aspects of the human being. With the advent of tendencies towards mechanical organization and robotic environments, the machine is displacing man from the center of the equation and reducing him "to the mere shadow" of the machine he created.

Through the advance of technics an environment and an orderly life style have evolved that stress uniformity, regularity, mechanical accuracy and reliability to a high degree of perfection. Art and technics both represent formative aspects of the human organism. Art stands for the inner symbolic person that is being denied by the technocracy of societal "objectivity".

In the Tool and the Object, Mumford explores the change in society that has resulted in a tool-minded, thing-minded and object-minded being totally distrustful of symbols such as language, thought, numbers and logic. Ours is a tool based
society producing objects no more coherent and as devoid of art as the toolmaker himself. The capacity for order appears to be the source of a particularly human value. The repetitive and iterative nature of the human machine has turned him towards technics and the object and away from art and the symbol.

In *From Handicraft to Machine Art*, Mumford explores the historical perspective of modern man's infatuation and ultimate separation from the environment through the influence of the machine. When society becomes mechanized, men are themselves transformed into mechanical, uniform, replaceable parts, or they teach themselves how to perform standardized and repeatable acts with accuracy. The drawing hand becomes the articulated machine, which is the final subjugation of man to the machines he invents. In the essay, *Standardization, Reproduction and Choice*, the democratization of the image produced a repetitive standard that was so successful as to influence countries like Japan, where all the dominant patterns of society remained feudal.

Mumford concludes his argument in the essay, *Art, Technics, and Cultural Integration*, by asking the question: Why has our inner life become so impoverished and empty when our outer life has become so exorbitant? The renewal of the inner being, so necessary to a vital life experience, can be discovered when "art elevated, imagination affirmed and peace governs the nations."
ART INTO LANDSCAPE

Arts Council of Great Britain, London, 1974

A competition in 1977, held in Great Britain, offered the public the chance to design for one of twelve sites chosen by a panel. The same panel chose 150 designs to catalogue out of over 1000 entered. Ten of the designs were to subsequently be developed. The competition was sponsored by the Royal Institute of British Architects, the Landscape Institute, the Sunday Times of London and fifteen corporations.

Sites were places chosen for their neglected state and need for development - slagheaps, demolished city plots, an old roundabout, a park center, etc.

Some solutions provide for objects constructed on site, others for shaping the land. All show a relationship to the site contextually or historically. Designs were submitted by the general public, not just design specialists. Participation by children, amateurs, artists, professionals, etc., was encouraged, providing ideas with a kind of character and freshness more diverse than usual.
Sketch for Elland Bridge site development. Mike Baldwin.
ARTS OF THE ENVIRONMENT

VISION + VALUES SERIES
Gyorgy Kepes, Editor
George Braziller, New York, N.Y. 1972

In *Arts of the Environment*, Kepes organizes a series of articles that relate art, space, vision and the human experience. In an article by Edward T. Hall, *Art, Space, and the Human Experience*, the relationship between the built environment, primarily spatial, and human subjects suggests that there is a problem of sensory deprivation. Western culture has tended to seal off the real from the symbolic resulting in a spatial experience that is totally based within the visual convention.

Transactionalists have attempted to develop a theory that would explain how man sees and how he perceives space. In this sense the whole subject of visual space is so complex that the understanding of visual space is formed by the interaction of: (1) The visual apparatus: the eye, brain and processes, (2) The external context: synthesized reactions and (3) The internal context: perceptual patterns and the human memory drum. Hall maintains, that Western man as a three-dimensional sensate is not a factor in spatial perception since only the visual sense is employed.

The spatial experience is intimately related to what man does and for the full utilization of the spatial envelope a greater integration of all the components available to the
human being must be engaged. The artist and the scientist provide the leadership towards greater visual and experiential awareness on the part of society.

Through a series of photographs, environmental potentials of the real and the visionary are explored as they relate to the built world. In the article, "The City as Artwork", by Patrick Clancy of the group Pulsar, the history of the man-made object is explored as an extension of the "artifact system" composed of the current technology and communication system. Only the highways system expresses the nature of energy flow within an urban gestalt. Through the use of emblematic energy configurations, the individual nature of each city can be developed to invigorate the fractured city parts. While the power of the urban form has been shaped by societal pressures, it is apparent that the natural resources are withheld from the residents.

Through the full integration of art within the urban arena, the surroundings can be made pleasing for people to live in and enjoy. Through the technological dissemination of the myth and symbol of the artistic world, the aesthetic resources of the community can be made available. It is only by introducing the subjective component (art) into a technically objective society that a true visual perception can be achieved. By raising the visual and aesthetic consciousness of the constituency, the quality of life within the urban realm would insure the continued growth of a vital community life.
THE CONCISE TOWNSCAPE

Gordon Cullen

According to Cullen, the nature of Townscape is the art of giving visual, artistic and organizational coherence to the jumble of buildings, streets and spaces that make up the urban environment. A better understanding of why the majority of urban settings appear dull, uninteresting and soulless may be found in the history of the city and its founding principles.

Through a series of composite photographs, annotated drawings and diagrams, Cullen points out the need to rid ourselves of the notion that excitement and drama can be born automatically out of the scientific research and analysis offered by a technocratic society. It is the 'art of relationship' that must be developed between people and their environment. By utilizing principles of vision Cullen shows how the public environment can be comprehended and analyzed through the faculty of sight, particularly as this relates to the impact of objects on the emotions, and through the principles of serial vision. By using these principles the elements of existing view and emerging view produce the optical setting for the city as coherent drama.

The second contribution by Cullen concerns the reactions to the position of our body in its environment. Place achieves impor-
tance because the body has an instinctive and continuous habit of relating itself to a spatial datum. The notion of 'here and there' affects the perception of the urban environment by stressing the entering or leaving of a place. This open-ended relationship stresses the importance of imagery, fulfillment and anticipation of 'there'.

The final section of the book turns to the examination of the fabric of cities; its color, texture, scale, style, character, personality and uniqueness. Through this concern for quality in the built environment, Cullen suggests that the inherent signature of a place can be enhanced through an elemental framework that stresses lucidity and not anarchy -through careful control of the content of the visual environment, the environment resolves itself into an interplay of elements.

With the acceleration of culture and the notion of change, the role of the environmental organizer is changing communication between the planner and the planned environment has broken down. The connection can be rebuilt by revitalizing the visual connection between people and their environment. Through the application of the principles of serial vision, place and content the city can be appreciated.
EARTHSCAPE: A MANUAL OF ENVIRONMENTAL PLANNING

John Ormsbee Simonds

This large manual is meant to be a book of practical principles, a primer, on the broad field of environmental planning. It deals with the means by which our living spaces can be made more useful and pleasant. Its scope, attempting to be as complete as possible, ranges through pollution, noise, erosion, traffic, wilderness, politics, etc.

Simonds is caught up in the ecological interest of the 1970's, and has edited together a very persuasive body of work. He extensively quotes experts in areas related to his discussion, his book benefitting greatly by their brilliance and style. He uses diagrams and graphics throughout to explain concepts and includes case studies from actual projects to demonstrate practical application of the principles described.

Simonds begins with an overview of ecology and the crisis proportions of the problems facing modern man. Clear threats to the living Earth exist; man can now alter his environment on a global scale. He talks of safeguarding our life-support system, the biosphere, the earth, the water and the air as well as the ecosystem. We are headed within decades or centuries, to the point where the earth will be unfit for human habitation.
After a general discussion of topics at the large scale, Simonds moves on to human scale with chapters on the visible landscape, noise, and movement. His chapter on "Paths of Movement" is especially critical because of the overwhelming, far-reaching effects of the automobile. He proposes ways to integrate the road with the landscape or cityscape, to step lightly and preserve the best features along the way, to create gateways to the city, to frame major vistas. He would protect "Scenic Byways" and plan systems of recreational parkways. He considers new highways as restructuring elements in the city and believes in the need for comprehensive planning that incorporates citizens' information and an interdisciplinary team approach.

He moves on to the Urban and Regional planning scale, using a case study of a new city, a planned community. His topics include ecological surveys, form and content, structuring, land-use allocation, patterns for growth, etc. The last chapter contains a formula for preserving and protecting the living Earthscape.
EARTHWORKS AND BEYOND: CONTEMPORARY ART IN THE LANDSCAPE

John Beardsley, editor
Abbeville Press, New York, N.Y., 1984

In the artistic revisions that followed the cultural turbulence of the late 1960's, landscape reappeared as an inspiration for a number of artists. They chose not to merely depict but to engage the landscape, using its materials and working with its features. Works by Michael Heizer, Robert Smithson, Walter DeMaria and Robert Morris are bound to their settings and relate to the special characteristics of their surroundings.

"Earthworks" or "land art" have proliferated since then and have taken on new dimensions in terms of form and materials. There are now parks, structures, sculptures and gardens demonstrating unique relationships to their settings.

There is precedence in the presumption that people's relationship to landscape is a significant expression of culture and that the landscape itself has sacred qualities. Prehistoric remains, 17th Century French gardens and 18th Century English picturesque parks are examples of man's perceived relationship between God and Nature. Man's relationship with the landscape has historically proven to be adversarial suggesting that a large proportion of built objects have negated the culture of the landscape. Indian
mounds, cliff dwellings, temple gardens in Japan, and environmental land sculpture are other antecedents of contemporary projects.

Americans seem to be ambivalent towards nature, exploiting it with technology on one side while conserving and nurturing it on the other. The most successful stance would be like that of a Wright or Olmstead - developing and building but with a respect for and understanding of nature's meaning and relationship to man. Some contemporary artists strive to improve the environment and engage urban problems that accompany industrialization through land reclamation, creation of parks and a heightening of people's awareness. Some pieces are thought to be radical and anti-urban, yet they often reach a sacred level and "aspire to the quality of revelation."

Besides those mentioned above, works by Nancy Holt, Richard Fleishner, Christo, James Turrell, Richard Long, Andy Goldsworthy, Charles Simonds, James Pierce, Isamu Noguchi, Beverly Pepper, Maya Lin and others are represented.
EDUCATION OF VISION

VISION + VALUES SERIES
Gyorgy Kepes, Editor
George Braziller, New York, N.Y.,

Every functioning human being transforms the visual signals that are received into structured and meaningful entities. Without the perceptual ordering of the senses into images of things in space, the human being is lost. Without shaping the physical environment in accordance with those images, the human entity cannot survive. Thus vision, the creative response to the elements of the environment, is basic and is central to the shaping of our involvement with the world around us.

Through the evolution of the artistic expression, the image created is an ordered, coherent and living form. For an image to be more than a mere expression it must rely on a unity of structure and form - color, lines and shapes corresponding to our sense impressions. Kepes has organized a series of essays that explore the depth of the artistic experience - an experience grounded in the perception of form and the ordered world. The deeper the artist's experience of the form the stronger the inner need to communicate that form.

Toward this end, Education of Vision organizes the articles along three lines of thinking. First, a systematic investigation into the role of vision; second, competent methods of
developing visual perception; and third, the mapping of concrete territories where creative vision is to be explored. In *Visual Thinking*, Rudolph Arnheim suggests that our senses are not merely auxilliary to the intellect but that visual thinking is a thought operation in itself - a powerful and basic means of knowing and reasoning within its own realm.

The second part of the book explores the physical aspects of vision as a tool for understanding the built world. In *Design and Communication*, Will Burtin presents a series of visual models designed to reveal and explain, demonstrate and organize the functioning of structures, organs and processes of the human body. This for the express purpose of enhancing and cultivating communication toward easier understanding of complex ideas and images and to create a higher visual and auditory retention of data. In the third part of the book, Tomas Maldonado in the essay, *Design Education*, investigates the term "design" as it applies to visual perception and the education of visual thinking. By examining a series of interrelated objectified forms, he draws the conclusion that visual thinking finds its roots in a visual form directly connected to current social phenomenology. Paul Rand's *Design and the Play Instinct*, explores the condition and application of visual perception through the love of play; play as a creative process that is organized around a series of rules which set the limits of the game as well as on the fact that there is a fundamental interdependence between perception and conception.
ELEMENTS OF URBAN FORM

George Banz

Forces that shape today's cities are different than in the past. Many past facts and concepts have become obsolete and inadequate to cope with present urban growth. Yet man's fundamental needs and nature's limitations remain the principal determinates in planning and design.

The modern city is no longer encircled by nature. It was freed by industrialization, then transportation and now communication. Connecting our urban centers and evaporating existing boundaries, highways extend the urban habitat into the natural environment. Communications no longer relate to place or to individuals within their specific surroundings. Man is released from his local bonds.

Contemporary man climbs into his capsule and escapes from his normal position. His conquest of space is a mosaic of sequential views and images. Relations between encapsulated individuals become impersonal - no more than distorted images. The velocity imposed by the need to achieve a connectivity of place denies the personalization of movement. Modern movement, therefore, steadily increases in speed and threatens to increase alienation between individuals and objectification of experience.
Freeways can be a major form determinate at the urban scale. As artificial boundaries they can be powerful tools in the hands of those who understand the complex feedback relationship between the habitat and human motivation and have "a strong will to form." Freeways take the place of natural boundaries and give rise to linear habitation.

Technology is growing beyond the capabilities of a single man or group of men to analyze and control it without the aid of the computer. The computer can be applied to planning and design through a systems approach to urban problems. "Technology may have become simply too strong to be brought back under direct human control. But by investing technology with artificial intelligence, its progress may be redirected if its 'brain' is kept accessible to human manipulation."
THE FITNESS OF MAN'S ENVIRONMENT
SMITHSONIAN ANNUAL II

Jennie Lee, Editor
Smithsonian Institution Press, Washington, D.C. 1967

The papers in this book attest to the extraordinary interest created by the public realization that something is wrong with man's relations with his environment. Man has neither learned to shut out nature - to defend from it - nor indeed has he learned to live in cities as a humane individual. As Edward T. Hall points out, the hidden structures of culture are among the most consistently ignored features of 20th-century life.

In this series of essays, biologists, anthropologists, architects, planners and artists present a point of view stressing the relatedness of society and its environment. Wolfgang Braunfels in his essay, Institutions and their Corresponding Ideals, posits that every architectural piece of art pre-supposes the framework of a strongly defined institution, hence it follows that architectural forms created in the service of one set of ideals can never be adopted unchanged in the service of any other. He uses as an example of this theory a simple farmhouse. In its original form it becomes a living being with its own personality but when modified in its purpose, (ie, restaurant) the fabric is maintained but it is deprived of the ideal and necessity it was built to serve. The essay, The Sense of Place, by Asa Briggs regards places as "creative things", "ethnic domains
made visible, tangible, sensible" is in direct contrast to the 20th-century shift from place to "placelessness." Architect Philip Johnson states that the ideals espoused by society counter those of reality. In *Why We Want Our Cities Ugly*, Johnson's thesis is based on the view that society will not be able to truely utilize the cities nor the setting until the values of people change. By comparing the funds allocated for highway-beautification with those allocated for highway-construction suggests that society is not able to initiate change so long as the "It costs money" slogan prevails.

In the article, *The Conservation of Cultural Property*, human life, while enriched by a technologically based society has become impoverished. Daifuku illustrates a number of examples where cultural landmarks, historic properties, sacred places, edifices and monuments have been destroyed due to the neglect of a society unwilling to preserve its heritage while in another article Ian McHarg states that western man remains pre-Copernican, believing that he strides the earth round which the sun, the galaxy and the very cosmos revolve. In *Values, Process and Form*, McHarg suggests that the environment shapes the individual who inhabits and ultimately takes on the physiological characteristics of that environment. The despoliation of the environment produces a society incapable of monitoring its health, biological and natural resources.
THE FREEWAY IN THE CITY

The Urban Advisors to the Federal Highway Administrator

This report was prepared by the Urban Advisors to the Federal Highway Administrator in 1968. Concern over the "quality of life" and "standard of living" in America is the focus of this study. The standard of living is directly dependent on the personal mobility of the individual. Highway transportation is the basis for an unprecedented degree of personal freedom that requires the continued growth of highway transportation systems. On the other hand, highway transportation cannot be allowed to function apart or conflict with its environment.

There is an elemental conflict between the highway and the urban centers populating the landscape. In order to maintain the standard of living, the highway must interact with the landform in terms of parks, playgrounds, historic or cultural sites, housing, schools and neighborhoods. Inevitably, the potential for adverse reaction is obvious. Reducing or curtailing highway improvements might eliminate such conflicts but in the long run would not solve the problem. Therefore the situation cries out for new approaches, particularly in the nonengineering aspects of highway development. Freeways have not been treated as a part of the urban machinery and as a result have not been infused with the "soul" of the city. This report makes 16 major recommendations ranging from expansion of

A Freeway made to explore and reveal the best views of the landscape.
techniques of system analysis and operations research in the planning and designing of urban freeways, to the encouragement of a high visual quality that contribute to the inherent beauty of the city. The major theme unifying the recommendations is the concern for the quality of the environment which can be achieved through the establishment of new design guidelines that stress the aesthetic approach to urban freeway design.

The visual enjoyment of the highway is sometimes an experience beyond analysis but such experiences are as a rule haphazard being marred by guardrails or concrete parapets. The authors argue that much of the inherent beauty in the urban freeway lies in three distinct areas: the sweeping forms of the highway; the unique forms of the city and their interrelationship. They advise that multiple usage of the highway corridor combined with visual links to the urban fabric can improve the relationship. Numerous examples of potential solutions to a variety of visual and technical links are presented.

The report concludes by outlining five basic factors which affect the man-made systems: the natural environment; the state of the technology; organizational policies; economic conditions and human factors. Each of these factors must be brought into the decision making process when any form of urban freeway is to be designed.
INTEGRATION OF THE HIGHWAY AND LANDFORM

FREeways

Lawrence Halprin

Lawrence Halprin is very much interested in motion and the ramifications of the experience of motion. Another book of his, Scores, deals with annotating motion and experience through time. His photographs illustrate his conception of kinetic events and the architecture springing from them.

Travel has always evoked certain images to Americans - so recently pioneers. The automobile is loved by them and symbolizes something important in the minds of most.

The high speed of modern travel has created vast and beautiful structures, "flowing cantilevers rippling above the local streets stand like enormous sculptures marching along architectonic caverns .... freeways out in the countryside, with their graceful, sinuous, curvilinear pattern are like great free-flowing paintings in which .... sensations of motion through space are experienced."

Many of these large scale works have, however, ineptly demeaned the areas they meant to serve. In cities especially, urban design values are ignored in favor of the expeditious.

Halprin outlines nine criteria for country freeways and lauds their potential ...." Its sculptural qualities can be enormous; it speaks of movement and the kinesthetic qualities of driving on it are vastly exciting ... as a design problem .... (it is) a form of action calligraphy where the laws of motion generate a geometry which is part engineering, part
painting, part sculpture but mostly an exercise in choreography in the landscape."

Approaching San Francisco from the airport. Lawrence Halprin.

He discusses the ideal solutions possible when the designers can control the mutual relationships and form-giving potentials of the city and the highways that serve it. He believes in a different aesthetic here - rejecting rural values and accentuating contextual ones. "The integration of the freeway in the city with its own landscape should be understood to mean integration with the urban environment. This means an integration with architecture and urban form, not with plantings."

Evaluations of six freeway types - tunnel, depressed, at grade, elevated on embankments, elevated side by side, and elevated stacked - by four criteria serve to classify the basic methods. But he stresses that one criterion, community impact (perhaps the most important), is subjective and therefore difficult to deal with.

Cities change and man's view is always changing. Halprin feels that new study techniques have to be developed for urban aesthetics and movement through space. "These linear highways are the tracks of motion; their only purpose is movement through space and once on them the entire experience of the environment is through motion." He has developed his own notation he calls rotation.

The last portion of the book discusses historical precedent and present construction. It reveals myths, failures, successes and future hopes relating to high speed travel and the freeways.
HIGHWAY BEAUTIFICATION: THE ENVIRONMENT'S GREATEST FAILURE

Charles Floyd and Peter J. Shedd

The Highway Beautification Act of 1965 had as one of its overriding priorities the control of billboards and other commercial intrusions on the highway driving experience and the highway aesthetic. This Act was perceived as a great threat by the large and influential billboard advertising industry and resulted in a progressive imasculation of the Act through amendments.

Despite the historic legal precedents establishing the role of advertising as an integral part of the highway environment, the road was built primarily for the public welfare and benefit. To date, industry has claimed that the use of private land adjacent to the highway strip must be open to commercial development. This type of activity has flourished as a result of lobbyists wielding sufficient leverage to influence legislation to their benefit. Besides this argument over private property rights, the billboard industry claimed that, for the sake of the driver and commercial and industrial interests, billboard advertising communicated necessary and beneficial information for the highway user.

By citing a number of actual examples, Floyd and Shedd demonstrate how large-scale advertising billboards and
their indiscriminate use along the highway has blotted out or even obliterated some of the most valuable scenic vistas in America. They argue that there are numerous examples where distracting, poorly sited and scaled billboard advertising can represent a major hazard to driver safety. Cases of vandalism of natural elements such as trees, bushes, ground cover and landforms on the public right-of-way by advertising companies in order to improve the "viewing" of their signs has furthered the deterioration of the highway aesthetic.

Documentation is presented that shows how certain states have permitted this type of large scale destruction through zoning. Unzoned commercial and industrial classification is so loosely defined that many areas with only obscure industrial or commercial use have little or no control over the placement of billboards, lighting or other types of signage with respect to the highway.

This report presents several examples that demonstrate that advertising information can be clearly and effectively presented using a standardized billboard format. For the billboard to be effective, it must be strategically placed and requires far less surface area. The authors conclude by arguing that the public clearly needs to take back its right-of-way and reclaim the opportunities for experiencing the natural landforms the highway traverses.
HIGHWAY ESTHETICS: FUNCTIONAL CRITERIA FOR PLANNING AND DESIGN

Peter L. Hornbeck, Editor
Harvard University, Department of Landscape Architecture
Cambridge, Massachusetts, 1968

This report examines the function and use of aesthetic criterion in the highway planning and development process. Having undertaken a review of the historical precedents and concepts of highway aesthetics, the governing theme of the research stresses that "aesthetics" should be a product of comprehensive highway planning. The aim of the study was to place the highway planning process upon a broader conceptual base by investigating three divergent issues: identification of the visual parameters of the highway planning process as relative to a broad spectrum of disciplines; proposition of a methodological approach to integrating visual and behavioral criteria for a more complete planning process; and recommendations for future directions of research necessary for a comprehensive planning process.

The visual experience is essentially qualitative, thus taking on aesthetic value. One of the most important qualities of the road is the visual setting. Aesthetic values are integral to that setting, giving it form, meaning and congruency. Visual aesthetics are only one component of highway development but elements of behavior such as patterns of attention, vision, cognition, expectation, pleasure, comfort and meaning illustrate basic needs that must be identified as criteria in highway design. The study stresses that visual
Driver System: Input-output relationship.

INPUT

ORIENTATION
APPARENT SPEED
POSITION OF CAR
CLIMATIC AND TRAFFIC CONDITION

OUTPUT

DRIVING TASK BEHAVIOR
DESTINATION . APPROACH TASK
VEHICLE CONTROL TASK

aesthetics, from an artistic or scientific point of view offer little insight into the problem of highway design. However, it does suggest three strategies that would contribute to the solution:

a. concensus-taking: samples public opinion on desirable qualities relating to "beauty" and the public highway. This process is not positive or analytical enough.

b. concept of misfits: studies the notion of ugliness having determined that people have a better notion of what is ugly than what is beauty.

c. visual "embellishment": process of developing the existing value of landform through art to enhance the "beauty" of what already is.

All three criteria are contributing factors to the aesthetic highway experience since each emphasizes fundamental factors: physical and mental health, sensory and participatory pleasure and social and economic value. In short, there is more to the highway planning process than mere "cosmetics".
A HISTORY OF ROADS

Geoffrey Hindley

In the author's note that opens this book, he asserts that "the history of roads is also the history of the traffic that has traveled over them."

The book is aimed at giving an indication of the general lines of development in the history of the world's overland transport and at linking this with the nature of the societies that constructed and used the roads. The book is not a technical study but a general survey to supplement more specialized reading.

The chapters present, in a chronological sequence, the development of roads from prehistoric times, through the Roman era of remarkable road building, through the medieval European road building experience to the development of roads in Britain before the railway age. The author's attention then turns to the new scale of road building in the twentieth century and sites examples in Europe, Asia and North America.
One of the tombs lining the Via Appia.
THE HUMAN USE OF THE EARTH

Philip Wagner
The Free Press, New York, N.Y. 1967

The theme of this book incorporates both geographical and ecological concepts by relating the distribution of surface features of the earth and their association with man's relationship to the environment. Human society has a relationship of an "unusual and peculiar sort" with nature. Wagner points out that the most distinctive features of man on the landscape are the artificial environments and their respective dependencies.

The living conditions of individuals within a society are governed by the interaction of man's modification of the land and its own natural changes. This creates a distinctively modified environment which reflects the society's culture, social organization, technology, relations with domestic organisms, and the character of the land itself.

The territory occupied by any human group is distinctive. Artifactual features appear in many diverse forms on the landscape. The arrangement of these artifactual features of a territory reflects both the nature of the land and man's work to shape the land. The meshing of these natural and man-made features suggest that at no two sites are the arrangements of site and routes identical but differ in their

work component. Human work is directed toward the utilization of natural resources based on "time, place and form utility". To utilize the environment to its fullest, Wagner considers five classes of productive installations: natural resource sites, circulation routes, manufacturing sites, cultivated lands and service centers. Routes make the reticule on which are strung the sites of work and rest; they are the paths along which the human processes are transported. These artificial installations require a degree of control in order to stabilize the life process; natural, societal and technical limitations must exist to exercise some control over the elements in the entire artificial complex.

Within the framework of natural processes, Wagner suggests that human interaction with the landform occurs within the artificial sphere and that man is "modified" through that association. Service centers provide a vehicle through which the human can interact. He concludes by suggesting that the process of "artificiality" is the continuing remaker of the synthetic world man has chosen to invent.
ORIGINS AND DEVELOPMENT OF KINETIC ART

Frank Popper

Since 1860 there has been a kind of parallel development within the areas of science and art. Impressionist art began with its first contributions during that decade - signaling the isolation of sense data - color, line, tone and movement - which prepared the way for pure or abstract art. Herbert Spencer's First Principles, Darwin's On the Origin of Species, Fechner's Elemente der Psychophysik and Lotze's Mikrokosmus were all written during this period. Treatises on movement and stereoscopic vision as captured by photography had far reaching repercussions also. There is in all this a tendency to move from the concrete, objective and observable to the dynamic, subjective and theoretical.

Popper generally ascribes to the Impressionists and Cubists an objective sense and to the Expressionists a subjective. He chooses a new category, "conceptual movement, for the Futurists, who seem to stand halfway between. He sees movement as being an inherent element of all the important art movements of the 20th Century: Vorticism, Rayonism, Suprematism, DeStijl, Constructivism, Fauvism, Der Blaue Reiter, Surrealism, Action Painting, etc.

"Kinetic" as a term in art was probably first used in 1920 by
Gabo and Pevsner, but was not truly accepted into the jargon until 1954. Kinetic Art covers all works in actual or virtual movement. It gets its inspiration from natural manifestations, mechanical inventions, and psychological states of mind. There are three basic groups: those that are stable but stimulate physiological reactions in the spectator (moire); those which challenge the spectator to physical action; and those which are themselves in motion. Of special importance to this study is the type that relies on active participation by the spectator.

Recent developments towards audio-visual spectacles, media events, and the growing participation of the spectator tend to lessen the distance between the work and the viewer. The work is liable to disappear as it integrates with real life.

Since 1965 there has been a tendency among Kinetic artists to enlarge the physical size of their projects. The works become the environment. The space occupied by the work and the space occupied by the spectator are no longer separated. Thus the artificial barrier around the plastic arts is superseded and the works can enter the spheres of architecture and urban planning. The spectator is free to pursue his own activities in a space which symbolizes and/or integrates his wider environment. There is the implication that the work can modify the evolution of man’s life and character.
MAN-MADE AMERICA - CHAOS OR CONTROL

Christopher Tunnard and Boris Pushkarev
Yale University Press, New Haven, Connecticut, 1963

In Man-made America-Chaos or Control, the co-authors, both respected writers and commentators of urban planning and the urban aesthetic, present a broad and comprehensive view of the American landscape and the condition in which it finds itself. Using sane and practical proposals for reclaiming "the mess that is man-made America," the co-authors investigate the various aspects of highway planning. They concentrate on areas around and between large U.S. cities and develop programs for revitalizing and transforming them into an "environment worthy of man."

The text, photographs, drawings and charts demonstrate not only the faults but also the aesthetically rewarding potentials of a planning process that emphasizes good planning and a design aesthetic.

The book is organized into six parts, each beginning with an essay devoted to visual values, followed by a factual exposition of the historical development and present status of the problem, and a presentation of the ideal visual principles to be sought after. The six topics under discussion are: the landscape we make; suburban housing; highways; industrial developments; recreation areas; and historic preservation.
Of particular interest to the present study is the section on the freeway -"The Paved Ribbon: The Aesthetics of Freeway Design." In this section the authors analyze the freeway as it developed over several decades. Components within this section deal with the internal and external harmony of the freeway; that is, its own inherent form as sculpture, unrelated to its impact on the external environment. As pure abstraction, the freeway has a sculptural quality experienced only by driving along it, and this chapter analyses brilliantly the qualities to be sought after in this experience of mobility at speed.

To further the cause of freeway as sculptural form, the authors describe the freeway's function, parts and relationship to the rest of the environment. They show what makes for good or bad design from the point of view of persons in vehicles traveling through the landscape at sixty miles an hour. It is the idea of speed and the ability to see the landscape that forms the central core of the first section.

The second portion of the section looks at the need for careful integration of the roadway with the environment it passes through, the impact on adjacent communities, the inherent conflicts between highway planning, land use planning and the landform, and, finally, the techniques by which, through care and talent in such matters as grading, planting, spatial analysis, and the structural design of the freeway and its components, the freeway can become a positive addition to the landscape and have minimal impact on the environment.
THE MAN MADE OBJECT

VISION + VALUE SERIES
Gyorgy Kepes, Editor
George Braziller, New York, N.Y. 1966

This volume in the Vision + Value series presents a general evaluation of the man-made object as an important environmental factor in shaping our 20th c. mores, feelings and values. The object, mass-produced and of limitless variety, reflects our ability to express cultural values and historical past and clearly gives focus to future paths. Modern technology has radically altered the man made object, the furnishings of our homes, and the landscape as well. The man-made object has become the new symbol for each successive generation striving to improve the condition of their lives. Kepes has organized a series of essays that view the object from a mere trifle to the large scale building from a formal, aesthetic, psychological and sociological point of view.

The first group of essays treat the origins of the man-made object through photographs, dialogues on historic and contemporary settings. Gillo Dorfles, in the essay, "The Man-Made Object, Object Forms and Functions: Contrast and Analogies," examines the need to create objects as an extension of man, a manifestation of the physical being. In this sense, the tools are viewed as limitations to the making of objects. By contrasting the hand-made and machine made object, Dorfles points out the anthropological nature
of the human-made object and its importance, Christopher Alexander's essay, "From a Set of Forces to a Form", defines the term force in two parts: the exact circumstances under which the force arises; the exact conditions which the force is seeking. Since force generates form, as in natural systems, Alexander argues that object-making is a product of forces (analyzed within a numerical framework) organized into real material as form. The exact methods for determining the form derivative emerge from numerical, analog, and relational forces methodologies. Through the scientific method of applying the three methods of force analysis, with no restriction on their variety, form can be generated which is stable with respect to all three force types.

In "The Object as Self-Image," Frederick Wright suggests that object-makers can be broken down into two major categories: those who reflect on what they do and those who find reflection a hindrance. The objects valued by society are those to be found within the realm of conscious thought processes and that image-objects must reflect the time and intellectual concerns for man to see the made-object.

In the final essay, Francoise Choay in "The Object and "Realism" in Contemporary Art," proposes that the actual, unfigured presence of found objects as elements of sculpture and art is proving to be one of the characteristics of contemporary art in an industrial society.
THE NATURE AND ART OF MOTION

Gyorgy Kepes, editor
George Braziller, New York, N.Y. 1965

In this contemporary society, the increasing precision of human understanding of motion in the physical world has led to the recognition of motion as a pervasive aspect of nature. The dynamics of the outside spatial world are ever changing but in spite of this fact, the essential characteristics of the world as we perceive it are constancy and stability. Our frame of reference exists within a stationary spatial construct. Motion then is irrevocably tied to individual perceptions while the objects within the world remain constant. Perceptual studies have revealed a paradox that shapes creative vision in that the patterns of optical signals that touch our retina and consequently reach the brain are never static.

In this series of essays, physicists, philosophers, artists, psychologists and art historians explore the aspects of motion that lead to the discovery of three fundamental aspects of artistic vision:

a. complementary unity - an understanding of relationships between the observer and the observed, of order and vitality and of constancy and change.

b. rhythm - basic to all living processes, and so too to the creation or reliving of an artistic configuration.

c. sequence - a relationship to the life-span of the
created experience.

Each author addresses a unique aspect of how images are created and perceived as structured sequential patterns inherent in all created forms.

While the essays of the first part of the volume deal with general aspects of motion, subsequent essays deal with structural problems of successive images. Particularly relevant to this study is the essay by Donald Appleyard regarding the visual future of the highly dynamic urban environment. Each of the essays argues for two basic ways in which the revision of visual thinking may process - through either technical invention, or through artistic intervention. The essays suggest that with the help of these extended visual tools and through new methods of seeing, coupled with a renewed cooperative impetus within the technical and artistic communities, our physical, emotional, and intellectual needs for constancy and stability can be met.

Particularly relevant essays:

Wallach, Hans, *Visual Perception of Motion*,
Gerstner, Carl, *Structure and Movement*.
Appleyard, Donald, *Motion, Sequence and the City*.
Dorflies, Gillo, *The Role of Motion in our Visual Habits and Artistic Creation*.
NATURE SCULPTURE

Wurtembergischer Kunstverein
Stuttgart, West Germany, 1981

Since the early 1960's a movement has formed in which artists involve themselves with using and exhibiting in specific natural sites. They are interested in an integration of art and natural landscape as a means of expressing and confronting that dialectic between nature and man, the objective and the subjective. This dialectic has led to an alienation between man and nature, a conflict finding expression in the built world.

The artistic aim of this book is to enlarge man's awareness of nature within himself. It is an attempt to solve the contradictions between the individual and the whole through a meeting of human and natural forces. The process is one of the artist creating a sculpture as an expression of personal experience while using materials at hand and incorporating natural processes such as growth and decay. These sculptures take on a variety of dynamic relationships with their siting based on two conditions, space and time. The sculptures exist as a part of nature despite the subjective reasons for their creation.

Artists included in this book are Alice Aycock, Jean Clareboudt, Hamish Fulton, Michael Heizer, Manfred Hoinka, Richard Long, Dennis Oppenheim, Robert
A PROPOSED PROGRAM FOR SCENIC ROADS AND PARKWAYS

U.S. Department of Commerce

Prepared in 1965 by the U.S. Department of Commerce under Secretary John T. Connor, this report was delivered to the President's Council on Recreation and Natural Beauty. It was the result of recommendations by the Recreation Advisory Council established in 1962 and the subsequent Highway Beautification Act signed by President Lyndon Johnson in October 1965.

The report calls for the establishment of scenic roads and parkways as a response to the fact that at least a third of automobile travel is for social, recreational or vacation purposes. In 1965, driving for pleasure was the most important outdoor recreation activity - surpassing swimming, boating, fishing or any of the outdoor sports.

Scenic roads would provide access to prime recreational areas such as parks and private facilities, but should in themselves be considered as part of the aesthetic experience of vacationing. It is recognized that scenic beauty and highway safety are interrelated. It is demonstrated that outdoor recreational activity enhanced by scenic roads would benefit the nation's economy, defense and overall health. The report calls for a minimum of $4 billion to be allocated between 1966 and 1976. The
size of the program was calculated by defining:
   a. projects resulting in maximum service to population centers, greatest amount of actual use, best payoff on investment and
   b. gasoline taxes generated by recreational driving.

It was recommended that the program be administered by

the Department of Commerce with the cooperation of the Department of Agriculture, Interior, and Housing and Urban Development. When the program becomes operational, planning at the state level would be indispensable with money for research and development provided by Congress.

The most advanced methods of landscape architecture and highway engineering are described. Plans for improving all existing public roads are listed. Financing, administration and planning of scenic roads is addressed.

Some existing scenic roads are studied and evaluated. These include the Bronx River, Hutchinson River, Saw Mill River and Cross County Parkways of New York; the Boston area Muddy River, Franklin Park and Wood Island Parkways; a well developed system of scenic roads in California; the VanDuzer Corridor in Oregon; Upper Port Caddo Road in Texas; Potash Road in Utah; The Great River Road stretching from Minnesota to the Gulf of Mexico; Mount Vernon Memorial Parkway in Virginia and Maryland; Blue Ridge Parkway in Virginia; The Natchez Trace in Tennessee, Alabama and Mississippi; The Baltimore-Washington Parkway; Colonial Parkway in Virginia; Foothills Parkway in Tennessee; The Kancamagus Scenic Road in New Hampshire; the Gunflint Trail in Minnesota; Carson Pass Forest Highway in California; Tellico Plains-Robbinsville Road in North Carolina and Tennessee; the Choctaw Trail in Oklahoma and Arkansas; and an extensive system of scenic roads in Wisconsin.
PUBLIC ART: NEW DIRECTIONS

Louis Redstone
publisher

Public art was, in the past, generally relegated to the domains of temples or palaces. Today it has reached out into the streets, shopping centers, office centers and even the highways.

There was an upswing during the 1960's and 1970's in the recognition of the importance of art in general life. This is demonstrated by the growth of funding from governments at all levels, educational institutions, commercial and industrial corporations and art patrons.

The General Services Administration revitalized the Arts in Architecture program, introducing new forms of public art such as environmental sculpture, earthworks, lightworks, murals, and building crafts such as ornamental grilles, stained glass, wood, fiber, and fabric arts. The GSA encouraged the integration of artworks in the conceptual phases of architectural design. In 1963 the GSA established an allowance of .5 to 1 percent of construction costs for each new federal building for the arts. Between 1962 and 1978 one hundred thirty six works were commissioned.

The National Endowment for the Arts was established in 1965 by Congress. This led eventually to a program entitled
"Livable Cities" encompassing architecture, urban design, city and regional planning, interior design, industrial design, etc.

Universities and colleges, especially through expansion projects, have increased commissions for works of art for their grounds and buildings. Regional shopping centers have recognized the importance of the presence of art and the public's appreciation for it. Corporate offices, hotels and theaters generally include art in their total plan.

Urban areas unaffected by governmental, institutional, and commercial groups require a different approach and scope of activity. Murals on building walls have been very successful at brightening drab neighborhoods.

Projects in some foreign countries are a result of legally required art in public and institutional buildings. For example, since 1964 Canada has allocated 1 percent of the building costs of all Canadian federal projects for works of art.
SPACE IN ARCHITECTURE

Cornelius Van de Ven
Van Gorcum Assen, The Netherlands 1980

The concept of architectural space is a relatively new one, being born in the middle 1800's. Modern architecture appears to be based within a spatial framework that has evolved from oriental and western philosophy, science and physics and a concern over religious aesthetics. Van de Ven concentrates on a variety of ideas, within the Hegelian tradition, of "architectural space" such as the birth of materialist and functionalist concepts of space.

A discussion is presented starting with the Chinese philosopher Lao Tzu and continues by examining the spatial ideas of Plato and Aristotle. He investigates the various interpretations through the theory of empathy and the discovery of the concept of simultaneity in perceptual psychology as crucial factors in the modern definition of architecture as the art of space.

By using a psychological approach, Van de Ven stresses that the human development is nothing else than the awareness of greater spatial dimension. The new architecture takes into account not only space, but also time as an aspect of architecture. The unity of time and space gives architectural form a new "plasticity". The new ideology, rooted for example in Mies Van der Rohe's
Armour Institute of Technology, rearranged the concepts of space into a materialistic hierarchy. "In its simplest form architecture is rooted in entirely functional consideration" states Van der Rohe; space achieved through the rationalist perspective. Van de Ven stresses the notion of space can be organized around four critical elements: illusory space that springs from the intuitive and the metaphysical; mathematical space that springs from the need to measure and draw; material space emerges from the tactile and perceptual requirements; and artistic space which represents the spiritual idea of space.

The appreciation of architectural space is tied to the time-aesthetic which measures spatial perception as a body in movement through that space. In conclusion, the author argues that space must be conceived of as planimetric, space time, three-dimensional and imaginary. To fully perceive the extent of the spatial experience, the space must incorporate one or more of these phenomena which in turn helps shape the meaning of the built environment.
SPACE, TIME AND ARCHITECTURE

Sigfried Giedion

The central theme of Space, Time and Architecture is the separation between thinking and feeling. It explores the unconscious parallelism of methods employed in art and science. During the early 1960's, architecture as well as urbanism became enriched due to the contributions from countries other than the United States - an evolutionary movement toward universality. In an attempt to answer the larger question, How do we wish to live?, Giedion structures the development of a "universal architecture" as the next step toward "new regionalism" - a method by which the inherent characteristics of place shape the conception of space. The present space-time conception - the manner in which volumes are placed in space and relate to one another, the way interior and exterior space are separated or intertwine is in a constant state of flux. To recognize and evaluate what is happening today and posit a tomorrow needs a longer perspective than the immediate historical past.

There are three space-time directions in architecture that emerge from the historical past: space as an interplay between volumes, interior space; and perceptual space. Since our period is seen as a period of transition, the spatial impulses manifest in architectural form allude to a
split personality - a division within. Artists and scientists have lost contact with each other; they speak the language of their time in their own work but cannot understand it expressed in work of a different character.

The 19th and 20th century development in the sciences, impelled by the great tradition of the previous two hundred years, has produced a similar schism within our civilization. The problem of today is not to popularize science but is to gain an understanding and a general view of the dominant methods in different fields of human activity. Our culture appears to be rooted in an age of specialized disciplines of such narrow scope and nature that can only encourage further movement toward specialization. Giedion argues: to counter this thrust, unification of the arts and sciences must occur within the parallelisms that our culture embodies. The degree to which the methods of thought and feeling coincide determines the equilibrium of an epoch. Through an exploration of the roots and growth of modern architecture, the "unity" of the future and its relation to our past and present can be realized.
VIEW FROM THE ROAD

Donald Appleyard, Kevin Lynch, Meyer

The View From the Road was the first comprehensive attempt to consider the urban highway as a positive visual experience that organizes motion, space and view to achieve aesthetic enjoyment.

The book is concerned with the aesthetics of the highway with particular reference to the way the road and its context in the city looks to the driver and passengers.

Two major contributions made by this work are the attempt to continue the research into notation of the three dimensional environment as the viewer passes through the scene, and the extension of this analytical method into a design tool that allows the highway designer to explore options for highway design, routing and views of the city from the highway.

Drawings and perspectives are necessarily selective and highway designers, as do all designers, choose the viewpoints or vantage points that best illustrate selective ideas of what a highway ought to look like.

Several techniques can be employed to convey the experience of moving through space at high speed. These
may include the use of motion pictures, 'cartoon' movies, or urban simulations such as those later developed by Appleyard at the University of California-Berkeley Urban Simulation Laboratory. These are often cumbersome to use and because of this several languages have been created for symbolizing the elements of a sequential experience in a single two-dimensional drawing. The elements to be recorded and represented may include change of view, enclosing space, apparent motion, sound, other activity, light and shade, and many other factors.

The work represented in Gordon Cullen's Notation, Philip Thiel's A Sequence-Experience Notation, and Lawrence Halprin's Notation are all attempts to develop and master similar recording techniques for documenting what Cullen called Serial Vision.

The book opens with the broad perspective of the highway landscape documenting the highway experience, elements of attention, the sense of motion, issues related to road alignment, apparent relative motion of the field of view, and the sense of space when traveling along the highway. It also explores issues of orientation, meaning, rhythm and continuity, and sequential form in the urban landscape.

The authors test their approach on existing stretches of urban freeway, extensively document the study of the Northeast Expressway in Boston, and then undertake the design of alternative proposals for the inner ring road in Boston.
YOU ARE HERE: BOSTON CELEBRATIONS

Center for Advanced Visual Studies, MIT
Institute for Contemporary Art, Boston, Massachusetts, 1976

The second collaborative effort between the Institute of Contemporary Art and The Fellows of the Center for Advanced Visual Studies at MIT, these projects offer designs which could eventually become permanent monuments to the city of Boston commemorating its Bicentennial.

Long Wharf was chosen by the Boston Redevelopment Authority as the most appropriate site because of its historical significance and its central location.

Six artists were chosen to participate - Lowry Burgess, Michio Ihara, Gyorgy Kepes, Carl Nesjar, Otto Piene and Harold Tovish. Their work was reviewed by a panel composed of architects, developers, city officials, university administrators and art administrators as well as by a panel of the artists themselves. There was also a chance for the public to offer opinions.

Director of the Center, Otto Piene, states, "Environmental art can no longer be viewed or practised as a set of separate concerns of architecture, planning, art, media or spectators. On the contrary, and positively speaking, environmental art results from the integration, or reintegration, of planning,

architecture, art, media, user participation, and - in all of these - modern technology. Usable, glorious interior and exterior spaces large and small are needed - inviting and evocating exciting entertainment; ceremony; joyful or mournful and dignified celebration - lending themselves to expressive experientiation.

Kenneth Baker believes that environmental art serves to connect us to our immediate surroundings. Gyorgy Kepes uses the word environment as "the interconnectedness of forces and things that sustain the conditions we take for granted, such as livable temperatures and breathable air." Environmental art seeks to de-objectify the earth and emphasize our feelings for society and fellowship with the natural world.