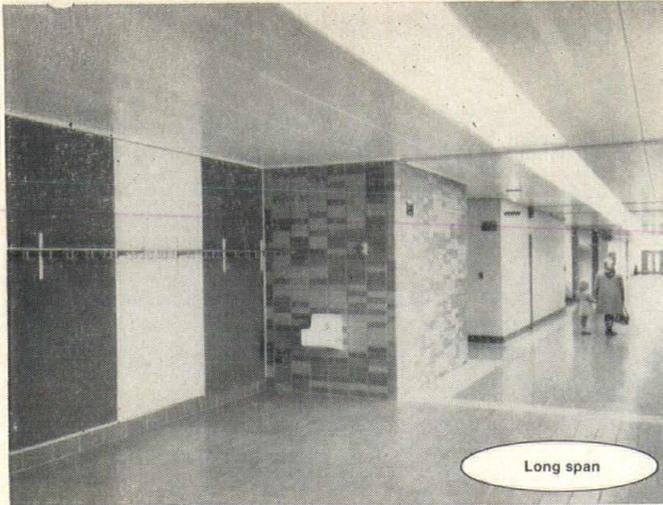
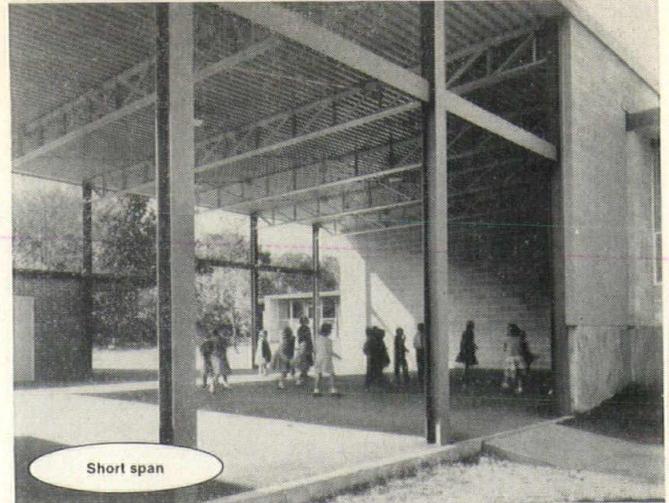


Multi-purpose roof deck systems



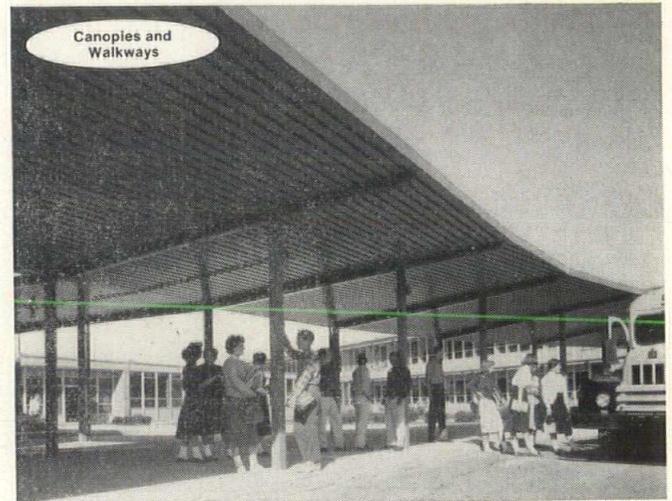
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Short span



Folded plate



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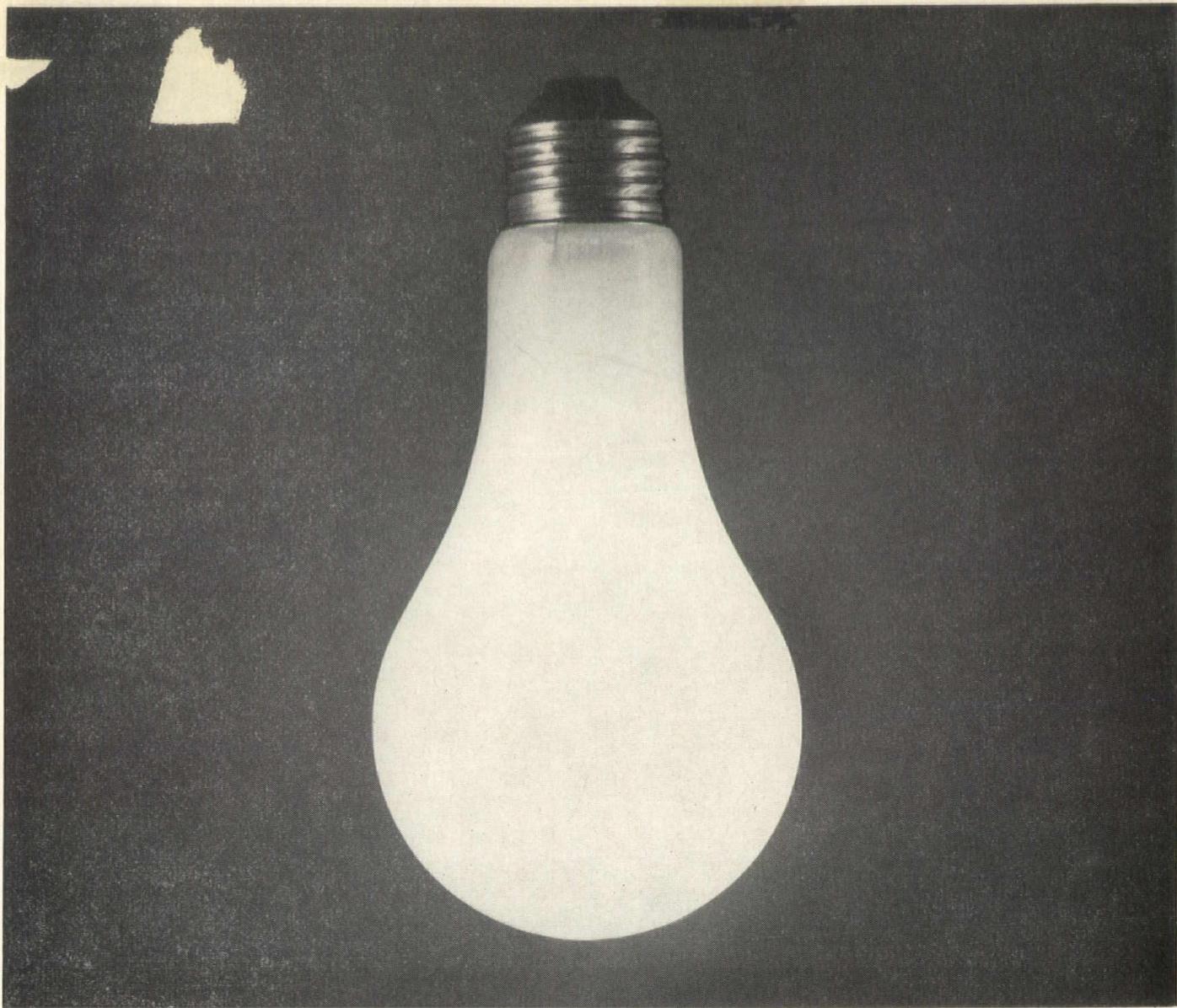
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Indiana architect

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CONCERNING THE COVER:

"CITIES IN CONTEXT," by Art Director
Larry Roesler

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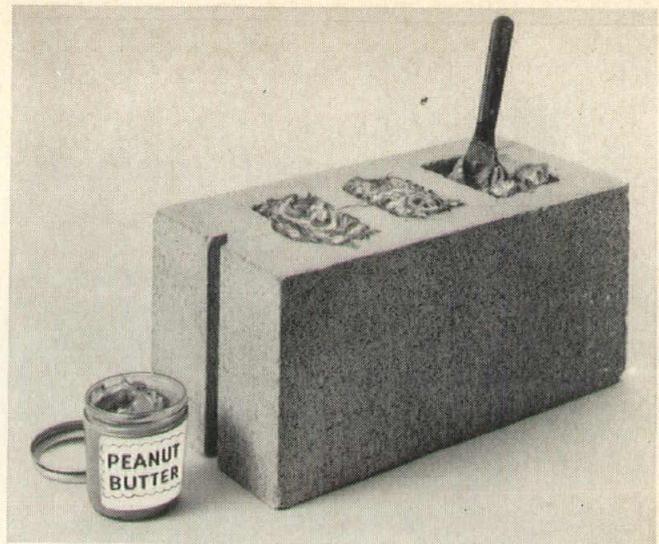


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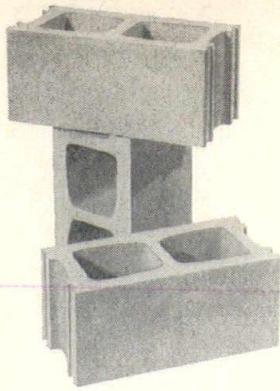
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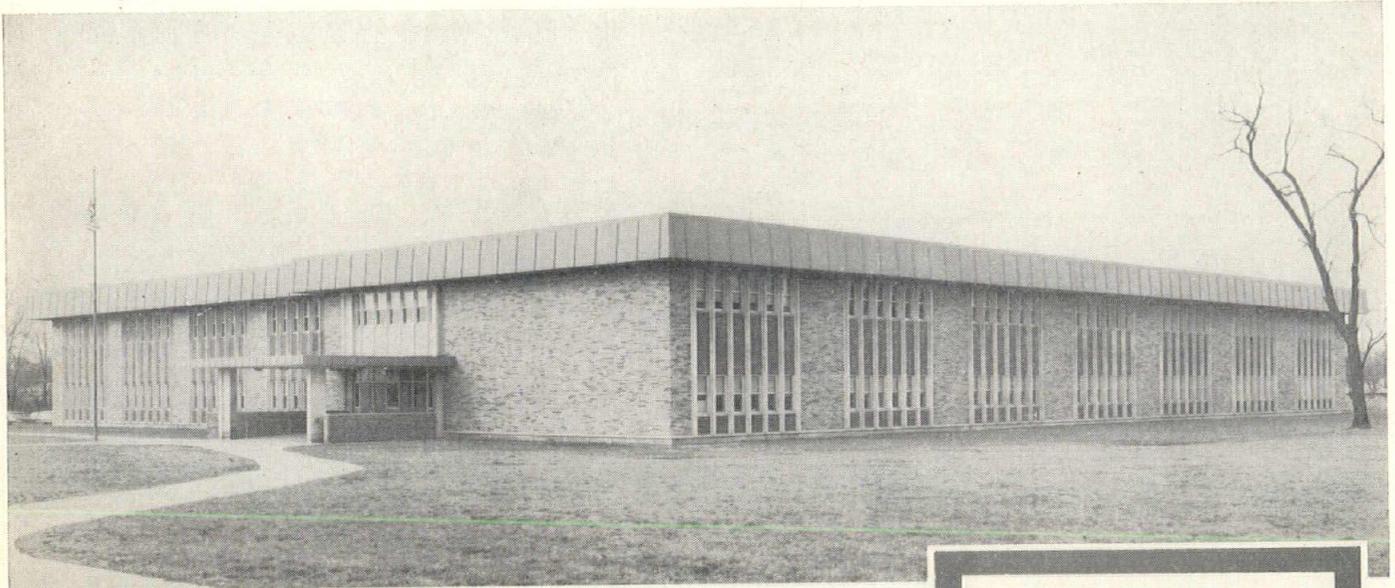
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ARCHITECTURE AND COMMUNITY ENVIRONMENT

United State Senator Birch Bayh, R. W. Evans (Case & Co.), Dr. Johnathan King (Educational Facilities Laboratory), Dr. James McConnel (Stanford University), Dr. Harold Boles (Western Michigan University) and Ted Aschman (Barton-Aschman Associates) are among the distinguished speakers committed for the 1968 ISA Annual Convention, October 24-26 at Stouffer's Inn, Indianapolis.

Mr. Evans will meet with architectural firm principals in the first workshop session Thursday morning, May 24th, for a discussion on the costs of architectural service. Dr. King, Dr. McConnel and Dr. Boles will participate in the Thursday afternoon theme session on "The School House in the City."

Mr. Aschman, whose firm is working on a transportation study for Indianapolis, will discuss "Mass Transportation and Community Planning" at the Friday morning theme session, with a supporting panel still to be announced.

Senator Bayh speaks on "Model Cities" at the Saturday morning theme session, and mayors of several mid-western cities have been invited to respond as panel members. All theme sessions will be open to the public, and invitations will be issued to many different groups.

Other convention activities already programmed include a Black Curtain Theater-Dinner Party Thursday evening, fun program Friday evening, golf tournament Friday afternoon, annual business sessions Saturday afternoon, and Oldfields reception and annual banquet Saturday evening, followed by Triennial Honor Awards presentations and dancing.

Convention arrangements are being handled by George Jamison AIA, Dave Meeker AIA, Phillip Leach AIA, and R. K. Lennox, AIA, all of Indianapolis.

BALL STATE ART FESTIVAL

Stuart Dawson will open the 1968 Summer Arts Festival at Ball State University, Tuesday, June 11th, speaking on "An Approach to Planning the Environment." The program will start at 8:00 P.M., in the Architecture Building. A partner in Sasaki, Dawson and Demay, Mr. Dawson will discuss the organization of teams of specialists (such as architects, market consultants, traffic engineers, hydraulics engineers, graphic specialists, etc.) to design large-scale projects. One example of this type approach to overall and integrated design teams is the College Park Project in Indianapolis, on which Mr. Dawson is associated.

MEDICAL SEMINAR

The Indianapolis Chapter, Producers' Council, hosts a seminar on medical facilities at the 71st and Keystone K. of C. Hall June 4th, starting at 1:30 P.M. Subjects include design, structure, operation, safety, environment, communications, transportation and maintenance, discussed by panelists Thomas Shimer AIA, Indianapolis, John Corona, VA Hospital engineer and Methodist Hospital Director Bryan A. Rogers. Displays and dinner complete the program.



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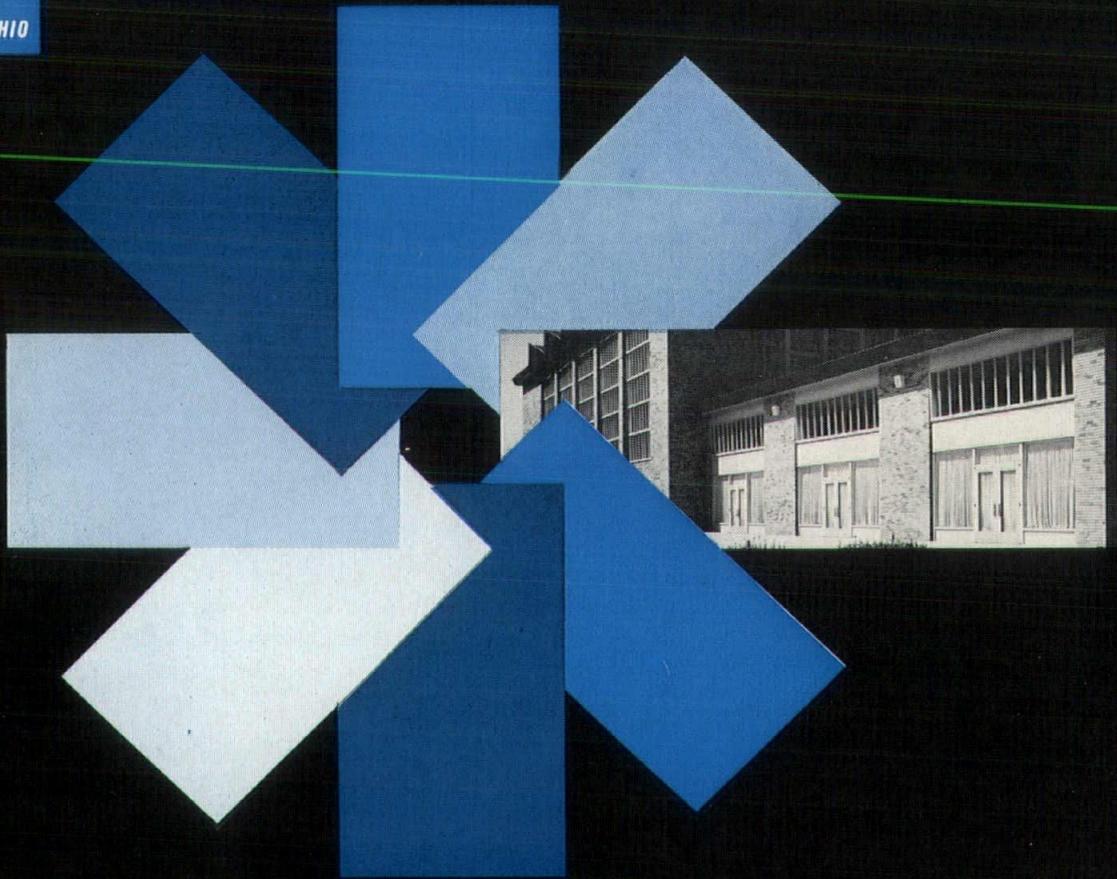
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Excerpts from thirteen major addresses at the International Conference on CITIES IN CONTEXT, Cultural, Ethical and Natural, held to consider the qualities necessary for the advancement of urban Society at the University of Notre Dame, March 31 through April 3, 1968. Arranged by the Department of Architecture, College of Engineering, University of Notre Dame, under the inspiration of Professor Patrick Horsbrugh, director, Graduate School of Environics.

THE FIFTH REVOLUTION

About 5,000 years ago, man had sufficiently advanced into the agricultural revolution so that he could contemplate a future without foraging. He could plant seeds, tend his herd, and harvest or kill, instead of roam the countryside, when the rumblings of his stomach or the needs of his family so dictated. It was about this time, and for these reasons, that the first "cities" made their appearance; the agricultural revolution, having begun, produced a sense of community, of neighborhood.

The second great revolution was cultural. It began in ancient times and continued for thousands of years into the Renaissance and the Reformation of the Middle Ages. It was marked by man's desire to learn, to communicate, to govern with reason, and his accomplishments were both by design and by dream.

Next came the third, the industrial revolution. In this, man harnessed the energy of fire and steam, set it to turning wheels and providing leverage, then multiplied this new power by applying capital.

The fourth great revolution was the scientific. In this, man applying his knowledge of mathematics and chemistry and physics coined the word "automation," split the atom, produced computers, and readied himself, though he hardly seemed to realize it, for an age of cyber-culture in which there could be, as the late Dr. Norbert Wiener put it, "a human use of human beings."

Man — the world — in varying degrees has tasted of four great revolutions, yet throughout these thousands of years of war and peace, of travel and exploration and scientific probing, man has remained riveted to some of his ancient myopic views of cities—viewing cities out of their natural, ethical and cultural context. Cities are more than asphalt and steel, glass and stone, goods and services. Cities are people—people in all their dimensions—physical, cultural, ethical and natural.

Past urban development has cut out some of these human dimensions and, as a result, cut out part of man. We have seen the results; they are predictable and disastrous: Filth, disease, noise, frustration. These failures fester and feed the urban dwellers' sense of discrimination and despair. This complex and deadly consequence has come to be known as "the urban crisis." Every major river is polluted, some lakes and estuaries are cesspools. The landscape is cluttered and gouged. City air and streets are laden with filth; urban centers are decayed and crammed with unsightly buildings in thoughtless arrangements. Our transportation is snarled and deafening; suburbs are monotonous; open spaces are gobbled up.

Our attempts for the most part to improve the urban condition are reactive and to a large extent cosmetic. These efforts are critical, and it is noble that they are being made both by government and by industry. But as we react to the crisis in the cities to put existing cities back in context, might we not also be thinking of NEW CITIES IN A NEW CONTEXT.

I think our great Nation ought to begin considering new directions in which it can move by utilizing the skills at hand, not merely reacting to the crises which are underfoot and overhead, hanging like a guilt-shadow of our past failures, commanding so much of our attention and energy and creative resources.

After four great revolutions, this Nation is ready to commence a fifth great revolution, the Environic Revolution, in which there is a human use of human beings, in which creature comfort will pay a prominent role, in which man can have a greater choice as to where and how he will live, in which there is a satisfying environment for man the natural creature and for man the ethical and cultural being. We must complete cities for the total man, cities that serve more than the needs of the body, cities that serve our innate desire for

beauty and order and community, that stretch the mind and enrich the soul.

I am suggesting a renaissance of the urban core; our stake in them is too great in both financial and human terms to bulldoze them into the oceans.

I am suggesting, too, that we build new cities, based on the new concepts in American life—not satellite communities attached to a megalopolis, but viable, independent centers of opportunity and beauty.

I am suggesting, too, that the core of our new cities, and to the extent we help strengthen the current small town and cities, should be culture, not slick commerciality and tasteless advertising.

The tools, in a sense, are there. We have merely to use them in a new way, without starting totally from scratch. We can, to a great extent, begin with legislation and programs extant, start with what we have, and build from this sound base.

We have been liberated from the past; our science and technology should furnish us some cures and answers. What we require is the will to infuse our social and political and governmental institutions with a new spirit of adventure, to make our technology, knowledge and numbers work for us, not against us.

I do not minimize the problems of megalopolis, or their importance to us as a people; we cannot ignore the central city or its crisis. We must have a renaissance of the old, but now and then we must look away, and even up.

I ask that we consider our great wealth and our wisdom as the basis for Cities in Context, examples of the best our Nation has to offer. We must move towards excellence, through which we might build during the remainder of this century a civilization known for its culture and viability, a civilization both rich and respected.

by the Honorable Max N. Edwards
Assistant Secretary for Water Pollution
Control and Desalination
Department of the Interior

THE DYNAMICS OF PLANNING

Cities are now in a new "ballgame"; many old rules, policies, approaches, attitudes, ways of doing business, have to be changed. If appointed and elected officials don't change them,

the neglected portion of their constituent public will, by whatever means seems to them possible. If the democratic process doesn't work, or is too lengthy, or too rigged from their point of view, they'll use other means to make changes. Those other means are what we fear. We must clearly recognize that the issues of white racism, discrimination, participation in power decisions, and previous neglect must be weighed as a part of all decisions we make in evaluating the future context of our cities.

New technical and professional innovations making metropolitan planning more effective are coming in particular from the regional science approach to analysis and evaluation. The work done in this area, particularly locational distribution and spatial theory, brings great insight to the characteristics of regions and gives an opportunity for both the planner and decision maker to understand their interrelationships far more accurately than was previously possible. Regional science is having a significant impact on city and regional planning and bringing new theory to cope with complex problems of urbanization which seemingly cannot be addressed as factually or objectively in any other way.

City planning itself has had to develop many new thrusts. Primarily, planning has had to adjust to the dynamics of the rapid changes as they have occurred in our American communities. The profession is also beginning to become more aware of its total responsibilities. In eastern cities the problems of minority groups, racial tension, slums, blight, rebuilding, urban renewal, etc., have been the principal problems of the planner. In the west, principal thrusts have been how to save open space, land development problems, street design, freeways, utilities, water extensions; the characteristic problems of a rapidly growing area.

Perhaps the most dynamic impact on city planning has been the Community Renewal Program concept, a federally financed program to study the causes of blight, formulate solutions to blight, and develop coordinated action programs to eliminate blight in the future. CRP's have forced planners to quantify their hunches, to look at the programming and administrative reorganization aspects of planning and city development in a much more realistic way.

Urban renewal is finally shifting from an emphasis on clearance as the means and the central business district as the location to the utilization of the neglected tools of rehabilitation and conser-

vation within a broader geographic spectrum. We now realize that an isolated project may not create a chain reaction of improvement, that a total range of action including administrative and political programming are necessary to dynamically affect the city.

Many other experiments in planning are being initiated, such as our Goals Program in Los Angeles, which utilizes direct response from the public as a fundamental base for future public policy. Systems analysis and operations research intimately tied to the development of data banks and the utilization of computers in the manipulation of data are a part of the development of mathematical models expressing real-life relationships to test public policies or programs before they have to be made.

Extensive involvement of the public through citizen participation has become an imperative; if the public official had been working with the citizens from the beginning and given them an opportunity to express themselves, participate, truly contribute, the public official might not have to experience that stampede of citizens demanding their rights and their participation.

Each public official must have truly effective communication with every segment of the population, using every means to bring the public into the process of developing and solving the problems in our cities, exploring every innovation on community organization conceivable, giving every encouragement to citizen input in the process of developing public policy.

Our first task is to determine what kind of a city urban citizens really want. The people should be asked to develop the basic goals and objectives toward which public policy should be reaching even if these ultimate objectives seem to be unobtainable at the present time.

The total process includes:

1. Find out what we want—Goals.
2. Determine what the possibilities are—Alternative Concepts of the city's future.
3. Select the Concept which best fulfills the Goals.
4. Develop and adopt plans and policies to carry out the Goals and Concept.
5. Develop the technical means to accomplish the plans and policies: The master plan elements, standards, development programs, funding programs, project plans.

The cost to systematically solve the problems in our American cities is enormous, it is frighten-

ing. But the public must be completely aware of the planning process every step of the way so they can be aware of the alternatives. They are ultimately the only arbiters of the final decision. The public must be in a position to evaluate the necessary trade-offs in the allocation of scarce resources to solve our massive urban problems. In a democracy, do we have any other choice?

by Calvin S. Hamilton
Director of Planning
Los Angeles, California

THE URBAN ATMOSPHERIC ENVIRONMENT

There is something paradoxical about the way in which cities have developed: The mere existence of the modern urban complex has adversely changed those atmospheric conditions that individual structural elements of the city were originally intended to modify or evade. Modern megalopolis have become so large that they themselves are significantly altering the urban atmospheric environment. How? The salient fact is that the part of the atmosphere that most affects man, is confined to the lowest few hundred feet above ground. The most important contributory fact is that the atmosphere is "statically stable," that is the density of air is generally greater in the layer near the surface than it is aloft. An important consequence is that there is relatively little mixing of air near the surface with air higher aloft, and effects of changes in the lowest layers are not easily dispersed upwards.

Part of the natural environment is the composition of the air we breathe and look through; by and large, it consists of gaseous nitrogen and oxygen, water in vapor, liquid and ice phases, and small amounts of carbon dioxide, all of which are essential to the existence of plant and animal life and none of which are toxic in the concentrations normally encountered. In the urban environment, however, the atmosphere carries a number of other constituents, particles and gases, produced as by-products of artificially accelerated chemical processes: carbon monoxide and incompletely burned hydrocarbons from automobile and truck exhausts; smoke from house chimneys, trash burners, dumps and factory stacks; smelly stearates from the stockyards and rendering works, and a

host of other concomitants of the current mode of living, production and consumption.

Under conditions of extreme static stability and particularly when the winds are light, such by-products of the urban society are highly concentrated within the vertical and horizontal confines of the city itself. In many instances, man's urban effluvia are merely unpleasantly odoriferous or obscure the view; in others, they are no more painful than the eyeball-searing smog of the Los Angeles Basin. Other contaminants in aggravated situations are a little more lethal — the deadly miasma that killed some dozens in Donora, Pennsylvania in 1948.

Ironically enough, our scientific understanding of the urban pollution problem is sufficiently complete and our technology advanced enough to remove all or most of the element of sheer hazard, but it costs money. The real problem is that the individual citizen or factory manager doesn't want to pay for haulage of his trash, a controlled emission package for his car, or installation of a fairly expensive electrostatic precipitator on the stack of his plant.

A large city affects its climate in many other ways; cities are generally unpleasantly hot in the summer. The "heat island" near the center of a city generally is 10-15 degrees warmer than the temperature of the nearby rural areas at the same time of day. This is because the structural materials of a city are extremely efficient absorbers and conductors of heat radiated from the sun, while the soil, trees, grass, bushes, lakes and fields of the countryside are relatively poor absorbers. Also, heat in the countryside is lost by evaporation from damp earth, moist leaves and tendrils. And finally, the temperature of the lowest layers of air is determined by heat conduction from the solid surfaces with which they are in direct contact, rather than by the absorption and emission of radiation by the air itself.

In comparison with surrounding rural areas, the city also exhibits the following interesting anomalies: a) The incident ultra-violet radiation is 30% less in winter, but only 5% less in summer; b) The mean annual wind speed is about 25% less; and c) The frequency of fog in winter is 100% greater.

There may be more far-reaching effects of the city on the environment. One is the influence of a very large city on the triggering and development of summer thunderstorms; towering thunderheads tend to form over large areas of sun-heated ground

—what could be more favorable to this than a hundred or a thousand square miles paved with brick, concrete and asphalt?

A clearer case for the climatic effects of a large city on a scale larger than itself has been discussed by Changnon in a recent article on the "Laporte Anomaly." Laporte has absolutely unique summer weather quite different from that of adjacent areas: Average precipitation 31% higher; 38% more thunderstorms; 246% more occurrences of hail. The culprit is the heavy industrial complex at Chicago, 35 miles away. The smoke from steel mills abounds in "freezing nuclei," the heat from industrial furnace stacks is highly conducive to the development of undrafts, and the air movement from this industrial complex to Laporte takes about the same time as the gestation period of a full-blown thunderstorm.

We do not now possess anything like a complete observational description of the climate of one major city, let alone a fundamental physical understanding of the determinators of urban climate. Still more frustrating to the physical scientist, there appears to be little point in exploring all the ramifications of an extremely large and complicated problem, if certain kinds of alternatives are excluded ab initio on social, economic or political grounds.

Nevertheless, in view of the rapidly increasing magnitude and complexity of the problem of urban growth, it is high time to start finding out how an evolving city changes its own climate. In doing so, however, we must also know more about the curious closed circuit of interactions between the city that man built, the climate that the city creates and man's response to that changing environment in further developing his cities.

by Dr. Philip Thompson
Associate Director
National Center for Atmospheric Research

BRASILIA IMPERATIVE: MANIFEST DESTINY

I had promised in my election campaign to respect the Constitution in all its paragraphs and items. If the constitution of 1891 had decided that the capital should be moved to the plateau,

and all the further constitutions had repeated it, someone with enough courage and determination should carry out the decision.

Everybody was certain that the building of Brasilia was impossible. My opponents even imputed to me a demagogic intention of not carrying out the decision, as I did not have enough support in the Congress. And they only gave me that support looking forward to the failure of my administration in the enterprise.

Lucio Costa, the author of the chosen plan for Brasilia, is one of the greatest, if not the greatest in the world, among modern urbanists. Only his intelligence and his creative power could have fathered the plan of Brasilia, a city without parallel in the world.

Besides Lucio Costa I called another personage, considered of first importance in world architecture, to take part in the building of Brasilia: Oscar Niemeyer. I let him have a free hand in Brasilia, with just one condition: He was to plan works at the sight of which, in a hundred years' time, our great-grandsons should perceive the notion of greatness and the ample powers of conception of the builders of Brasilia. They were to feel that these builders were conscious of the future of Brazil, of the future role of Brazil as one of the most powerful nations in the world.

The whole world knows how important Brasilia has been for my country. It is a city of over 400,000 inhabitants, and agglutinates in its environs over a million people from the four corners of the country, living in little satellite towns. Where a few years ago there was a wilderness, new life is sprouting.

Let us now see how Brasilia fulfils its destiny, bringing progress and civilization into most desert and abandoned regions, undertaking the building of dams and roads, promoting the creation of new townships and their connection with the rest of the country, making the country known in its immensity and in its neglect. All this would be enough to justify its creation, even without mentioning its most important role: The message of optimism and regeneration, giving the impoverished and embittered Brazilian of the interior a little faith and a little hope.

It cannot be denied that in Brasilia there exists a certain social maladjustment. There are shanty towns inside and outside the new city, but this fact does not mean that its urban plan or its architecture is faulty. Its reasons are in the existing social conditions and they should not be concealed but improved.. It is the social differences which

exist in the entire country and obviously also in Brasilia.

Everybody talks about completing Brasilia and about finishing some sections still being built. Obviously that will make it more attractive and more civilized, yet the fundamental fact was doubtless its creation—the unexpected impact of wilderness transformed into a city, the new roads, the plateau occupied by man. Brasilia's message is above all social, a protest against poverty, a cry against underdevelopment which generates despair.

It is a motorized and modern city; it is a city without crossings and traffic jams. There are also the peculiarities of the various city zones, their links and dovetailing, their scale variations, bulk and open space, either monumental or dynamic or cozy, as in residential districts.

The countryside there is preserved in its natural formation. Gardens and lawns continue along countless avenues, surround squares, invade residential blocks as if to protect human dwellings. There is the architecture, free and varied yet never seen before.

Brasilia was not a wanton, Renaissance-like gesture of personal or political vanity, but the crowning of a great collective effort aiming at national development: Steel industry, oil, dams, roads, automobile industry, shipbuilding. It is the keystone of an arch. By the uniqueness of its urbanistic concept and its architectural expression it is a witness to the intellectual maturity of the people who conceived it, busy building a new Brazil, which looks towards the future and is already master of its destiny.

Brasilia has had its problems, but they are the consequence of the contrasts existing in a country in the process of non-integrated development, where the recent tradition of an agrarian economy based on slavery, and a rather related and non-planned industrialization have left the mark of poverty intact. Just the moving of the capital could not do away with such fundamental contradictions. Powerful private interests take advantage of this chronically anomalous climate, and this is clearly visible on the outskirts of the city.

Nevertheless, in spite of these political, economic, social and also institutional problems, Brasilia actually exists where a few years ago there was just forsaken wilderness. It is no longer a subject of polemics, but is now the most efficient tool of national development.

by Dr. Juscelino Kubitschek
Former President of Brazil

NEW CITIES—

THE BRITISH EXPERIENCE

It is customary to regard the 14 new towns begun in the immediate post war period as the "first generation" and those 16 begun rather recently as the "second generation." When the first program was begun planners still accepted the pre-war view that population increase was slowing down, and population decreases were even predicted for the sixties and seventies. Projections for future motor car ownership were not taken fully into account, also, and it was possible for a consistent body of doctrine for planning to be built up with very little regard to problems of growth and change.

Within the last 10 years, all this has changed. Population growth and the increased ownership of motor cars have led us to regard the management of growth and change as central to the task of planning.

The new town concept has been modified by the emergence of huge metropolitan urban regions; on a national scale, the effect of these changes is to increase centralization, a limited number of major urban regions are expanding rapidly whereas in the rest of the country towns are static or even declining.

The practical goal of new towns is that they can help us to manage urban development in a way which would be better than would occur if "natural" development was allowed to take place. The inspiration goal is to use the new town to demonstrate better forms of urban environment and urban living than are available in old towns, and thus to provide a model for the future. The case for new towns depends on our believing that a pattern of balanced concentration will lead to a better, richer urban life than one of general separation and diffusion.

The classic institutional model in Britain is "The New Town Corporation," where a new town is to be built in an area where existing communities are relatively small. This is a public corporation acting in some respects as if it were a private developer, but possessing certain political powers and able to borrow money direct from the national Treasury. Local government designates a precise area for the new town based on a special study and a local public inquiry is held, generally resulting in a modification to the proposed boundaries.

Once the area is established, the Corporation

is formed, and staffed and commissions a report and master plan for the new city. From completion of the master plan to the termination of the Corporation's work, when the city is completely built and occupied, takes generally about 15 years. At the conclusion, the Corporation is dissolved, handing over any real estate to a national body and returning political powers to local authorities.

Economically the new towns have been extremely successful, so profitable that the Treasury has been unwilling to allow their property to be dispersed as had been originally intended. The main profits come from the increased value of land resulting from industrial and commercial development.

New towns have been subjected to critical assessment at two levels: How well have the individual new towns been planned and built, and has the program as a whole succeeded in its aims? They have been criticized as lacking "urban quality," as too spread out and diffuse. They suffered in the early days from acute social problems and were planned with an insufficiently wide mix of population, which the passage of time and economic success have improved. A much wider range of employment and house types is being provided in the new models.

The goals of the second generation of new towns may be summarized:

- 1) Densities will need to be somewhat lower;
- 2) Land uses will be more mixed;
- 3) Transport networks will provide a more generalized service; and
- 4) New towns will make strenuous efforts to attract institutions of national significance. A new physical character, appropriate to the present age, must be discovered and I believe it will be.

No one in Britain questions that the new town programs have succeeded in accommodating about 1,000,000 people. New towns provide an environment for most families far superior to what they can get elsewhere, and the proof of this is in the low rate of moving out. Further, the effect of new towns has been to concentrate growth, and thus they have helped to make possible the preservation around the metropolis of huge tracts of natural country for recreation.

New towns are part of society's armory for dealing with urban problems. They are an essential part, and will be needed here, but they are not a complete answer by themselves. In common with urban renewal projects, new highways and transit

systems, they are surgical interventions. They are one-shot operations with massive but essentially local effect.

A program of new towns will have maximum effect if it forms part of a comprehensive attempt to set the process of urban development on to the right path, but action cannot be delayed until a comprehensive plan has been worked out. In the current urban situation here, there is real need for new towns, both in-town and outside. New towns are needed to help relieve intolerable local pressures, and perhaps still more to give an inspirational lead. You have the material resources to build new towns, and the sociological and economic skills to define their goals. What is at present lacking is adequate institutional, legal and financial structures to bring them about.

by The Lord Llewelyn-Davies
Head, Bartlett School of Architecture
University of London, England

UNIVERSITIES, SPACE RESEARCH AND THE CITIES

There are several management and administrative characteristics of NASA's program which in some respects are relevant to dealing with urban problems:

1. Multiple and interrelated objectives.
2. Wide variety of skills.
3. Long lead-time planning and operations coupled with rapidly evolving technology.
4. High order of reliability.
5. Persistent and exacting public, congressional and scientific scrutiny of the program.
6. Results closely and continuously measured to provide feedback necessary to correct the management process.

A major factor in organizing the national space effort was the participation of universities in the aerospace program along with industry and government. As the chief source of new knowledge and highly trained people, universities are essential to the success of any major new national undertaking where new knowledge and new approaches

are required. Universities are full participants of the team, not just sources of assistance, in a program with these characteristics: (1) Universities should be brought quickly into extensive participation in the space program without conflicting with their primary educational responsibilities; (2) Universities should be strengthened rather than exploited through their participation; (3) Universities throughout the country should have an opportunity to participate, to avoid further concentration of federal support; (4) adequate financial stability for funding of university programs should be assured.

The NASA university program consists of two parts: (1) Project-oriented research grants and contracts aimed primarily at having universities work on specific research problems and (2) sustaining university grants to supplement and balance project research and to support graduate training, multidisciplinary research and university facilities.

NASA deals with over 200 universities, with training grants to over 150 universities and support for 3,400 predoctoral students. Sustaining research grants have been made to 50, and facility grants to 34. The results have been significant; however, one area in which we anticipated better response than we got was in the attempt to establish multidisciplinary team efforts to deal with the social and economic aspects of the space program as well as with the scientific and technical aspects. Neither NASA's problems nor the cities' problems are of such a nature they can be dealt with adequately by a single discipline—that a sudden "breakthrough" by an individual scientist in his laboratory will suddenly produce "the answer". The nation's problems today demand multidisciplinary team approaches which combine the best talents and efforts of both natural and social scientists, engineers and managers. The development by universities of people willing and competent to become a part of such teams would be of an inestimable benefit to the universities as well as to the nation.

The fallout of challenging research problems alone should make this worth our leading universities' best efforts. Would not a series of research papers by engineers, chemists, lawyers, business administrators, sociologists and economists, all written on various aspects of urban problem, where each deals with his own speciality but recognizes and takes into account the fact that the problem has many other parameters, be of at least equal value to the more familiar collection of research

papers which contribute incremental bits of knowledge to unrelated specialized areas, and which in many instances may be read and appreciated only by a relatively small group of the author's peers?

I am not suggesting that universities abandon or neglect more familiar types of advanced research in specialized areas, but rather that this effort be augmented by a parallel, combined multidisciplinary research effort by those concerned with and willing to work on real world, macroscopic problems.

The most powerful tool we have for dealing with the cities' problems, indeed one which is so powerful that it could almost be thought of as the only real tool, is man's mind, man's intellect. In spite of the severity, complexity, and seeming impossibility of some of the cities' problems we should be optimistic. There are indeed solutions to all of these problems. The real challenge is for us to discover how to bring together the best social, technical, scientific and political competence that this nation can muster to deal effectively with these problems. We can be victorious in dealing with urban problems if we will exercise the intelligence and the determination which is available to us—particularly in our universities.

by Francis B. Smith

Assistant Administrator for University Affairs
National Aeronautics and Space Administration

USE AND MISUSE OF A NATURAL RESOURCE

If we spread a layer of micro-organisms on a laboratory culture dish, in random locations, perhaps on the basis of minute geographical considerations, colonies of these organisms begin to develop; they grow, amalgamate with one another, until their growth is restricted by the availability of food and their own waste productions preclude further activity.

So it is with our cities; particularly favorable geographical considerations, water, fertile soil, climate, encourage the growth and development of colonies. Our cities are still in the growing stage; we have not yet outstripped the availability of food, but it would appear that we are certainly in danger of killing ourselves with our own waste productions. The city exudes its waste products into the same environment from which its nutrients are

derived; ultimately this in-flow of desirable material and the out-flow of used material must be balanced, or we have all the ingredients necessary for ultimate death.

Thousands of tons of food enter the city daily; a fraction is eaten, providing the condition for growth and multiplication; a significant fraction, however, is discarded. Garbage and sewage emanate (or should emanate) from the city, less desirable materials containing far less available energy than the food which flowed in. What happens to this sewage and garbage? Cities on bodies of water dump their sewage there, assuming it never again will be a cause of concern for human activity. Only now are we awakening to the discovery that no body of water can be infinite storage for human waste. Oceans can be polluted for many miles; lakes show the effects much sooner because they are smaller; effluent pumped into a river by one city becomes the drinking water for another.

We can also look at the input-output balance of other commodities. Manufactured goods, such as automobiles, are imported, used, then exported as a heap of rusting metal, fabric and glass. Raw materials are imported, converted (again, used) to manufactured goods which are exported. In either case, we are importing desirable materials and exporting them in a less desirable condition.

Viewed from any aspect, a city is much like the colony of micro-organisms, taking from its environment those things it considers desirable, putting out into the environment those things which it considers undesirable. Generally, those things which are undesirable to one colony of micro-organisms are undesirable to another. Ultimately the only condition for permanent life and permanent growth is the complete recycling of products—the undesirable output of the city should be converted into a desirable input. We must close the loop.

Historically we have paid almost no attention to closing this loop, yet that half of the loop concerned with waste products is just as essential as that half dealing with desirable products. We pay enormous attention to inventing new products, growing more food, fabricating goods more easily and more cheaply, mining natural resources more easily, making the ownership of goods and the consumption of products the most desirable of human activities. Now we must devote some attention to this problem of recycling, of closing the loop, or converting the undesirable output of our cities into desirable input. The pollution problem is desper-

ate; Lake Erie is dead, Lake Michigan is dying. The air in New York, Los Angeles and Chicago is almost unfit for human life.

The ability to neglect the disposal problem has contributed in many ways to the industrial growth of the country, but we are now suffering heavily from the unreasonableness of the economic calculations which are made every day. For example, manufacturers of beverages have to cope with the economics of containers; glass used to be expensive, and so bottles were returned for refund. Now it is cheaper for them to have the "non-returnable" bottle, but the cost to society has increased because someone has to dispose of these bottles.

Aluminum beverage cans are another example. Steel cans had two major advantages over aluminum: they eventually rust when discarded in the countryside, and they can be separated from organic materials because of magnetic properties. Aluminum cans do not rust and have an almost infinite lifetime in the countryside, and cannot be separated from other materials magnetically. If the aluminum can is cheaper, it is only because we are ignoring one element of cost—that of disposal.

Steel production is an obvious example of incomplete economic calculation because the cost of rendering wastes innocuous is not included in the cost of producing steel. If steel companies could not dump their waste products in Lakes Erie and Michigan, steel costs surely would rise.

Many industries dispose of waste products in municipal sewers, often with serious detrimental effects. Plating by-products, for example, can have a serious impact on the bacterial action in a sewage plant. Such damaging effluents should be pretreated to render them harmless.

Ideally we could say that no one can pollute the environment beyond the limits of his own property except by means of authorized disposal through approved sewers, but such a solution might very well have such a detrimental affect that many activities would cease. We must search for a solution which is somewhere between where we are now and this ideal situation. There is little doubt that the cost of pollution and waste control will be very considerable indeed, but there is also very little doubt that we must begin the task.

by Dr. Albert V. Crewe
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The Enrico Fermi Institute
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Chicago, Illinois

THE CONTEMPORARY CONTEXT FOR NEW COMMUNITIES

Emergency conditions tend to obscure the true nature of our urban problem, not only riot and disorder but also poverty, unemployment and their underlying cause, undereducation, which in itself rests on a long history of racial discrimination. Because these emergency conditions compel our attention, they have seemed to many to be the crux of the urban problem. But in fact there are two urban problems. The short-run problem is this: How can we improve the quality of the present cities? The long-run urban problem is a matter of mere quantity: Within the next 30 years, room will have to be made in American cities for about 50 million people. How do we prevent this growing population from compounding the present urban problem?

This long-run problem will be solved in part by expanding the existing urban plant, but we must also face the challenge of developing workable new alternatives for accommodating the rising tide of urban settlement.

A bold federal program is urgently needed to stimulate the building of New Towns; such a program, to provide federal credit and other aid for private developers of New Towns, has been drawn up by the Administration and submitted to Congress.

These New Towns will have the following common characteristics:

- a) Relatively large-scale developments, from several hundred to several thousand acres in size, with a population upward of 10,000 people;
- b) Relatively "self-sufficient" from the nearby presence of some commercial and industrial employment base;
- c) Unity of planning and developing;
- d) High standards of design and amenities;
- e) An identity separating them from surrounding development;
- f) A cross-section of regional, economic and social groups.

Experience has shown that new communities built to combine these characteristics near metropolitan areas provide opportunities to capitalize on latent economic forces of great magnitude and on the best traditions of individual mobility, energy and initiative inherent in large urban populations. Essentially all of the reasonably successful and especially promising new towns developed to date

have had in common a strong, if not aggressive, planning and design policy. Vigorous pursuit of a design concept for development by means of a plan is perhaps the most significant difference between the new communities proposals now being developed or contemplated and the traditional uncoordinated market output of housing.

The new community, in contrast to traditional suburban tract development, will permit the creation of new relationships between residential areas and the natural resources of the countryside. Both builder and resident will benefit from a more sensitive integration of public open spaces and areas for private ownership designed together to take advantage of natural resources and known needs of future neighborhoods, and they will have special potential for expressing an emerging ethical concern for handing on to a new generation an urban world still rich with opportunity.

In the pending legislation, it is recognized that a balanced program for new community development designed to unite the resources of public and private interests will be needed to provide an effective antidote for urban sprawl. It is recognized that the basic trust for any meaningful "new communities" movement or proposal must be provided by the propellant of profit incentives. Planning and design sensitivities can be completely consistent with sound and profitable economic development as well as with *ad hoc* technical demonstrations. And this legislation would complement our present rebuilding efforts in the inner cities and provide for simultaneous growth in and near existing urban centers.

This legislation is intended to encourage the building industry to provide a major alternative to the runaway sprawl that is inundating our metropolitan areas with costly, inefficient and unsatisfactory development. It will offer a way of channeling this growth into wholly new communities with homes, jobs, schools and the most favorable environment for family living.

The basic motive force of this program is in the provision of Federal guarantees for private loans for the development of whole new communities. The program will help private enterprise to:

- increase the supply of building sites;
- make efficient use of outlying land and reduce the costs of providing streets, water and sewer facilities and public transportation;
- preserve open spaces and the opportunities for outdoor recreation;
- help revitalize declining country towns and

give their people an alternative to migrating to distant and congested cities;

—improve general living conditions for persons of all income ranges, make their places of work more accessible, and increase their opportunities for constructive forms of recreation.

The special genius of American life has always been its capacity to solve old problems in new ways, long before the problems became too old; we start looking at once for a totally new solution, which explains the enormous progress of American technology. Novelty itself is thus an old habit in the United States, and one of the oldest forms of novelty in this country is the New Community.

New Towns were created by the hundreds and thousands as the effective boundary of the country moved westward during the nineteenth century; it is only during the twentieth century that New Towns have ceased to be created. "New Towns" is a technique that must be re-invented now, in a form suitable to the needs of our own time.

by the Honorable Charles Haar
Assistant Secretary for Metropolitan Development
Department of Housing and Urban Development

BERLIN, THE DIVIDED CITY

The rebuilding of the free part of the City of Berlin was dominated by two major objectives. The plans always had to be valid for the entire city and their extent was determined by the political goal that Berlin would again become capable of functioning as a German capital. Furthermore, we were concerned to fit our plans into the development of architecture in the rest of the world and in spite of our limited means, to provide not only for our needs, but also to be concerned about quality.

The division of the city and its separation from the surrounding area limited the possibilities of planning. At a time when every metropolis influences more strongly than ever the surrounding area, and also becomes more dependent upon it, there is in Berlin practically no over-all planning. Any such plans for integrating the urban and suburban areas cannot be carried out, nor is there a basis, or appropriate information on which such projections could be founded.

The cordoning off of Berlin, which clearly restricted us to an area sharply demarcated, has per-

haps even sharpened our sense for the value of cities. There was no possibility whatsoever to build satellite settlements outside of the city or to preserve large suburban areas for one-family houses. Thanks to an enlightened communal policy in former decades, there were sufficient building sites available within the city limits. New residential quarters were developed in these areas. However, they were never isolated settlements, but always remained part of the city.

The cordoning off compelled us to husband the land in order to preserve the forests and park areas—nearly half of the city area. But soon city planning goals came to the foreground. The pulsating life of a metropolis is possible neither where there is sharp separation of primary uses, nor where there is too great a dispersion. Especially within the city core area we feel that only disturbing elements must be separated, but that everything that is complementary and beneficial to city life belongs together.

Thus we permitted within the core city, although it is in conflict with German building principles, a more intensified building utilization and also good projects for residential facilities. The value of a city apartment is in our opinion not determined by the desire for a rural idyl, but by proximity to cultural facilities, shopping centers, and entertainment establishments. A modern apartment, in which one can lead a healthy life, can be built within the city just as well and as functionally as in the suburbs.

These considerations serve also as our guidelines for urban renewal, our most essential task for the future. For our first rehabilitation project we have selected 56,000 of the worst lodgings, many built before 1880, in various city districts. We started these projects 5 years ago and they will occupy us for another decade. Tearing down and rebuilding is not always best; wherever possible we want to preserve houses which are testimony to individuality and history. The basic plan of the city also deserves respect, and we look today with more appreciation on the buildings of the much maligned 19th century than we did formerly.

The important thing about the urban renewal program is to change neglected areas, that exhibit the lack of care with which they had been originally built, into fully worthy sections of our city.

Recent discussions may have contributed to the understanding that there are limits to urban planning and that its possibilities should not be overestimated. Planning must provide an orderly outline, provide the space in which life can unfold

and develop. The life or spirit of a city itself cannot be planned, but it can be inhibited by sterile planning.

Germany has now been divided for more than 20 years. The Germans alone cannot change this unnatural condition, but the example of Berlin proves whether one is getting used to this condition, whether it is being accepted, or whether one is persistently working for the reunification of the country and the city. Although Berlin has lost its function as a capital, it has gained in significance for the fate of Germany.

Everyone knows what great political difficulties stand in the way of the reunification of Berlin. Forecasts about the future of the entire city, no matter which point of view one may take, remain dubious. The future image, however, must always be the entire city. And for this image, it is of little importance whether Berlin will remain divided for another five, ten or even twenty years. Our planning must start from a city which belongs together, as it has grown during seven centuries, and undeterred by any political vagaries, it must seek to reestablish this condition, which alone makes sense.

For the people of Berlin the building up of their city represents their hope. They know that planning may not be limited to the present. He who plans and builds must do this with future decades in mind. This is not presumptuous, it is rather an obvious obligation. Success, as well as failure will have its effect for some time to come, and determine our living space for generations.

Our work is devoted to a city that, we hope, will one day no longer symbolize the division of Germany and even of Europe, but that will stand for solidarity. Despite all set-backs, it may be easier in Berlin than in other places to envision a Europe of free people. This is not because we are taking refuge in dreams, but rather because the political imperatives become so very clear in Berlin.

by Dipl. Ing. Rolf Schwedler
Senator fuer Bau
und Wohnungswesen West Berlin

THE CITY AND THE LAW

The building of a city is a human problem; any tendency to look for shortcut mechanical solutions to complicated human problems should be avoided.

The city should be the outcome of centripetal forces urging upon a centre. It should not be the outcome of centrifugal forces urging to a perimeter; there should be cohesion about the place, compactness, homogeneity, a distinct "one-ness". There should be palpable manifestation of the idea which is now shot through and through the entire fabric of British Town Planning Law, namely, the idea and concept of development of areas as a **whole**. If the city is designed as a whole, then it must be a city clearly which is planned in advance.

Man is a gregarious animal; he likes to meet people. He always has done; I believe he always will do. Thus, a city should be, above all else, a place where a man can meet a man, or better still, a woman. Alas and alack, the modern adjuncts of radio and television, the automobile (not to mention the telephone)—all these have already done enough to prevent one man ever meeting another one in a whole day's work.

Ultimately the kind of city the people get should be the kind of city the people want because, in a parliamentary democracy, I hope it is right to say that the people do get what the people want. The thousand-dollar question is, of course: Do the people **know** what they want? Do they realize the sort of city that will be good for them? Do the People know best or do the Planners know best?

Here we come once again to the question of education; only if the people are intelligently informed and sophisticatedly inclined, will they get the kind of city which **they** need and which **we** are talking about.

The very latest assessment of town and country planning and the control exercised thereby was stated last June by the English Ministry of Housing and Local Government:

"Town and Country Planning shapes the conditions in which we live together. Planning decisions determine where and how new buildings may be built and whether existing uses of lands and buildings may be changed. In the broader sense, they largely determine the **environment** in which we shall live—whether our towns will be pleasant places to live in; and whether our houses, shops, factories, offices and places of leisure and entertainment will be in the right places and with easy flowing communications between them. They determine whether the countryside will be protected for farming, forestry and recreation, whether its beauty will be enhanced, and whether the fine buildings of the past will be preserved against

decay and wanton destruction. They provide a framework within which thousands of millions of pounds are spent every year on buildings and roads."

Accordingly, it matters terribly, and to everybody, that we should have an up-to-date and effective town and country planning system which can help to bring these things about. It matters, too, that the system should be such that people can know about important changes before they take place and influence the decisions which may affect them.

Britain's current system of town and country planning control was established by the Town and Country Planning Act of 1947, which created a new, advanced and complete system of land use planning. The time has now come for us to profit from our 20 years' experience and to make the changes required by new circumstances, new policies and new advances in planning techniques. Accordingly, there has been new thinking about the styling of English Town and Country Planning Control and this has resulted in the introduction into Parliament a new Town and Country Planning Bill.

Planning Control will continue, under the new and somewhat more sophisticated arrangements, to depend upon two basic principles:

1) The preparation in advance of a master plan showing the shape of development yet to come; and

2) The day-to-day control over the carrying out of development by the legal sanction that no development shall take place unless and until planning permission for the development has been granted by some public, locally-elected, authority armed with the necessary legal and administrative powers.

I would like now to consider how this available legal control over development turned out in one City—the mediaeval Square Mile of the City of London, as an example of the controlled redevelopment of a badly damaged urban area.

There was prepared in advance one, preconceived development plan which viewed the City as a **whole** and also took note of surrounding areas. Thought was given to all manner of things which might contribute to the making of a city with some degree of gracious environment, including plot-ratios, angles of day-lighting, height of buildings, garaging of cars, width of streets, local-traffic, through-traffic and, of course, the inter-

action of pedestrian with vehicular traffic and the impact generally of the automobile.

Thought was given to the demarcating of the various things which need to be accommodated in the City, commerce, industry, warehousing, warehousing, professional quarters, apartments and so on and so forth. Thought was given to beautifying the City, to opening-up vistas of ancient buildings which had become overgrown by clusters of non-descript accretions erected over the centuries.

This having been done, and the plan approved by the Minister of Housing and Local Government, the Corporation of the City of London purchased compulsorily large areas of land in the City so as to assemble them under one ownership. The Corporation then disposed of it on building lease to individual private developers. These leases were granted subject always to the overriding town planning control; to the overriding need to get planning permission for development before any development was commenced. In this way there was realized that concept of **redevelopment as a whole**, the redevelopment of the City on a comprehensive basis with one part of the place integrated into another part and so on.

It is this control which has brought about the rebuilding of the ancient City of London into the place which it is today.

by Desmond Heap
Comptroller and City Solicitor
to the Corporation of London

NEW SYSTEMS FOR THE CITIES

In our consideration of the problems of the cities, we tend to concentrate too much on signs and too little on the designs that will produce enduring solutions. We look, moreover, to an impossible, an even undesirable kind of leadership. Glamour, excitement and the oversimplification of complex issues will not produce solutions.

The problems of our cities are soluble only if we acknowledge that they involve every one of us. They involve those of us in business and banking equally with those in government, in labor, in the academies and in the slums. The catatonic city is the making of all of the people from whatever part of the country and from whatever economic grouping.

Two particular illusions have contributed largely to our poor showing in the cities. One is the Illusion of Commitment, which springs from our Red Cross reflex. Show us an earthquake, a flood or a fire, and we spill our coffers around the world because we are a magnanimous and charitable people; but not consistently so. Indeed, this Illusion of Commitment has prevented us from preparing a realistic inventory of our resources and deciding how we can afford to deploy them.

The other is the Illusion of Distance, which has distorted the nation's view of the problems of the cities. These conditions are close at hand; as underdeveloped areas within our own borders we have assumed that they should be more susceptible to improvement than the underdeveloped nations halfway around the world, and thus require less effort. With today's technology, no belief could be more misleading; it is apparently less complicated to supply gasoline to New Delhi than it is to remove garbage from the streets of New York, easier to build new cities in the Greek Islands than it is to rebuild our own ghettos.

But these Illusions of Commitment and Distance will be constraining only so long as we fail to take advantage of the considerable assets at our command. One of these is America's striking ability to devise new forms of organization to meet the demands of change; another is to devise the technology that produces change.

We are an inventive people; our history from the Constitution itself to the Comsat Corporation is a continuous inventory of innovations that has empowered us to accommodate new requirements: The Morrill Act of 1865 which established the land grant college, quasi-judicial, quasi-legislative organizations like the Federal Trade Commission and the Interstate Commerce Commission, and today's Comsat Corporation.

Our second asset is the extraordinary technology that has enabled us to build the greatest economy the world has ever known. The coming of that technology is what we mean by change—our experience is fore-shortened. That fore-shortened experience lies at the heart of the so-called generation gap; it destroys our accustomed benchmarks in the world at large and makes and exercise in futility of the so-called war on poverty. Until we understand this basic meaning of change we will continue to do what we have always done—prepare to fight the last war, especially in the cities.

But if the proliferation of technology has created today's urban problems, it has also produced

new concepts and techniques like systems analysis, modeling and operations research that are indispensable to cooling the urban crisis. And I believe we can wed these techniques to our ability to devise new forms of organization so that together they will produce realistic vehicles for solving the cities' problems.

What I am suggesting is that there are new approaches that are untainted by failure and have the potential of piercing the commitment curtain. For example, a self-liquidating-bureaucracy, if you will, using the latest scientific techniques can make a substantial contribution toward building the 5,000,000 new dwelling units and the 100,000 schools that the cities need to make "urbia" livable again, especially for the 20 percent who live in poverty. The School Construction Systems Development program in California, for example, represents one of the new approaches that can reopen the capability trap which so far has snared our urban efforts.

To be sure, this new approach is not a cure-all for the cities' problems; it is a new kind of vehicle that has already been road-tested and it can be driven by any firm in the private sector with a management sciences capability. Here, I suggest, is an opportunity for the private sector to take the initiative for saving the cities rather than waiting for the dubious leadership of a government that has said through one of its Cabinet officers, "We've gone just about as far as it is possible to go." I don't believe that; I don't believe there is a ceiling on creativity or commitment in this country.

In New York leading businessmen and bankers are providing currently nonexistent short and long-term capital for ghetto businesses coupled with management teaching. Conventional banking standards will be relaxed, realistic buy-back provisions are provided, and the principals involved will include representatives of the ghetto community as well as from financial and business organizations.

These new systems will not destroy the Illusions of Commitment and of Distance; they will not destroy prejudice and bigotry; they will not immediately eliminate the need for welfare or welfare substitutes; they will not even attack the ills of poor planning or unrealistic political configurations. But they can contribute considerably to the creation of a new material environment as well as a new way of thinking about the problems of the city. They are simply enabling devices; what we do

with them will be determined by the initiative of the concerned, and hopefully, before long, by the commitment of every one of us.

by William I. Spencer
Executive Vice-President
First National City Bank
New York

THE NATURE OF ACHIEVEMENT

It seems we're better at describing the problems or visualizing science-fiction solutions than we are at **how** to get work done in the cities. A part of this is because we won't face up to **why** work gets done or **who** is going to do the work.

Dow Chemical produces everything from magnesium metal to measles vaccine; it integrates specialized and separate resources and skills in research, production, development, marketing and finance in decentralized but related units so that work can be effectively carried out with respect to each of hundreds of products. We must work in small enough units for each individual to see his contribution to the unit, yet it is important to see that each unit deals with all of the specialties needed to produce a completed task.

A useful analogy is the old-fashioned barn-raising where groups of people with a creative vision of their own future helped one another to get a job done. These people were involved, cooperating with each other at a grass roots level. All the skills and materials needed to do the job were mobilized; the group acted in unison for a purpose. This is a civic analogy to industrial management of resources and this is the civic method I propose we re-invent; this method is fundamental to our approach to city problems for this is, in fact **how** work gets done. It should be translatable in terms of a highway system, a ghetto, or a product.

Bureaucracies, city, state and national, have been monumentally unsuccessful, or at least, inefficient, in solving our most pressing city problems. We have witnessed the obsolescence of the geographical divisions of our political structure, invented in an agricultural and a horse and buggy era. The cities are where the action is, but often not where the leadership or political power is located. Bureaucracies as they now exist are the worst organizations to put their policies into opera-

tion; they are essential, but they are not the organizations to get work done.

A related question to HOW work gets done is WHY work gets done. It gets done, of course, because people are motivated to do so. As in the case of barn-raising, incentives are present. I suggest that the profit incentive be examined much more thoroughly as an approach to our social problems. Few have questioned the unparalleled effectiveness of the use of profit, capitalism, free enterprise or quasi-free enterprise to accomplish things, to provide the motivation, the incentive to manage resources effectively, but many have said the system doesn't produce the right results. I think this is the point we should address ourselves to. It has not automatically solved some of the problems that it and its technology have produced; why not try to find the ways in which it is automatically directed toward work on these problems.

It is social conscience and responsibility that identifies social problems, but we have naively believed that social conscience could be the motivator to solve social problems—to get the work done. Obviously, it is not easy to visualize how to direct our effective profit-motivated machine at the solution of social problems, but I believe we could make the social inventions to use this tool, if we wanted to. If we could identify a social goal and offer a profit incentive to solve it, managers would flock to do the job. They would come up with highly original ideas to get the job done, and the cost to society would be low. But we are more likely today to appropriate money for the public good in a way that blunts or dissipates constructive energies.

Another complication is our internal fiscal policies; inherent in our methods of taxing, in our depreciation policies, are positive or negative incentives to the solution of urgent social problems. Today's depreciation allowances and tax laws, local and federal, tend to encourage slums and to discourage their improvement. Why not make it profitable to improve our cities? In other words, we already use profit as the motivator, but in a way to discourage solution to the social problem.

In any event, profit is a large factor in why work gets done as well as what work gets done.

The forte of industry is efficient use of resources and profit is both the measure of effectiveness and a motivator to interest industry in social problems. Education should provide the type of liberal education that lets us see the needs of men, that helps us to identify where we are going. A

central role of government is to establish goals and to set national standards, as well as distribute tax money in a way that gets work done towards these goals. How do we tie these contributors together to solve the social needs of 1968 and beyond?

We need a new, difficult but possible social invention with closer alliance between government, education and industry, a network of economic and social processes with the ability to anticipate rather than to react, to test propositions about man and society, to organize total problems, to recognize and select alternatives and to apply talents to problems at the level of need—at the local level. This alliance could decentralize government spending, it could build into our effective product-producing mechanism strong incentives to solve social problems. By working on social problems, we would all sharpen our social conscience; better value judgments would increasingly be part of the common wisdom. But the achievement could follow the realism of profit oriented resource management.

We need to invent a modern form of "barn-raising."

by Herbert D. Doan
President
The Dow Chemical Company

CITIES IN CONTEXT

I should like to discuss Cities in Context from 4 vantage points: (1) poverty, (2) discrimination, (3) physical reconstruction of central cities and (4) population growth. These subjects are not separate and isolated; the treatment of one relates closely to the treatment of the others.

(1) We shall never solve our urban problems until we solve the problem of poverty. This is not as difficult as some would believe; if we are financially willing, we can eliminate poverty very quickly indeed. The big question is whether we, as American citizens, we as predominantly white, middle class America, are willing to share our affluence with the less affluent.

Poverty is the lack of money; to solve it, we must supply money to those who do not have it. In supplying money to those who do not have it, we must separate them into two groups: (1) those willing and able to work and (2) those unable to work. For those able and willing, we should guarantee a job at a wage that provides a decent

standard of living for the **family**. To the greatest extent possible, private industry should be involved in the employment of those willing and able to work, but where industry does not have the jobs available for all, then government should be the employer of last resort.

For those unable to work, we should establish an income that permits them to live decent lives rather than a life which is mean and where the real necessities cannot be provided.

(2) White America has, in the main, refused to accept the Negro, the Spanish speaking American, and other minorities into full partnership of white, middle-class American society. This is the basic cause of Negro unrest. It was not just the unemployed, not just those on welfare, not just the school dropouts who rioted in Watts, Newark, and Detroit. Economic improvement will do much to improve American society, but only with the elimination of discrimination shall we have a truly democratic society.

Our inner city areas are becoming increasingly black—our peripheral areas are becoming increasingly white. We have, in effect, confined black America to the central city ghetto. The result is an increasing concentration of Negroes and an increasing isolation between white America and black America. We must provide real freedom of choice to the Negro, the Spanish speaking American, and other minorities, in terms of housing location and place of employment. And real freedom of choice means not only laws against discrimination in housing—it means a positive climate where white America says, "Welcome." The refusal of white America to say "Welcome" is a horrible indictment, and we shall not be able to rebuild our central cities on any scale other than a mere patching up of the more obvious deficiencies until we have broken down the patterns of discrimination.

(3) Much of the older portions of our central cities are in horrible shape; many areas require substantial rebuilding, and patching up through rehabilitation is not enough. With the necessary removal of substandard structures, with the provision of additional and much needed public facilities, and with the reduction of population density, the number of people within our inner city areas must be reduced. It is necessary for white families to move into those areas that are now heavily Negro or Spanish speaking American, and the Negro and Spanish speaking American must have the opportunity to move out into a location of his

liking and into a neighborhood where the climate is one he finds acceptable.

In the long term, we must rebuild our inner city areas on a basis that will not freeze present patterns; we must not concentrate all low income housing in the inner city; we should be planning development to encourage desegregation.

In the short term, we must provide decent housing, all necessary community facilities; we should collect garbage first, not last, in the slum areas. We should provide superior, not token, schools and recreational programs.

(4) Population growth is dynamic; how can we use this dynamic situation to help effectuate changes and how can we prevent this growth from creating unwholesome patterns of human settlement?

We should establish a national policy on urbanization—a policy that addresses itself to where the increasing population should be located. We should devise mechanisms to channel growth away from our large, existing metropolitan areas and channel such growth to those areas that are not now inundated with population, by constructing new cities and by expanding smaller areas of population.

We need a mechanism that will preserve those areas that should be kept open, that will prescribe the size of development for the cities making up the urban region and that will provide the necessary transportation network and other systems needed to serve the large urban region. And we must determine how we are going to guide the growth of our metropolitan areas. We must have a democratic governmental mechanism given metropolitan developmental functions so that it can control or guide future metropolitan development.

If we address ourselves to the elimination of poverty, if we really commit ourselves to the elimination of discrimination, if we plan now for the substantial rebuilding of our central city areas, if we develop new policies on the channeling of population growth and control of metropolitan development, and if we provide real freedom of choice to Negroes and other minorities to live and work where they wished—if we could couple these programs with these objectives and really commit ourselves to do them, then perhaps, before too long, we could achieve the American dream.

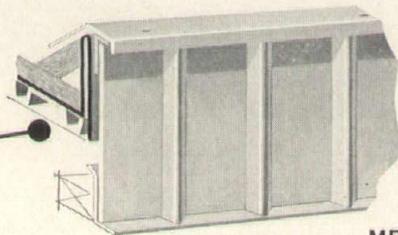
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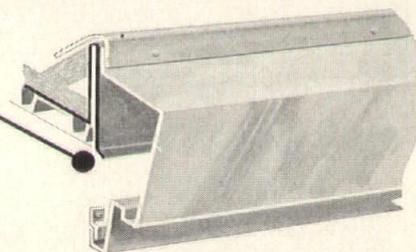
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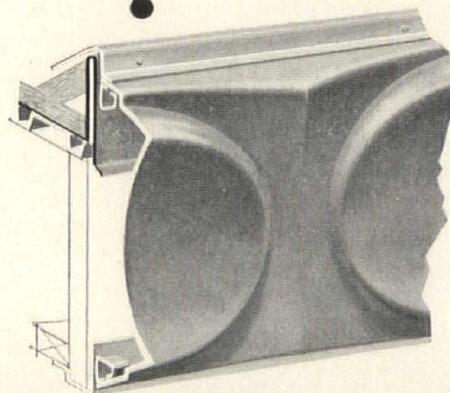
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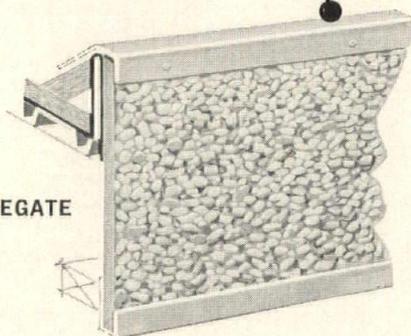
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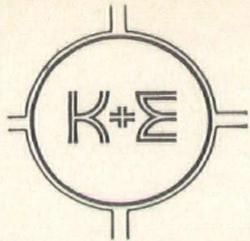
The separate contract system (which simply means that the various construction industry specialists each bid competitively for their segment of the total work) has been required by law on all building which involves public monies in many states since as early as 1913. These states together represent a large portion of America's population and a great percentage of all state-financed construction. ■ Why? That's easy. Because the state gets better work for less money. Want proof? Okay. ■ In 1954, a report prepared by a committee of the California Senate showed initial bid-savings of about 5.4% with separate contracts. Another California study involving 35 projects that were simultaneously bid under both single and sep-

arate contracts demonstrated the same categorical savings. ■ What's four or five percent of many millions of dollars? As a taxpayer, landlord, building manager, factory owner, or mortgage banker—you should know. ■ And, Indiana's Gross Income Tax forces each bidder to include funds for this purpose in his bid, thus pyramiding costs under a single contract by as much as ½ to 1¼%. ■ All right, who opposes the separate contract system—and why? California's acting state architect, E. W. Hampton, referred to self-serving interests in a recent speech with these words: "It seems to me in reading of bid peddling, bid brokerage, problems of job management and so on that many general contractors have good reason to oppose segregated (separate) bidding". ■ Enough said? We think so. What do you think?

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HERB WHEELER

Penn State Professor C. Herb Wheeler AIA, architecture-computer authority and author of "Emerging Techniques" will speak at the May 8th membership meeting of the Indianapolis Chapter, AIA, following 6:30 dinner at the Columbia Club in Indianapolis. Professor Wheeler has been engaged in study automated techniques for architects for several years under grants from the American Institute of Architects; his book is the only authoritative study of such techniques for the profession.

Earlier in the day, Professor Wheeler will meet with the six-man steering committee of the Indiana Architectural Services Committee, established to consider the feasibility of a co-operatively owned architectural computer service in Indiana. Steering committee members are Howard White AIA, chairman; Ewing H. Miller AIA; C. C. Wilson AIA; Harry Cooler AIA; Richard Hartung AIA; and Ralph Knapp AIA.

BEAUX ARTS

The Northern Indiana Chapter, AIA, will hold its May membership meeting in conjunction with the Student Chapter's Beaux Arts Ball in the Architecture Galleries of the University of Notre Dame on Saturday, May 4th.

Included on the evening program will be a reception at the Otto Seeler residence at 5:00 P.M.; baroque banquet—roast beef and wine — at the Architecture building at 6:30, followed by a student recognition program; cognac, cigars, coffee and chamber music at 8:00, followed by a stroll around the lake during eventide; and a program of jazz starting at 9:30. Business sessions of the NIC Board

(at 1:30) and general membership (at 3:00) will precede the evening's festivities.

C-SIC AT BALL STATE

The Central-Southern Indiana Chapter, AIA, will hold its Spring membership meeting Monday, May 13th, at the Roberts Hotel in Muncie, starting with a Board meeting at 3:00 P.M., general membership business meeting at 4:00, and fellowship at 5:30, and dinner at 6:30. The group then will reconvene at the Architecture building at Ball State University to participate in the Monday evening lecture on design of the United States Steel Building in Pittsburgh, presented by USS's Construction Marketing Division.

HERE AND THERE

Joseph L. Mathews & Associates, Inc., South Bend, has been re-named Mathews-Purucker & Associates, Inc.; principals are Joseph L. Mathews AIA and Irwin Purucker AIA . . . James Associates, Inc., Indianapolis, held open house at their new facilities (2828 East 45th) April 28th and 29th . . . David Meeker AIA (James Associates), Walter Netsch AIA (SOM, Chicago), Dean Charles Sappenfield AIA (Ball State), and Richard Hartung AIA (Bloomington) were among speakers at the Indiana Limestone Institute annual meeting held in New Orleans, Louisiana early in April . . . Robert McKean, former residential engineer for the Indiana District, Portland Cement Association has joined technical staff of Dayton Fly Ash Co., Inc. . . . The 1968 membership directory (individuals and firms) of the Indiana Society of Architects is now available from the ISA office in Indianapolis; cost, \$1.00 per copy for non-members.



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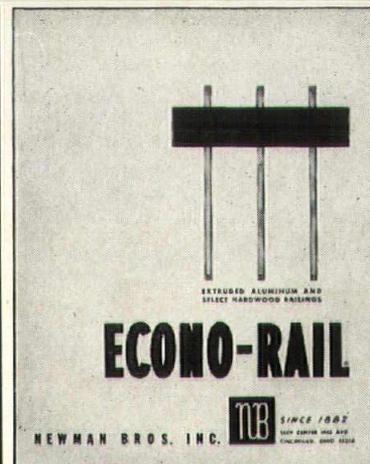
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MEMORIAL

MALCOLM T. MEEK, AIA, passed away at his home early Monday morning, April 8. A senior partner and member of the board of directors of Strauss Associates, Inc., Fort Wayne, Malcolm was also secretary of the Northern Indiana Chapter, AIA.

Associated with the Strauss firm since 1932, he was involved in designing many buildings, including Fort Wayne's Children's Zoo, the Fort Wayne Country Club, Holiday Theater and several projects at Indiana University in Bloomington.

Surviving are his wife, Jo; a son, David; two sisters, and a brother.

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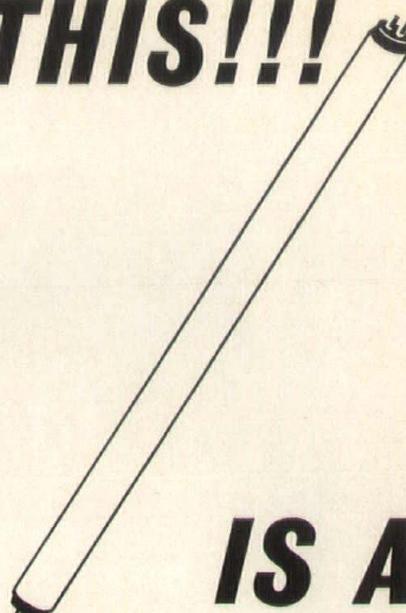
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MAN — ARCHITECTURE — NATURE

Mrs. Lyndon B. Johnson, Whitney M. Young, Jr., (National Urban League), Secretary Orville L. Freeman (Department of Agriculture), Gene C. Brewer (U.S. Plywood-Champion Papers), Dr. M. Gordon Wolman (Johns Hopkins University), Attorney Marvin B. During (Conservationist of the Year), and Miss Barbara Ward (author, editor, economic interpreter) headline the AIA Convention in Portland, Oregon, June 23-27. On June 28th the convention will reconvene in Honolulu, Hawaii, for a two-day continuation.

The Man/Architect/Nature convention theme will be covered by two sessions ("Man/Nature") and nine workshops ("Architecture"), all but two workshops to be held in Portland. The workshops cover how to compete with the package deal, automation in the

drafting room, design for preservation, the federal government — client and partner, how to set up a design concept team, the community's right to quality design, planning for profit, and architecture for leisure and recreation.

Mrs. Johnson will deliver the first B. Y. Morrison Memorial lecture on June 26th, with Secretary Freeman, Dr. Wolman and Mr. During serving as supporting panel.

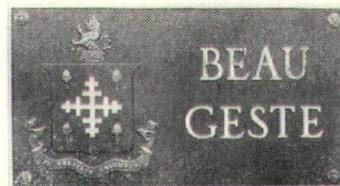
Miss Ward (in real life Lady Jackson), lecturer and research associate at Harvard University, will present the annual Purves Memorial Lecture, entitled "Hope for an Urbanizing World," on June 25th.

Indiana architects planning to attend the convention are requested to contact the ISA office concerning delegate credentials.



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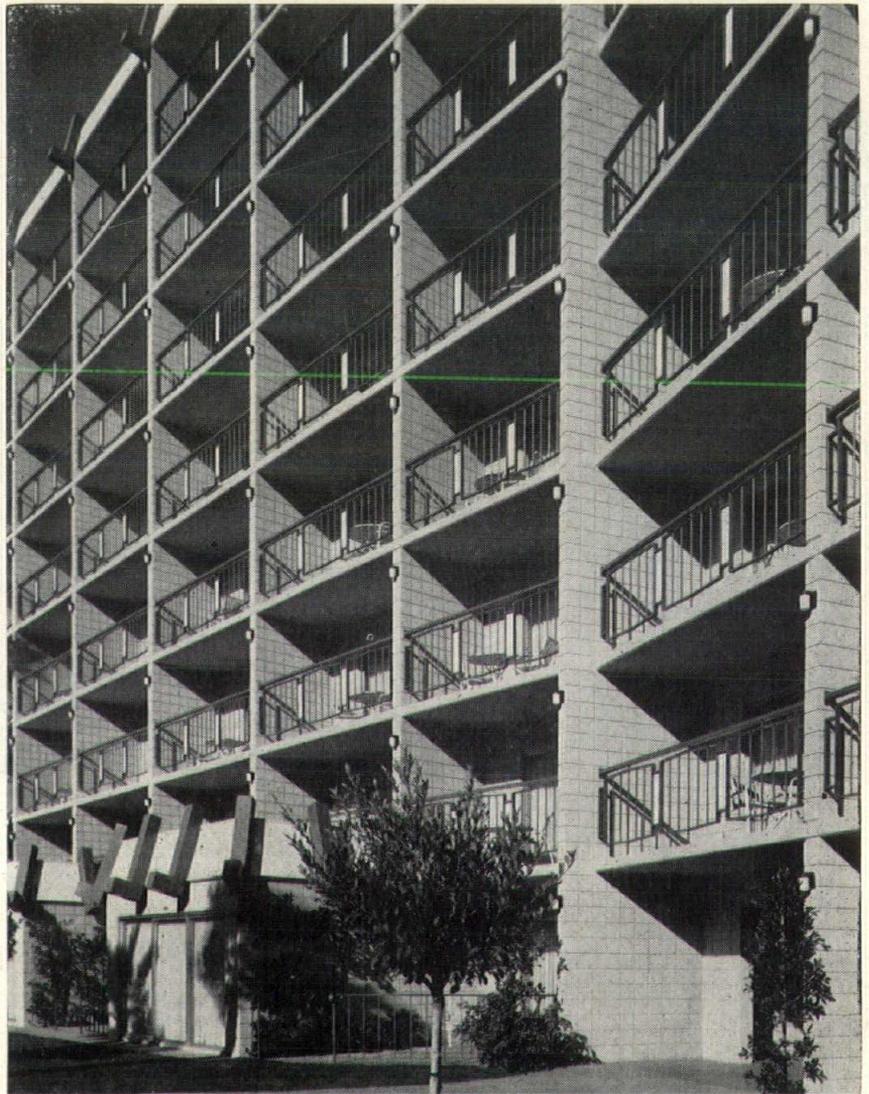
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