

## SOCIOLOGY

# Civilization in 2100 A.D.

Beyond the 20th century lies a world of incalculable proportions, of tremendous populations, but also, perhaps, of surpassing quality.

By PATRICIA McBROOM

See Front Cover

► A FLOOD of studies on the forbidding size of cities to come have hit the market in recent years. But rarely do they venture much past the year 2000 A.D.

So chilling is the prospect of 40 billion people on the earth and more to come, so fantastic is this world of crowded complexity, that few can conceive it.

Despite the magnitude of the problem, a number of courageous city planners have begun chiseling away at the future, hoping to give it some shape.

Perhaps the most imaginative study, daring in scope, is being done in Greece as a continuing project of the Athens Institute of Technology. For the last three years, the Institute's Center for Ekistics (science of human settlements) has been trying to describe the world after 2050 AD—its physical environment, number of people, state of wealth, social values and living conditions. To this end the Athens Center of Ekistics (ACE) requested information and expert opinion from 100 countries.

ACE extrapolated from this body of fact and opinion, sprinkled it with a good deal of imagination, and came up with a concept called Ecumenopolis.

## Ecumenopolis, Static Phase

Ecumenopolis, literally world city, represents a static, stable phase in human living habits, due to arrive when humans stop multiplying. That will happen, according to ACE figures, in the latter half of the 21st century when the earth is saturated with all the people it can absorb hospitably—20 billion to 50 billion persons. Which figure is more accurate will be determined by the effectiveness of action taken on birth control in the next few years. But, whatever measures are taken now, they cannot stop the population from exploding for another two generations, reports the Center.

As a base for its projections into the future, ACE settled on 35 billion as the cutoff point for population growth. This figure already assumes considerable practice of birth control.

The world of 2100 A.D. astounds the mind not only by population figures, but by the magnificent features of its society. Athens' projections seem to foreshadow human civilization reaching its zenith.

For instance, literacy will be 100% well before the setting in of Ecumenopolis, the Center reports; economic development will be such that the disparity between Western industrial and Eastern rural nations will all

but disappear; values will rest on quality of life—education, art, human betterment—not on quantity—money, possessions.

In Ecumenopolis, urbanization would not sprawl fungus-like over every inch of habitable land. It would be restricted to a specific percentage of ground.

Half the earth's land surface is too inhospitable for development, the ACE calculates. Consequently, deserts, polar caps and high elevations will lie outside Ecumenopolis, inhabited only sparsely by hardy souls. The other half, some 26 million square miles, would be divided into three roughly equal parts: a third for production of food, water, and minerals; a third for natural preserves, including wildlife and specific places of unusual beauty and a third for people.

## 250,000 per Square Mile

It all begins to sound suspiciously utopian, until the frightful figures of population density loom into the foreground. If 35 billion people are to squeeze onto 7.7 million square miles (equal to the combined area of Canada and the United States), density must reach some 250,000 bodies per square mile, at least in the concentrated urban centers.

To organize such phenomenal settlements, the ACE has worked out the broad outlines of a system of urban centers connected by rapid transit and spanning the world.

It breaks down as follows: Residential blocks one square kilometer in size house 100,000 persons as well as schools, stores and playgrounds. "Downtown" at the center of a wheel are government buildings and large commercial establishments. Less important offices and services, designed to meet the needs of a smaller number of persons, lie at points along the wheel's outer edge. Radiating transportation lines connect all.

Great numbers of people will be packed into these centers, but only slightly lower densities will string out along the major intercity routes, creating strips of continuous urbanization. Anyone addicted to suburban life will have to seek it on the North Pole, since private homes do not exist in Ecumenopolis.

Maps of Ecumenopolis show highest densities along coast lines, major rivers and lakes, since water is expected to be one of two major problems at that time. The second problem is forecast to be exhausted energy resources.

Among areas destined to bear the greatest population brunt are the West Coast, Eastern Seaboard, Florida and Great Lakes region in this country; the east coasts of South America, China and India; the southern tip

and Lake Victoria region of Africa. Europe will be fairly completely populated, but most densely in its central section.

The ACE has faith that citizens will build their own cities. Because national lines are not likely to disappear even in 200 years, it is conceivable that a Rome, Paris or New York could maintain its own special flavor, despite the pressure toward standardized living quarters.

The man responsible for Ecumenopolis is a Greek architect, Dr. Constantinos A. Doxiadis. Internationally known as a city planning consultant and originator of the science of ekistics, Dr. Doxiadis draws his clients mainly from developing nations.

The Doxiadis Associates recently designed Islamabad, Pakistan's new capital city, now under construction. However, Dr. Doxiadis has also done a number of renewal studies for the United States, including three for Washington, D.C., and a nationwide report for the National Association of Housing and Redevelopment.

The Eastwick community in Philadelphia was conceived and designed by Doxiadis Associates.

The Pakistanis shown on this week's front cover are working to raise the new capital of Islamabad with their bare hands. The lower income buildings here will house a dense population. The city was designed to be largely renewed in 50 years when the first wave of rural people have been acculturated by the city.

Ecumenopolis was born three years ago with stunning suitability in a ruined stadium on the Aegean island of Delos, ancient meeting place for the Greek city-states. There, amid the remains of the temples of Apollo, Aphrodite and Hermes, Dr. Doxiadis conducted a symposium on the shape of the world to come. To the island he had invited 38 distinguished persons, among them Barbara Ward and Dr. Margaret Mead. Two more meetings were held in succeeding years and from them Dr. Doxiadis evolved his study, now funded by the Ford Foundation.

## The World in 2100 A.D.

The report does not recommend action, propose changes nor offer solutions to problems. Simply and clearly it claims to be a reasonable description of the world as it could and might be in the latter half of the 21st century. The inevitable march of events will lead mankind in this direction, the ACE says, after making certain major assumptions.

One assumption is that money will no longer be a problem in Ecumenopolis. Countries now poor in capital and struggling for survival will be fully industrialized by that time. Per capita income around the world will equal the 1965 average of a U.S. citizen.

ACE reports that in Ecumenopolis "it would seem that the money is available to implement the most ambitious ekistic plans

humanity has dreamt of." Ekistic plans might be anything from air-conditioning the jungle to changing a coastline.

However, an American who contributed to the research, Dr. Richard Meier, is less optimistic. A professor of natural resources at University of Michigan, Dr. Meier thinks poor people will still exist in a century.

Many countries will still have to "wait in line for a gift" from wealthier nations, he said. They do that now, and the ACE study unfortunately gave no reason why this should change.

Nevertheless, there is a hope that if developing nations stick to the business of industrialization, do not war among themselves, nor reject aid whatever its source, they can begin moving toward economic equality with the Western world by the first part of the 22nd century, he estimates.

Dr. Meier pointed to Venezuela as a case of economic takeoff—rapid expansion and capital increase. Indonesia, on the other hand, seems to be going in the wrong direction. It has snubbed its nose at Western nations and cultivated China, a country that can give nothing but moral support. This, despite the fact that Indonesia ranks as one of the most densely populated areas on earth.

Fully a third of the world seems to be throwing away its chances of early industrialization, according to Dr. Meier's research.

Worldwide industrialization is central to Ecumenopolis, and literacy figures as well as a number of social features are based on this assumption. Because no one will be poor, wealth will lose its punch as an indication of the good life and the emphasis put on quality.

Moreover, ACE assumes that all people will eventually adopt oriental attitudes and living habits.

Population pressures will be so great that there will be no room for cars, private homes, cumbersome furniture, bathrooms, tennis courts or washing machines. The city of the future is much more likely to resemble Japan than California, Dr. Meier said.

He listed some elements of Japanese life that are bound to evolve into universal living patterns.

For instance, Japanese use less furniture than do Americans. Instead of a permanent, bulky bed, they sleep on mattresses—quite comfortable—that they store in closets during the daytime. Children have more room to play in and need less space.

Equally important, neighborhood baths on the Roman order are in wide use in Japan. Not only will bathroom space be restricted in Ecumenopolis, but the water shortage will call for some such arrangement, said Dr. Meier.

As for washing machines now finding their way to Japan, he expects that many will be incorporated with the public baths, where refiltered water can do double duty.

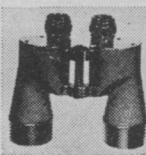
Whether the massive urbanization that all authorities recognize is sure to come results in such an optimistic future as the ACE envisions is not for this century to know. Some U.S. city planners tend to think Dr. Doxiadis is "far out." One called him a poet. But all agree his study focuses attention where it is badly needed—the implications of a massive human population.

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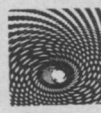
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