

the sun's edge, hanging there for about forty minutes. Such a transit occurs but once in nearly a thousand years, and thus it should provide an excellent opportunity of studying Mercury at leisure to see whether there is the arc of sunlight around the portion not projected upon

the sun's disk.

"The presence or absence of such an arc would go a long way to settle the conflict between the planetary observers and the theoretical astronomers," says the author of the note.

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ECOLOGY—AGRICULTURE

Intensive Weather Research Valued Above Klondike Gold

Accurate Knowledge of Climatic Factors Needed For Intelligent Planning of Western Agriculture

"**M**ORE THAN all the gold in the Klondike" was the value-estimate set on a proposed program of intensive research on weather records of the past eighty years, by Dr. Isaiah Bowman, chairman of the National Research Council and director of President Roosevelt's Science Advisory Board, in an address delivered before the American Association for the Advancement of Science.

Emphasizing the necessity for accurate and dependable scientific knowledge in the development of long-range plans for land use, if repetitions of past disasters due to drought, dust storms, erosion and floods are to be avoided in future, Dr. Bowman said:

"Neither a scientist nor a governmental official can handle the problems of the drought on a hunch. We can never solve the problems of the drought by stopping the drought. We can only provide to some degree against its effects; and if we were forewarned against its coming the degree of provision against its effects could be greatly increased. Likewise, we can never solve the problems of soil erosion by stopping erosion. We can only reduce the rate of erosion. The effects of drought and soil erosion will outlast all the regulatory schemes of today.

"Amazement at the dust storms should not lead to the neglect of long-range studies. A strong force of experts should be working on the mass of climatological data on the Great Plains accumulated during the past 50 years by the Weather Bureau. If this were done the result would certainly be more valuable over a ten-year period than all the gold produced in the Klondike."

Such a study would be invaluable in

determining the location of the much-debated Great Plains shelterbelt region, Dr. Bowman suggested. Even on the basis of present imperfect knowledge, the Forest Service has already shifted the projected lines considerably to the eastward of their first proposed location.

But the immediate problem of the semi-arid western part of the Great Plains is not only where to plant more trees and shrubs, waiting twenty to thirty years for results, he continued. Even more urgently is it a challenge "to work out a land-use plan for the grasslands of the vast region west of the proposed shelterbelt and to start operat-

ing the plan now. The climatic map shows us how vast is this marginal area. . . . In two land types where risk is greatest lies the land on which in favorable years farmers are most strongly tempted to grow wheat. There the wheat farmer literally gambles on the rain.

The two types represent areas of maximum risk not because they are occasionally very dry but because they are occasionally so favorably wet as to cause agricultural overextension. To these difficulties has recently been added widespread and unexpectedly severe wind erosion. While the farmer is waiting for a return of moist years, the wind carries his farm aloft.

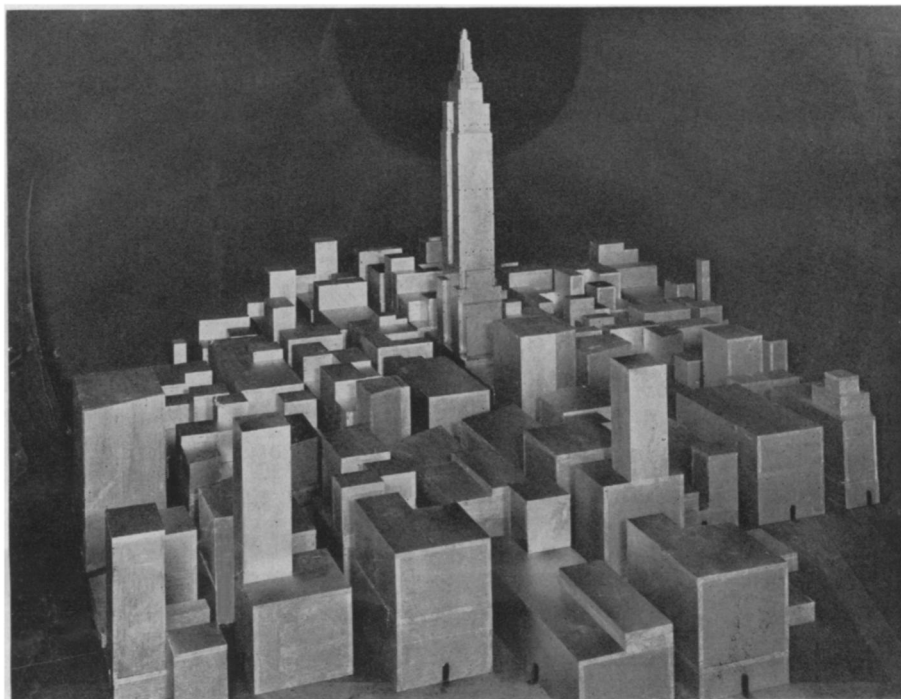
"The problem of the farmer turns on the question, how far can he go in reaping the bounty of the land in wet years and yet survive the penalties of inevitable drought? The problem of the government is to determine whether a man shall be allowed to grow grain in places where he can do so and ought not to."

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ENGINEERING

Miniature Manhattan In Artificial Wind

TO DETERMINE how winds stress large buildings, National Bureau of Standards scientists have built a model of the world's highest structure, New



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