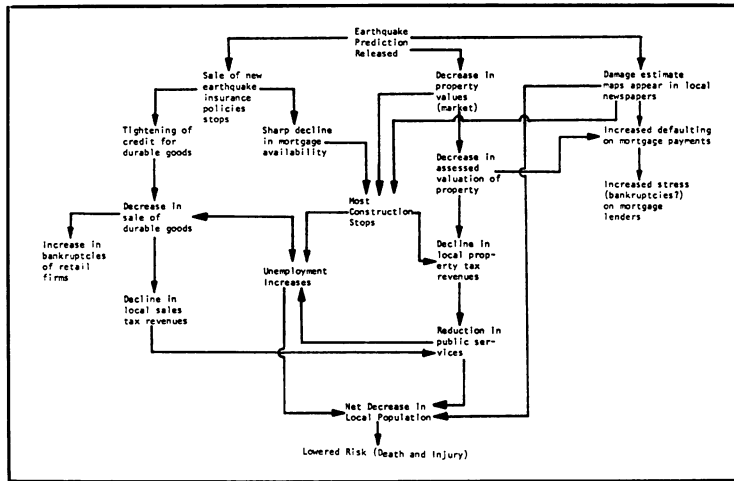


## Taking quake prediction seriously

A severe tremor—magnitude 5.5 to 6.5 on the Richter scale—has been predicted for southern California's San Fernando Valley region within the next year (SN: 5/1/76, p. 277). Such a prediction raises questions, and one of the most important has to do with the wisdom of making a prediction in the first place. Foreknowledge of a localized disaster might, for instance, have severe social and economic effects equalling or even outweighing those of the predicted disaster. Now that a prediction has been made (although the seismologist, James H. Whitcomb of the California Institute of Technology, considers it not a prediction but "a test of an as yet unproven theory"), researchers have a chance to evaluate its social and economic effects. So far, the worst has yet to happen.

At the meeting of the American Association for the Advancement of Science in February, sociologist J. Eugene Haas and his colleagues Dennis S. Mileti and Julia Mewes of the University of Colorado outlined the possible consequences of an earthquake prediction for a local community (see chart). One week after the initial press coverage (which was heavy) of the April 20 Whitcomb prediction, Haas went to California to conduct an informal survey. He contacted real estate people, property assessors and insurance agents in an attempt to see if anything unusual had happened. The only clear action Haas



*Some identifiable, slow-developing social and economic impacts at the local level from a prediction of a 7.3 earthquake.*

found was a sharp increase in both inquiries about and actual purchases of earthquake insurance. Four of the major companies had already stopped selling such insurance. In addition, one major lending institution had suddenly stopped providing mortgage money for one area near San Fernando. But, Haas says, "It was not clear whether this was related to the earthquake prediction or not."

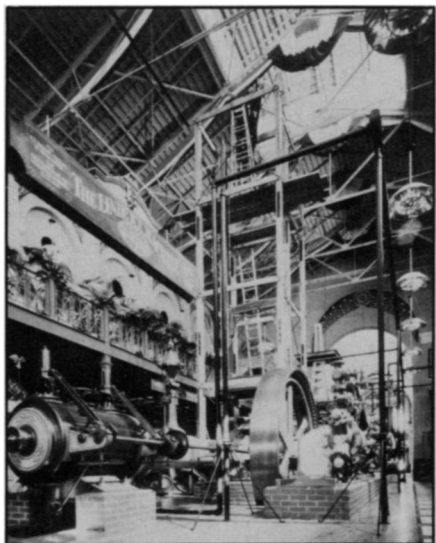
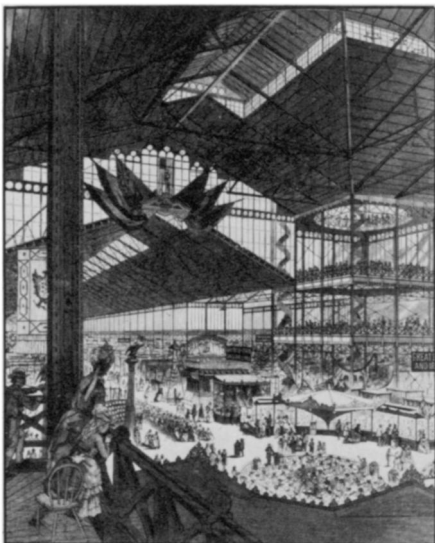
One possible reason for the less than dramatic response to the quake prediction may be that residents held off making any moves until California's Earthquake Prediction Evaluation Council had its say. The council, made up of some of the most prominent and experienced seismologists, has since met to examine Whitcomb's data, method of collection and theory. They found (although not unanimously) that the data were not clear

enough to conclude that there is any increased probability of an earthquake. Nevertheless, the data were sufficiently suggestive for the council to decide that the area in question should be designated for intensive study. If such a designation is made, funds, personnel and instruments will be diverted from other areas and concentrated on the San Fernando Valley.

Meanwhile, the White House has responded to the increasing probability of precise prediction by directing the National Science Foundation and the U.S. Geological Survey to come up with an accelerated program in the next three years to examine what ought to be done with earthquake predictions. A task force of special advisers, including Haas, will examine this program.

Obviously the question is no longer: Should predictions be made? "What we need now," says Haas, "is to learn how to use earthquake prediction for the greatest social good." And this area, he says, "is one that is developing very rapidly, or at a very minimum, it is starting to get greatly increased attention and expressions of concern." □

## Centennial exhibit marks Bicentennial



"1876: A Centennial Exhibition" opened in Washington this month and is brimming with the sights and sounds of Victoriana. The Philadelphia Exposition, left, as recreated, reflects an America deep into the Industrial Revolution and frankly fascinated with its own ingenuity. Housed in the newly restored Arts and Industries Building of the Smithsonian Institution (right) is an acre and a half of century old machinery meticulously brought back to life, furniture, glass and ceramics, tools and inventions of a people that could no longer be kept, "... down on the farm." □

## Zapping tumors with heat

Slowly but surely the armamentarium of effective cancer therapies is expanding. First there was surgery, then X-rays, followed by chemotherapy and immunotherapy. And now heat is looking promising as a form of treatment. Heat can kill tumors without damaging healthy tissue, Harry H. LeVein and colleagues of the Veterans Administration Hospital in Brooklyn, N.Y., have found.

The idea of using heat against cancer has been around for several years. Back in 1967, researchers reported that heated perfused blood led to striking tumor regression in 15 out of 22 patients with sarcomas and melanomas. In 1970, other investigators found that heat could kill leukemia cells. In 1974, still another group reported that heated perfused blood led to