

EARTHQUAKES AS A SOCIAL PROBLEM

Viktor Turnšek

The very fact that a conference dealing with the social, economic, and planning aspects of earthquakes is taking place indicates that it is considered that the residential and other buildings used by society for its activities existing today and perhaps still under construction are not safe against earthquakes.

The majority of countries which lie in regions where strong earthquakes may occur have their own codes concerning the construction of buildings in seismic regions. However, experience obtained from recent earthquakes since 1960, as well as the fact that intensive research is now going on in many countries of the world with the aim of providing seismically safe structures, indicates that the technical regulations of the past were not able, at least in sufficient measure, to assure the safety of buildings. This is the case even though these regulations are based on the principle that in the event of strong earthquakes serious damage may occur to buildings, but their collapse should be prevented.

The conclusions of the building group of the EEC, which met in Belgrade in April 1978 and dealt with problems concerning earthquakes, proposed that the regulations be amended with respect to the calculation of resistance and the estimation of the strength of an earthquake acting on a building. This indicates the unsuitability of the older regulations. The conclusions include the following passage: "Countries and regional organizations must make maximum efforts that for the design of structures in seismic regions the limit-state method of design be used. At the same time dates must be fixed by which time transition is to take place from calculations on the basis of permissible stresses to calculations on the basis of limit-state design." An additional conclusion was: "For determining the degree of intensity of earthquakes the MSK-64 scale should be used both in the preparation of seismic maps as well as when determining the extent of damage."

If account is not taken of the results of recent research, which has indicated solutions which would be in general economically acceptable, then it must be considered that "buildings of the past" will still abound--buildings which can neither be abandoned, nor