

not yet fully caught up with the pioneer.

The droughts and low wheat yield on dry land do not drive out the farmer for he knows that wet years will come again and in the meantime he enjoys a relatively low tax rate. But the whole system was worked out, largely during the period just before and just after the World War, when wheat was still commanding a good price. When both wheat and cattle dropped in price, not to half but to a third or a quarter of the prices that prevailed in the dry-farming boom, the marginal farmer had to face both the exceptional risks of climate and a demoralized market. If he owed money for improvements or for additional land or for live stock and seed, he was caught between two fires. In one such county four-fifths of all the families (4500 in number) in an area as large as the state of Connecticut have appealed for Red Cross aid.

#### Land Classified

Science does not stand still in the face of such a desperate situation. It is not sufficient to feed people in distress; it is the business of the government to find a cure based on sound scientific work. The Conservation Board of the U. S. Geological Survey has been at work for a number of years on the classification of the land in a broad strip east of the Rockies and running all the way from the Canadian boundary south to the panhandle of western Oklahoma. The results are shown upon a most valuable series of maps. Similar maps are now in preparation for the Great Basin covering a territory of equal extent. These maps may be called "risk maps." They show what degree of risk is involved in the use of the land as one goes from the belt of good soils and more reliable rainfall to the belt of poor soils and quite unreliable rainfall.

Were these maps followed they would vastly decrease the risks and the suffering now so prevalent in the region. But the dry-land farmer is an inveterate gambler. Again and again farmers have paid their debts and saved up cash in years of rainfall and plenty in areas marked on the land-classification maps as very risky. It has not been feasible and possibly not even desirable hitherto to say to a farmer "You shall not farm on a given territory because we believe you will fail."

The use of the marginal lands has greatly increased the wheat output of

the country and helped lower the price of wheat. They now represent areas of extreme distress. What is the policy to be followed in using them more intelligently? Here science can not complete the story. To say what shall be done with the marginal lands of either Kansas or New York State is a social and political question in part. It involves the standard of living of the marginal

farmer and the policy to be followed in forcibly limiting production or changing the use of the land by law. Science leaves that to policy makers, assigning only to itself as science the duty of analyzing the situation, mapping the belts and the degrees of risk, and explaining how communities are related to the land and to each other.

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#### GEOLOGY

## Earth's Many Depressions Were Blessings in Disguise

**I**F IT IS any consolation to present sufferers from depression, mental or financial, having depressions and, what is more important just now, getting out of them are just beneficial incidents in the life of Old Mother Earth. Rough on some of the actors that strut upon the earth, the earlier depressions nevertheless, from the long time view, are beneficial.

Viewing the flux and flow of "good" and "bad" times from the standpoint of geological eras rather than the few years of our generation, Dr. Carey Croneis of the University of Chicago gives perspective to the current questioning of stability of civilization.

"The earth has enjoyed countless depressions, the most wide-spread of these, paradoxically enough, being at times of great mountain building," Dr. Croneis writes in *Scientific Monthly*. "And although some of the results have been so far-reaching that all life has seemed to have been blotted out, a few of the simple, sturdy stocks in actuality have always weathered the storm to build new and more glamorous family careers during the following period of inevitable world recovery. And for today's timid soul the most encouraging feature is this—the new forms of life have always been more advanced than those whose places depressions made vacant.

#### Hard Times are Good Times

"The parables from out of the past are clear: All hard times are really good times. Fortunes, families, mountain ranges and even continents rise out of depressions; all hard times are inevitably followed by good times, which, in effect, are bad times, inasmuch as in

them family fortunes, individual initiative, national ideals and even lofty mountains are so weakened or reduced that they are likely to be completely destroyed or at least radically altered by the time the next depression is well under way."

Riverside Drive, Michigan Boulevard, Unter den Linden, the Strand and Champs Elysée have all been beneath the ocean that has flooded what is now land scores of times. Great Britain is sinking at a rate which is sufficiently rapid to effect nearly complete submergence within the next 40,000 years.

#### Depression Killed Dinosaurs

Consider the really great "depression" at the close of the Mesozoic, that age of dinosaurs, when the reptiles, like Russian royalists, were nearly blotted out, never again to become dominant. Dr. Croneis reminds us that "the roots of the great modern spreading tree of mammalian types were firmly anchored in the very depression which was too drastic for the optimistic dinosaurs who, to the final crash, continued bullish on Brawn Not Brains, Inc."

Do these examples from the past convince? Dr. Croneis laments:

"Whether ancient, medieval or modern, — the historians, philosophers, courtesans, priests, soldiers, medicine-men, artists, pugilists, college presidents, tycoons, economists and politicians have all agreed that the history of the past is the prophecy of the future, but they have never failed to reconcile themselves to the thought that they, their affairs and their times are somehow exceptions."

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