termining accurately the areas where earthquakes have occurred and mapping them so as to indicate the intensity. Such maps would bring out clearly the evidence available from the past as to the need for special precautions, and by keeping them revised new regions of activity would be adequately mapped. There is also a demand for regional information from the insurance companies. At present, in view of the lack of knowledge as to earthquake probability, they have little on which to base their rates. Too high rates or too low rates are disadvantageous, both to the companies and to the public; as in the former case insurance will disappear with a decrease of earthquake activity, and too low rates will be disastrous to the companies should a great earthquake occur. The kind of maps indicated would be of great value in averaging the probability, based on past occurrences over a region. While these maps would not be an entirely satisfactory guide, they would give the only information we have at the present time.

It should not be forgotten that earthquakes may occur where none have been observed before in this country, as our knowledge covers a very short period, geologically speaking, and earthquakes are geological phenomena. Experience in Europe points to the recurrence of earthquakes in places where they have occurred before, and this must be our best guide for the future. There is a great deal of information available, but the task of putting it on maps has yet to be undertaken. The Coast and Geodetic Survey has been gathering material for such maps and hopes to begin their production before very long, and then revise them from time to time. The geologist will find it necessary to reconcile these maps with the geological formations, so that we are again brought back to the need for the topographic map. This illustrates how all these problems are tied together, and emphasizes the fact that mapping based on accurate control is becoming more and more necessary as time goes on.

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SCIENTIFIC EVENTS

DUTCH EXPLORATION IN CENTRAL BORNEO[1]

AN expedition has been at work in East Central Borneo during the past summer under the leadership of Captain D. W. Buys, with a view to exploring the only important area in the great island still remaining unknown. The undertaking has been promoted by the "Indisch Comité voor Wetenschappelijke Onderzoekingen," formed some years ago for the furtherance of scientific exploration in the Dutch East Indies, which has already much work to its credit in Ceram and elsewhere. The field chosen lies between the upper course of the Kajan river in the north and the headwaters of streams flowing southwards to the Mahakam, and falls mainly within the administrative subdivision Beraoe. The upland region which gives rise to numberless tributaries of the above great rivers, as well as to the smaller Kelai on the east, has hitherto been quite untouched by white men, lying considerably north and east of the routes of Nieuwenhuis, Molengraaf, and Lumholtz, though its eastern and southern fringes have recently been touched by a military patrol under Lieut. Soeratman and the American Gilbert, as well as by the Dutch geologist Witkamp, who is a member of the present expedition. It was hoped to carry out an accurate survey of as large a part of the area as possible, besides geological, botanical, zoological and ethnological researches. Under the last-named head a search was to be made for archeological remains from the Hindu period, and also for cave-dwellers of whom some rumors have been heard. After a full consideration of the best line of approach to the unknown area, that by the Telen river, the largest northern tributary of the Mahakam, was decided on, and the first report of progress describes the ascent of this river in canoes under considerable difficulties due to heavy rains and the obstacles caused by the many rapids and the rock-strewn bed of the river. Efficient service had however been rendered by the Dayak boatman under the energetic direction of the native chief Beng Wung. By the end of June the party had ascended the Telen almost to its source, and had thus reached the threshold of the unknown area, while various side trips had been carried out by the geologist Witkamp and the botanist Endert, the former of whom had ascended the Wahau, a northern tributary of the Telen, to its source. To the east was a flat or gently undulating massif of eruptive formation, with a series of Tertiary rocks resting against its western edge. West of the river no elevations of importance were seen. Emanations of marsh-gas were observed, but no sign of oil. Above the Wahau the Telen has a widening course through a level plain, with cut-off bends connected with the river only at high water. Here the surface is formed of recent alluvium and sand, but higher up the Tertiary strata come to light in the form of shales, grits and conglomerates, with beds of lignite interspersed.

[1] From the *Geographical Journal.*

THE AMERICAN MUSEUM EXPEDITION TO GREENLAND

CAPTAIN ROBERT A. BARTLETT, who commanded the steamship *Roosevelt* in which Admiral Peary