his "review" is a sheer burlesque of what my book contains. He also complains because I have stolen some of his thunder; in other words, he says I have "appropriated" over two dozen *more* illustrations from his text-book than the few which his publishers authorized me to use. In this Dr. Schuchert is quite mistaken. He seems to forget that I and my publishers may possibly have access to the same original sources for illustrations that he himself had.

Possibly it may interest Dr. Edwin Linton and my other critics to know that the latest example of a "transcendent absurdity," issued by me, is entitled "Evolutionary Geology and the New Catastrophism," and that it was published only a few months ago.

GEORGE MCCREADY PRICE

STANBOROUGH PARK,
WATFORD, ENGLAND

LONG RANGE WEATHER FORECASTS

IN a review of "Man and Weather," SCIENCE (Vol. LXV, No. 1681, p. 281), March 18, 1927, some personalities may be passed without remark; but the attitude of the reviewer on the problem of long range forecasting should not pass without comment. He holds that such forecasts are not possible at present and by implication that there is little prospect of accomplishment. "No one," he says, "is in position to forecast for California or any other part of the country the distribution of atmospheric pressure even a week ahead, to say nothing of a month or season." Yet he admits "a fair degree of success in seasonal forecasting" in India; and concedes that "we are on the eve of attaining similar success in parts of California."

Years ago this relationship was pointed out in California; and it is our understanding that forecasters on both sides of the Pacific, Okada in Japan, Eeals, Bowie and Reed on this side, utilize knowledge of the intensity and extent of the Aleutian infrabar and other pressure distributions in long period forecasts. Across the Atlantic similar procedure is followed. The reviewer has overlooked that in Shaw's "Forecasting Weather," 2nd Edition, p. 181, is a pressure chart on which a forecast *for 14 days was issued* by the Meteorological Office.

Weather maps covering a hemisphere are now available with an increasing number of kite and balloon stations. It is not so difficult now to outline and watch the development of major pressure systems as it once was.

The reviewer will doubtless agree that there is room for improvement in forecasting. The present synoptic map remains substantially the same as fifty years ago. It tells what has happened but not what will happen. If we may not scrap it, we at least should modify it—to tell of the advance of cold-dry and warm-moist fronts, and the interpenetration of strata. It is the conflict of air streams that means accurate anticipating of rain areas and their duration. Winds are initiated by pressure differences, hence the significance of major pressure distributions, controlling the paths and constancy of the fronts. It is gratifying to note a growing appreciation of these points by official bureaus abroad and at home.

ALEXANDER MCADIE

SCIENTIFIC BOOKS

The Insects of Australia and New Zealand. By R. J. TILLYARD, F.R.S., etc. Sydney, Angus and Robertson. 1926. 560 pp.

THE insects of the Antipodes claim our attention for numerous reasons. From Australia came the dreaded Cottony-cushion scale (*Icerya purchasi*), which at one time threatened the destruction of the orange industry of California. From Australia also came the lady-beetles, of diverse species, which have proved invaluable in checking the *Icerya* and other coccid pests. From Australia, Froggatt described the extraordinary archaic giant termite *Mastotermes darwiniensis*, close relatives of which have since been found fossil in Europe. The fauna of New Zealand amazes us by its poverty of types, but it is rich in certain groups. These southern lands have not only furnished many entomological surprises, but they will afford new wonders for many years to come. Nowhere else is there such a good chance for the discovery of relicts of an early fauna, now exterminated in other parts of the world.

In 1907, Mr. W. W. Froggatt, entomologist of New South Wales, published an excellent book of 449 pages, entitled "Australian Insects." In it he gave a readable account of the leading or more conspicuous forms, with very good figures. Those of economic importance were discussed quite fully. Now, after twenty years, Dr. Tillyard gives us a new and more comprehensive book, including also the insects of New Zealand. In this interval, the additions to our knowledge have been very numerous, and very much has been done to arrange and systematize what was known before. Among all the discoveries and additions we must place first the revelation of a wealth of fossil insects of great antiquity, which as elaborated by Tillyard, throw new light on the origin and relationships of the various orders.

Tillyard's book is actually much more than its title might seem to indicate. It is a great contribution to the classification of insects in general, and as such will necessarily be at the elbow of the working entomologist everywhere. We note the extraordinary wealth of