meters during about one third of the time. The percentage of favorable days increases materially at greater altitudes, especially along the northern route. The percentage of favorable days for the westward trip "is so small as to make trans-Atlantic flight in this direction impracticable until the cruising radius of aircraft is increased to such an extent that they are relatively independent of weather conditions."

As to the season, there is little choice. The prevailing westerly winds are stronger in winter than in summer, but there are more storms in the colder months. The greater prevalence of fog in summer is a disadvantage at that season which about offsets the greater amount of cloudiness in winter. The fogs of Newfoundland are generally of but slight vertical extent, and as they do not extend far inland they ought not to interfere with a landing if such is attempted some distance from the coast. The most important thing of all is the need of a comprehensive campaign to secure meteorological and aerological observations over the North Atlantic.

R. DEC. WARD

QUOTATIONS

BRITISH SCIENCE AND INDUSTRY

THE speakers at the opening of the British Scientific Products Exhibition emphasized different aspects of the same truths. When the war came, England was deprived of many scientific products which she had been content to receive from Germany. English scientific men and inventors had long been in the forefront of discovery, but English manufacturers had taken little advantage of their achievements. We had not the industrial processes for making high explosives from coal-tar nor the methods of making optical glass for gun-sights. In a thousand ways, great and small, we were unready for the ordeal. The unlimited valor of our fighting men and the unswerving resolution of the people alone carried us over the dead point. The exhibition of British scientific products, made in Britain, for the first time during the war, shows the splendid progeny of the *liaison de convenance* hurriedly arranged between science and industry. It is to be hoped that it will lead to a more permanent union.

The war is over, and there is more than a fear that the soporific effect of the cry "Business as usual" may again be felt. Business will not be as usual. The old British way of being content with large-scale manufacture of the "good enough," of seeking the easy market and the repeat order, is gone for ever. Even the best is not good enough, for there is always a better. As Lord Moulton said, Divine discontent must have its place in our industries. The manufacturer must keep in touch with the inventor and the scientific student. The men of the laboratory must keep aware of the industrial processes to which they can so largely contribute. The seller of British goods must have a better weapon than blandishment; he must be able to explain why his goods are the best, and to stimulate the imagination of his customers by the assurance of better. Lord Crewe rightly laid stress on the part of education in the new orientation of our scientific and industrial effort. He referred with legitimate pride to the associations of manufacturers and investigators that are being organized by the Council of Scientific and Industrial Research. But there is still a long way to go. In one sense, the lean years that lie ahead of us are less favorable to continued effort, although they require it even more urgently. During the war an imperative stimulus quickened our common purpose. Money flowed like water for the experiments of the laboratory and the workshop, and the operations of war supplied the swiftest and surest test of efficiency. We must lose none of the organizing and self-sacrificing spirit that we gained when our need seemed greatest.—The London *Times*.

SCIENTIFIC BOOKS

The Turtles of New England. By HAROLD L. BABCOCK, M.D. Mem. Boston Soc. Natural History, VIIII., No. 3, 4to, pp. 325 to 431, plates 17 to 32, April, 1919.

This is the most recent of the series of monographs of small groups of vertebrate animals issued by the Boston Society of Natural History from time to time. The seventeen species of turtles recorded as native to New England are taken up in order and described, size, color, form, distribution, numbers, breeding, food, enemies, economic importance. The plates comprise careful color drawings by R. Decker and J. Henry Blake, of all but the marine leather-back, loggerhead and green turtles, and photographs of these three. The illustrations facilitate the identification of the different turtles, supply the best existing figures of certain comparatively little-known species and, as representative of New England material, will be valuable for reference to faunal herpetologists. There are several pages of bibliography of references cited. Of the seventeen species of turtles treated, four are marine, one littoral, one almost strictly terrestrial, one strictly aquatic, and ten more or less amphibious. Exclusive of the marine species, six are rare or local in New England, the remaining seven being the snapping turtle, musk turtle, painted turtle, diamond-backed terrapin, spotted turtle, wood tortoise and box tortoise.

This publication will be welcomed by the students of the fauna of New England and herpetologists in general, but it should have a much wider circulation. Ability to refer to it will add to the pleasure which every New England child may be expected to find in turtles. The turtle is one of the most striking of nature's phenomena and the correlation of its remarkable structure with its habits has much popular interest. A careful consideration of the life-histories of the different species is a feature of Dr. Babcock's work. From the quotations it is noticeable how many interesting things about turtles have only recently come to light and we are impressed with the probability that others as interesting remain to be found out.

In conclusion, a word should be said of the thorough investigation of the New England fauna by the Boston Society of Natural History of which this paper is a detail. Larger institutions are often absorbed by distant problems and work of this nature is much needed to keep the study of natural history well balanced.

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SPECIAL ARTICLES

THE FUNGUS PARASITE OF THE PERIODICAL CICADA

The fungus *Massospora cicadina,* Peck has been extremely prevalent about Washington, D. C., during the recent reappearance of Brood X of *Cicada septendecim.* It was first collected in the conidial stage of development on May 31, or about ten days after the first emergence of the insect in this locality. Until June 7, however, it was not abundant, it being possible to collect only a dozen or so infected cicadas in an afternoon, and during this period only the conidial stage of the fungus was found. On June 10, however, following a wet period of a few days, the organism appeared in the resting spore condition and since this date has become increasingly prevalent until, at the present time, from five to nine out of every ten live adult males collected will show the resting spores of the fungus in some stage of development. On the other hand, infected insects showing conidia are rarely found now.

It appears from the observations made thus far that conidia and resting spores of *Massospora cicadina* are not formed simultaneously in the same insect, and infected individuals bearing only conidia of the fungus present a somewhat different gross appearance from those insects in which resting spores exclusively are produced.

In the conidial stage of development the fungus is usually exposed to view, due to the sloughing off of several of the posterior abdominal segments of the host's body, as a white or pale cream colored more or less coherent mass which is found to arise in the male hosts at least from a cushion-like substratum, the latter forming a more or less complete septum extending across the entire