

drift of the glacial period did not once extend over the counties south of the Thames has yet to be demonstrated, and those geologists who hold that we have already discovered the original southern limits of the glacial clays and gravels in England, have yet to explain the condition of these deposits of the north brow of the Thames Valley, where they are as pelagic in character as they are a hundred miles farther north.

The dwellers in the south of England have thus been compensated for their distance from the bolder region of the old British glaciers, of perched blocks, and terminal moraines. The glacial period has now been brought home, as it were, to their own doors. By the classification of the glacial beds which we now possess, patches of clay and gravel which seemed to have a sporadic and insignificant character are seen to belong to a great and historical series. In the presence of such "diluvium" as that of Muswell Hill, with its astonishing medley of organic remains, it needs no longer to be asked,—

"What seas receding from what former world  
Consigned these tribes to stony sepulchres?"

We know now that it was an icy sea.

HENRY WALKER

#### FLIGHT NOT AN ACQUISITION

A FEW weeks ago, when at Ravenscroft (the residence of Lord Amberley), I shut up five unfledged swallows in a small box not much larger than the nest from which they were taken. The little box, which had a wire front, was hung on the wall near the nest, and the young swallows were fed by their parents through the wires. In this confinement, where they could not even extend their wings, they were kept until after they were fully fledged. I was not at Ravenscroft when the birds were liberated, but the following observations were made by Lord and Lady Amberley, who have kindly communicated them to me. On going to set the prisoners free, one was found dead—they were all alive on the previous day. The remaining four were allowed to escape one at a time. Two of these were perceptibly wavering and unsteady in their flight. One of them after a flight of about 90 yards disappeared among some trees; the other, which flew more steadily, made a sweeping circuit in the air after the manner of its kind, and alighted, or attempted to alight, on a branchless stump of a beech; at least it was no more seen. I give the unabridged account of No. 3 and of No. 4 as it stands in the notes made at the time by Lady Amberley. "No. 3 (which was seen on the wing for about half-a-minute), flew near the ground first round Wellingtonia, over to the other side of kitchen garden, past beehouse, back to the lawn, round again, and into a beech tree. No. 4 flew well near the ground, over a hedge twelve feet high to the kitchen garden, through an opening into the beeches, and was last seen close to the ground." The following remarks were added subsequently: "The swallows never flew against anything, nor was there in their avoiding objects any appreciable difference between them and old birds. No. 3 swept round the Wellingtonia, and No. 4 rose over the hedge just as we see the old swallows doing every hour of the day." It remains to add that each of these birds was weighted with a small collar of coloured cloth, put on for the purpose of marking them; and that an old swallow on being set free encumbered by a similar adornment, exhibited the same unsteadiness in its flight.

There is little need to make any remark on the above facts. In proving the flight of birds, and their power of guiding their course through the air in accordance with their sensations of sight, not to be an acquisition, they support the general doctrine that all of what may be called the professional knowledge and skill of the various species of animals come to them by intuition, and not

as the results of their individual experiences. With wings there comes to the bird the power to use them. Why, then, should we believe that because the human infant is born without teeth, it should, when they do make their appearance, have to discover their use? The swallow, the first time it is in the air takes care, or rather does not need to take care, not to dash its brains out against a stone wall. Why, then, should we believe man to have no instinctive faculty of interpreting his visual sensations?

DOUGLAS A. SPALDING

#### BRITISH ARCHÆOLOGICAL INSTITUTE

THE annual meeting of this Institute commenced at Exeter on Tuesday, July 29, the President for the year being the Earl of Devon. Many valuable papers were read, and many interesting excursions made in the neighbourhood; the reception by the Mayor, the local authorities, and the inhabitants generally, has been most enthusiastic. The Congress was brought to a close on Tuesday last, and is declared to have been the most successful meeting of the kind ever held. Of the many valuable papers read we give the following by Dr. E. A. Freeman, on "The Place of Exeter in English History."

He remarked that it sometimes came into the mind of an English traveller in other lands that the cities of his own country must seem of small account in the eyes of a traveller from the land which he visited. He spoke of course as an antiquary and not of modern prosperity and splendour. As a rule an English town did not make the same impression as an artistic and antiquarian object as did towns of Italy, Germany, Burgundy, France, or Aquitaine. But whilst we had few cities as rich at once in history and art as many of those on the Continent, yet we need not grieve; for whatever was taken from particular districts was added to the general history of our country. Why was the history of Nuremberg greater than that of Exeter? Simply because the history of England was greater than that of Germany. The domestic history of an English town which had always been content to be a municipality, and had never aspired to be a sovereign commonwealth, seemed tame beside the stirring annals of the free cities of Italy and Germany. But for that especial reason it had a value of its own, it had not struggled for the greatness of its own, but it had done its work as part of a greater whole—it had played its part in building up a nation. And the comparison between the lowly English municipality and the proud Italian or German commonwealth had also an interest of another kind. The difference between the two was simply the difference implied in the absence of political independence in the one case and its presence in the other. The difference was purely external—the internal constitution—history and revolutions—often presenting the most striking analogies. In both might often be seen the change from democracy to oligarchy, and from oligarchy to democracy. In both they might see men who, in old Greece, would have taken their places as demagogues, perhaps tyrants. Exeter had something to tell of Earl and Countess of Devon; Bristol of its half-citizens, half tyrants, the Lords of Berkeley. In the free cities of the Continent we saw what English cities might have been if the royal power in England had been no stronger than that of the Emperors, and if England had therefore split up into separate states like Germany, Italy, and Gaul. In England the constant tendency had been to unity and to make every local power subordinate to that of the king, and it was this that had made the difference between a municipality like Exeter and a commonwealth like Florence. In Exeter reflections of this kind had a special fitness. No city in England had a history which came so near to that of the great conti-