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local or of general origin, and that the case I have just related, and those referred to by Mackenzie, Harley, Gull, Bristowe, and other similar ones, were due to local disorder; while those met in malarial districts, as described by Flint and Tyson (in Pepper's System of Medicine), owe their origin to that general derangement of the nervous system and disorganization of the blood that intense malarial poison is capable of inducing. This distinction is a matter of considerable importance as regards treatment, because if it is true that, in the one case, the disease consists in perverted action of the vasomotor nerves of the kidney, those remedies might be expected to prove serviceable which, like ergot, have a direct action upon these nerves, and this I found to be true in my case; while, in the other, such medicines would probably prove useless, and benefit would be more likely to follow an antimalarial treatment. It is rather singular that those American authors whom I have referred to, and Bartholow, ignore the existence of paroxysmal hæmaturia of other than malarial origin, and speak of the disease as though it were invariably due to that cause.

Selections.

CEREBRAL LOCALIZATION. (An Abstract.)

The Croonian Lectures on Cerebral Localization, delivered by David Ferrier before the Royal College of Physicians of London, have recently been published. In these lectures the author's purpose was to sketch the evolution of the doctrine of cerebral localization and to indicate the principal data on which it is based, and to discuss, in the light of the most recent investigations, the evidence for and against the existence of specific centres, and their exact position in the cerebral cortex.

Before considering the facts bearing directly upon the specific localization of function in the cerebral cortex, the effects of ablation of the cerebral hemispheres in different classes of animals were considered. Recent researches on the effects of the removal of the cerebral hemispheres, by improved methods, have necessitated some important modifications of the -doctrines which, up to quite a recent date, have been entertained on the subject. Beginning with *fishes*, it was stated that, when in osseous fishes, the ganglia (which correspond morphologically to the cerebral hemispheres of vertebrates) are entirely removed, there is little, if anything, to distinguish them from perfectly normal animals. They maintain their normal attitude and use their tails and fins with the same vigor and precision as before. A fish without cerebral hemispheres can see, distinguish colors to some extent, catch its prey, discriminate between different kinds of food, direct its movements with precision, and, in fact, behave, to all appearances, like a normal animal.

Frogs deprived of their cerebral hemispheres behave, cæteris paribus, essentially like fishes similarly treated ; they maintain their normal attitude and resist all attempts to overthrow It would, in fact, be diffitheir equilibrium. cult, so far as their movements and response to peripheral stimuli are concerned, to distinguish between a normal and a brainless frog. If the back be gently stroked, the frog will answer uniformly with a croak, as if of pleasure or enjoyment. Like the fish, it possesses some form of vision. It has been shown, moreover, by the recent experiments of Schrader, contrary to the views formerly held by most observers, that removal of the hemispheres deprives the frog neither of spontaneity nor of special instincts, nor of the ability to feed itself. It would appear, therefore, if these observations are correct, that the brainless frog behaves precisely like the brainless fish above described.

Birds.-After removal of the cerebral hemispheres of pigeons they show no disturbance of station or locomotion. Left to themselves, they appear at first, at least, to be plunged in profound sleep; from this condition they are easily aroused by a gentle push or pinch. They start at loud sounds, such as a pistol-shot, made in their immediate vicinity. The question as to the sense of sight in brainless pigeons has been much discussed. Schrader, however, finds that, within a few days after the operation, these pigeons behaved in such a manner as can only be explained by their still retaining some form of vision; they not only avoid obstacles in their path, but appear able to fly from one place and alight securely on another. We are thus obliged to class birds with fishes and frogs, which, with-