

reproduce these is determined upon. Now, if we had a dual mind, and if each hemisphere was capable of acting *per se*, then we should have each intellectual area sending a message to its own motor area, with the result that the two figures would be *distinct* and *correct*, not fused.

The other evidence that I referred to above, which is adduced in favour of the synchronously independent action of the two hemispheres, is from the account of such cases as the following. Prof. Ball, of Paris, records the instance of a young man who one morning heard himself addressed by name, and yet he could not see his interlocutor. He replied, however, and a conversation followed, in the course of which his ghostly visitant informed him that his name was M. Gabbage.

After this occurrence he frequently heard M. Gabbage speaking to him. Unfortunately M. Gabbage was always recommending him to perform very outrageous acts, such as to give an overdose of chlorodyne to a friend's child, and to jump out of a second-floor window. This led to the patient being kept under observation, and it was found that he was suffering from a one-sided hallucination.

Similar cases have been recorded in which disease of one sensory perceptive area has produced unilateral hallucination.

I cannot see that these cases in any way support the notion of the duality of the mind. On the contrary, they go to show that while as a rule the sensory perceptive areas are simultaneously engaged upon one object, it is still possible for one only to be stimulated, and for the mind to conclude that the information it receives in this unusual way must be supernatural, and at any rate proceeding from one side of the body.

To conclude, I have endeavoured to show that as a rule both cerebral hemispheres are engaged at once in the receiving and considering one idea. That under no circumstances can two ideas either be considered or acted upon attentively at the same moment. That therefore the brain is a single instrument.

It now appears to me that one is justified in suggesting that our ideas of our being single individuals is due entirely to this single action of the brain.

Laycock showed that the Ego was the sum of our experience, and every writer since confirms him. But our experience means (1) our perception of ideas transmitted and elaborated by the sensory paths of the brain; and (2) our consciousness of the acts we perform. If now these things are always single, the idea of the Ego surely must also be single.

THE FRENCH ASSOCIATION

THE fourteenth meeting of this Association has been held this year in Grenoble, one of the most intelligent and active French provincial cities, although it has not quite 25,000 inhabitants. It is situated on the banks of the Isère, one of the principal affluents of the Rhone, and is the head city of the Isère department.

The presidential address was delivered by M. Verneuil in the municipal gymnasium in the very hall where girls and boys are daily using horizontal and vertical bars. The actual President, M. Verneuil, is a surgeon in large practice, who delivered a long address on his profession under the title of "Confessions of a Surgeon of the Nineteenth Century." After having tried with much wit and force of expression to dispell prejudices current against practitioners, he went so far as to argue that operations are less frequent in France than in other lands, in spite of animal vivisection being free.

M. Napias, the general secretary, read a long paper on the scientific men who have died during the year, which has been singularly fatal to French science, and he announced the creation of a section of public hygiene and medicine. This section was inaugurated by an address of M. Chauveau, the Director of the Lyons Veterinary School, on the choleraic vaccination by Ferran. Not having been able to witness the operations conducted by Dr. Ferran, the referee was not in a position to give a definite opinion on this all-important matter; but he is satisfied that Dr. Ferran has adhered faithfully to the principles established by M. Pasteur. Although he may be assailed as lacking correct information on the biological part of the question, none of his assumptions can be considered as being in contradiction with well-stated and observed facts. It is probable that his method may be rendered less cumbersome and painful for the patients, but credit must be given to him for his daring experiments.

M. Galande, the treasurer, showed that the Association is possessed now of 20,000*l.*, invested in public funds. The

amount of the annual subscriptions is 2250*l.*, so it leaves a large surplus for the publishing of the transactions and encouragement given to science.

It was announced that the present meeting should have to vote on the fusion with the Association Française, which was created by Leverrier, and presided over by Milne-Edwards since the great astronomer died. No successor will be given to Milne-Edwards, as the two scientific bodies will unite.

The public lectures at the Sorbonne will continue, and a scientific paper will be started, issuing in fortnightly numbers.

M. Rey, the Maire of Grenoble, delivered a complimentary speech to the members of the Association, reminding them that Grenoble was the site of the first Marcel Deprez experiments after their short inauguration at Munich. The results of these important experiments now continuing between Creil and Paris are satisfactory.

In the section of anthropology M. de Mortillet discussed the question of Tertiary man. He said the question was not to know if man as he exists at the present day already existed in the Tertiary epoch. Animals certainly varied from one geological stratum to another, and these variations increased as the strata were geologically distant. The higher the animals the greater the variation. It was to be inferred then that man would vary more rapidly than the other mammals. The problem was not to discover existing man in the Tertiary period, but only to find there an ancestral form of man a predecessor of the man of historical times. The question was, Do there exist in the Tertiary strata objects which imply the existence of an intelligent being? M. de Mortillet has no hesitation in saying there do. These objects have, in fact, been found at two different stages of the Tertiary epoch—in the Lower Tertiary at Thenay, and in the Upper Tertiary, at Otta; in Portugal, and at Puy Courny, in Cantal. These objects proved that at these two epochs there existed in Europe animals acquainted with the use of fire, and able more or less to cut stone. During the Tertiary period there existed, then, animals less intelligent than existing man, but much more intelligent than existing apes. This animal, to which M. de Mortillet gives the name of *anthropo-pèthique*, or ape man, was, he maintains, an ancestral form of historic man, whose skeleton has not yet been discovered, but who has made himself known to us in the clearest manner by his works. A number of flints were exhibited from the strata in question, which had been intentionally chipped and exposed to fire. After a long discussion, the almost unanimous opinion was expressed "that after this meeting and discussion at Grenoble there can no longer be a doubt of the existence in the Tertiary period of an ancestral form of man!"

The sitting of the Sections took place in the Palace of the University (Faculties).

NORTH AMERICAN MUSEUMS

A REPORT has just been issued on a visit to the Museums of America and Canada, by V. Ball, M.A., F.R.S., Director of the Science and Art Museum, Dublin. Prof. Ball visited a large number of institutions in various parts of North America, and in his introduction says that he was impressed especially with the system, thoroughness, and good order which appeared to pervade the arrangements in the majority of these institutions. Many of them are of late growth, but already possess an astonishing degree of vigour, while their supporters and officers look forward in a spirit of great hopefulness to what must be described as gigantic extensions of their spheres of usefulness in the future. Largely dependent for their existence on the liberality of private individuals, they take what aid they can get from the Government, and it amounts, in the majority of cases, merely to State recognition. Those of them which possess directly educational functions claim an abundant harvest of good results, and there can be no doubt that the facilities which now exist for instruction in science and art are largely availed of in the principal cities of America.

Mr. Ball did not happen to come across, if such institutions exist, any which were in a condition of decadence from the apathy and indifference of those for whose benefit they had been established. On the contrary, several are unable, owing to their means or room being limited, to receive all the pupils who present themselves.

"That an interest in museums is largely felt in America is not only evidenced by the number of them which are scientifically conducted and the large number of persons who visit them, but it is also proved by the existence of commercially-conducted