SCIENCE.—SUPPLEMENT.

FRIDAY, MARCH 25, 1887.

SCIENTIFIC PHRENOLOGY.

UNDER the above title the London *Times* reports an interesting session of the Anthropological institute, Mr. Francis Galton in the chair, at which Professor Ferrier read a paper on the 'Functional topography of the brain.' He discussed the question how far recent investigations into the functional topography of the brain could be brought into relation with craniological and anthropological researches with a view to establish the foundations of a scientific phrenology. Then he sketched the functional topography of the brain so far as it had been settled, but pointed out that the psychological aspects of brain-functions were still far from being made out, although that correlation must be established and proved before a practical psychology, in any degree serviceable to the physician or the anthropolo ist, could be regarded as possible. He offered some speculations on the subject, and illustrated them by reference to certain facts and phenomena of disease in man. On the question as to how far it was possible, from an anatomical examination of the brain, to form an estimate of the forces and capacities of the individual, he pointed out many great difficulties which had to be encountered. Not merely the size of parts had to be taken into account, but the relation of different regions to each other, the action of *metastasis*, structural differences, as well as other influences. *Caeteris paribus*, greater anatomical development might be considered as an index of greater functional capacity, all which points the lecturer illustrated in various ways. He thought the attempt to determine differences in functional capacity from the examination of the head involved all the difficulties connected with the examination of the brain, and a great many more. He indicated the cranial relations of the principal convolutions, but expressed his belief that in the present state of our knowledge the data of a scientific phrenology were still very deficient. There was reason to believe, however, that if the subject were taken up from different points of view by anatomists, physiologists, psychologists, and anthropologists, great progress might be made.

The discussion of the paper was opened by Sir James Crichton Browne, who detailed some very interesting electrical experiments he had made on the brain of a monkey, which clearly demonstrated localization of the cerebral functions. There were too often, however, insuperable difficulties to be met with in pursuing a parallel series of experiments on the living human brain. There were on record some curious accounts of investigations relative to the brain of a fowl by a bishop of Ratisbon in the thirteenth century, and in 'Burton's anatomy of melancholy' a good number of instances more or less like it were collected. It seemed to have been agreed that the number of the cerebral functions was thirty-five. To the early phrenologists a certain tribute of praise was due for their having, at least, called attention to the subject of craniological phenomena, although the quackeries of Professor Cagliostro and his rivals were simply beneath contempt. Boys were artfully trained to subserve the cunning exhibitions of such impostors. Still it must be allowed that the pseudo-phrenology in a certain sense paved the way for the cautious researches of the true science of a possibly distant future.

PSYCHOLOGICAL NOTES.

THE January issue of *Mind* contains an account of an interesting series of experiments on the limit of the capacity to repeat a series of sounds after hearing them read once. A German experimenter, Ebbinghaus, had studied the powers of the memory by counting the number of times a given series of nonsense-syllables had to be repeated in order to enable the hearer to reproduce them by rote. Mr. Joseph Jacobs (with the cooperation of Mr. Sully, Mr. Read, and Mrs. Bryant) has carried a similar means of testing the memory (or, as they more accurately call it, the 'prehension') into the school-room. The method was somewhat simpler. Instead of nonsense-syllables (for instance, *dak-mil-tak-bin-roz*), which are very disturbing, the names of the letters (omitting 'double *u*') and of the numerals (omitting 7) were chosen; and the maximum number of letters and numbers that a child could repeat after *one* reading was called its 'span.' Care was taken to pronounce the words as monotonously and as regularly as possible in order to avoid any assistance to the memory from a more or less decided rhythm. The numbers or letters were dictated to the class, each member of which then (usually) wrote down as accurately as possible the series of letters or numbers. The results thus reached were quite interesting.