

incoherent and not remembered ; then a period of transition in which the nerve-cells repair the best part of their losses, with cerebral pause ; last of all, a state of relative anæmia, with a more orderly cerebral activity, of which there may be memory in the waking condition which gradually supervenes.

*Study of Types of Character.*—In his presidential address to the Department of Anthropology in the Biological Section of the British Association, at the Plymouth meeting in August, Mr. Francis Galton made some suggestions as to methods for the study of those groups of men who are sufficiently similar in their mental characters or in their physiognomy, or in both, to admit of classification. Such types of character as those described by Theophrastus and La Bruyère might now, he thinks, be scientifically studied with great profit, if some one well-versed in literature were to compile a volume of extracts from plays and the higher works of fiction, whose authors are ever on the watch to discriminate varieties of character, and have the art of describing them. Another suggestion is that a comparison of the age, height, weight, colour of hair and eyes, and temperament (so far as this may admit of definition) should be made with the amount of personal equation in each observer in the various observatories at home and abroad: the magnitude of a man's personal equation indicates a very fundamental peculiarity of his constitution, and we should thus learn how far the more obvious physical characteristics may be correlated with certain mental ones, while obtaining, perhaps, at the same time a more precise scale of temperaments than we now have. Referring next to some of the recognised methods for measuring exactly the rate or compass of judgment in different individuals (including Prof. Jevons's plan of suddenly exhibiting an unknown number of beans in a box and requiring an estimate of their number to be immediately called out), Mr. Galton dwelt upon the use that might be made of photographs when, after having obtained by one or more methods a group of persons resembling one another in some mental quality, the external characteristics and features most commonly associated with it have to be determined. Photography can seize those subtle yet clearly visible peculiarities of outline which most elude measurement. The anthropologist ought to have the full face, profile, and view of the head from above, of the individual whose features he is studying ; which by a simple arrangement of mirrors might all be obtained to scale on the same plate with the ordinary photographic picture of the sitter. From such sets of representations of several persons alike in most respects but differing in minor details, the typical characteristics might then be extracted by superimposing the pictures optically and accepting the aggregate result. Either, as suggested by Mr. Spencer, the portraits reduced all to the same scale might be traced on separate pieces of transparent paper and secured one upon the other, and then be held between the eye and the light ; or, as occurred to Mr. Galton himself, faint images of the several portraits, in succession, might be thrown upon the same

sensitised plate. He is now engaged upon an inquiry into the physiognomic aspects of the criminal classes, on the basis of such photographs as he has been able to obtain from the prison authorities of the country—many thousands in number and so far affording a good ground for classification, but unfortunately needing to be supplemented by views of the profile and shape of head. The address is given in full in *Nature*, Aug. 23rd.

EDITOR.

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### VIII.—NOTES AND DISCUSSIONS.

*Mr. Sully on 'Physiological Aesthetics'.*—I propose to say a few words in answer to Mr. Sully's criticism of my *Physiological Aesthetics*, which appeared in the last number of *MIND*. I wish merely to deal with his strictures on my theory of pleasure and pain, because I think I can show him that the cases which he adduces as weighing against that theory are either only apparent difficulties, or else, when thoroughly sifted, strong arguments in its favour. I shall take his various points in the order of their occurrence.

Mr. Sully asks (p. 388) "Even if we allow that certain sensations, as bitter tastes, which are painful in all degrees of intensity, answer to injurious stimulation, . . . how are we to bring the pains of ungratified desire under Mr. Allen's principle? The omission to include these in his view of pains is all the more remarkable, since the writer to whom Mr. Allen owes most, Mr. Herbert Spencer, has given so great a prominence to them." Now the fact is, I purposely avoided all allusion to this subject, because I did not wish to drag in an unnecessary discussion: but as I am thus compelled to state my opinion, here it is. I believe such pains hardly exist at all; while the few which do exist are very vague, are confined to highly-developed animals, and form a portion of those complex emotional feelings whose physical antecedents are still involved in great obscurity. Much confusion has arisen from the ambiguous use of words like *craving*, *appetite*, *desire*, &c.; and I think there are three distinct classes of feelings liable to be confounded under these names. First, there are the positive pains of hunger and thirst, in their extreme forms, which obviously arise from insufficient nutrition or actual unbuilding of the tissues; and these fall readily enough under the general law. Secondly, there is that uneasy feeling produced by high efficiency of any organ, which seeks, successfully or otherwise, to perform its function. This is *not* a pain, but merely a *nisus*, an impulse, a stimulus to action. As cases in point we may take the ordinary forms of hunger and thirst, which are neither pleasurable nor painful, but simply act as impellents. It is these feelings which Mr. Herbert Spencer calls "*cravings*," and to which he rightly attributes so great an importance, relatively to his own mode of treatment. But I doubt whether they should be classed at all in the same category with pleasures and pains, because they are in reality mere phenomena