3. Physiological Psychology.

Vacher: a Psycho-physiological, Medico-legal, and Anatomical Study [*Etude psycho-physiologique, médico-légale, et anatomique sur Vacher*]. (*Bull. de la Soc. d'Anthropol. de Paris, fasc. v*, 1899.) *Laborde, Manouvrier, Papillault, et Gellé.*

This study, as careful and complete as was possible under the circumstances, was made in the Paris Laboratory of Anthropology, and deals with Vacher, whose crimes, resembling those of "Jack the Ripper" in England, attracted much attention, and ultimately led to his execution. By Professor Lacassagne and other experts he was considered sane and responsible. The present highly competent investigation throws doubt on that conclusion, and is well worth attention. Though very incomplete, it furnishes a model which we should do well to follow in our own country; the prime requirement seems to be scientific zeal. This study of Vacher was only rendered possible by very great persistence and much co-operation. Although there appears to be no official prohibition in the way of such inquiries (in this case the family of the criminal desired the investigation), neither is there any official encouragement; Vacher's remains were scattered in all directions; only portions could be obtained. The left side of the brain alone was obtained for study; as, however, the head was also obtained, there was a fair amount of material. The study is well illustrated.

Vacher was born in 1869 at Beaufort (Isère), and belonged to a large and honest family, cultivators of the soil. The ancestry appeared to be quite healthy, but it was subsequently learnt that the father, at the age of forty, and before Vacher's birth, had suffered from a prolonged fever, during which he had to be strapped down; it was also found that another very near relation suffers from mental attacks, during which he quits his work suddenly and runs at random, shouting and singing. Vacher does not appear to have suffered from any serious early illness, but from childhood he is described as sulky, disobedient, unsociable, and later incapable of work. At the age of eighteen he was placed in a monastery as a postulant; two years later he was sent away, having made attempts to commit unnatural offences on his comrades, attempts which he renewed on a child. A little later we find him in the hospital with a venereal disorder. In 1890 began his period of military service. At this time definite mental symptoms appeared; he obtained the grade of sergeant, but he was feared by all under him, and was liable to attacks of extremely violent conduct. In 1891 he was placed in the infirmary for observation, as being subject to "gloomy ideas, with delusions of persecution;" there was also a certain incoherence in his language. He was sent shortly after to the hospital with a diagnosis of "mental troubles." This rather vague diagnosis is here interpreted more precisely as "melancholia, with ideas of persecution, impulses of violence, and erotomania." Nor were associated impulses to homicide and suicide absent, for when sent away as convalescent, he went to join a young woman whom he was to marry. She, however, would now have nothing to do with him; whereupon he fired at her with

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a revolver, and then attempted to kill himself. The girl's wound was slight, his own serious, for two balls were left in his head, producing inflammation of the inner ear, deafness, and facial paralysis on one side. It is suggested that hereby his mental troubles were complicated by hallucinations of hearing. However that may be, having again been put under observation in an asylum, he was finally dismissed from the army on account of "mental troubles." Up to this point there is no question as to Vacher's insanity. Lacassagne, however, and the officially appointed experts who reported on the case, believe that he left the asylum sane, and that he was fully responsible for his subsequent acts. This conclusion is attacked with much point and vigour by Professor Laborde.

Now began the series of crimes—at least eleven in number—with which Vacher's name is associated. They all have the same stereotyped character, and are marked by premeditation and system. He selected a young shepherd or shepherdess (sex apparently made little or no difference) in an isolated spot, and strangled the victim, then cutting the throat; next he proceeded to disembowelling, and to removal of breasts or testes; finally struck the victim at random, and (unless ejaculation had already taken place) violated the corpse, usually *contra naturam*. He would bring with him a change of clothes, and putting them on he would leave the spot with much rapidity and go so long a distance (he had a powerful muscular system) that identification became impossible. He maintained that he was "executing the orders of God, who had sent him on earth to punish men for their crimes." He even asserted that he was moved by a sudden and irresistible impulse, a rage for blood. Finally, having been caught, and the official experts declaring that he was completely responsible for his actions, Vacher was executed.

His brain came into the hands of Dr. Toulouse, who cut up the right hemisphere for histological purposes, and put the left into a powerful preservative solution, then inviting Professor Manouvrier to examine it. According to the report of the latter, it was no longer possible to form an exact estimate of the weight of the brain, but this was clearly over the average, and the fissures were also deep; it must be remembered, however, that Vacher was well developed generally. There were no signs of adherence of the pia mater. A few variations in the fissures and convolutions are noted, but not of an excessively rare character; it would be quite fanciful, Manouvrier declares, to regard them as stigmata of degenerescence.

The histological investigation of the right hemisphere—confided by Dr. Toulouse to various competent hands—has not yet been published.

Dr. Papillault reports concerning the head that it is that of a man with a powerful osseous and muscular system. The hair, brown and coarse, is implanted in a singularly thick scalp; the eyebrows are thick, and meet in the middle line; the beard is also thick; the head is brachycephalic, and fairly symmetrical. The bi-mastoid breadth is very considerable, testifying to the development of the muscular system. There is slight prognathism, and the ear is ill-formed. On the whole Papillault concludes, though the head is morphologically somewhat

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below the average, it presents no character that can be strictly termed abnormal.

The results of this investigation, it will thus be seen, are so far negative, though it is unnecessary to add that, in such competent hands, a negative result is as instructive as a positive result.

A not unfamiliar word may be suggested by the controversy over Vacher's "responsibility." Lacassagne affirms his "responsibility," Laborde denies it, Manouvrier incidentally states that such a question is insoluble. Sooner or later we shall have to recognise that the question of responsibility is a purely academical question, and that a medical expert who allows himself to be drawn into its consideration is scarcely contributing to the dignity of medical science. The question of "responsibility" should not be allowed to have any bearing on the practical question of the best method of dealing with a criminal. It is reasonable to regard the interests of the criminal, and it is reasonable to regard the interests of society; but it is unreasonable to introduce any metaphysical conundrums. HAVELOCK ELLIS.

Mental Fatigue. (*Psych. Rev., Sept.*, 1900.) *Thorndike, E.*

Dr. Thorndike, having found reason to think that there is much confusion and obscurity in the current notions of "mental fatigue," has initiated a series of experiments with the object of helping to clear up the matter, and in this first paper publishes some of his results. Usually, he remarks, we think of mental work in terms of mechanics; the mind is supposed to lose its power to work as a rubber ball loses its power to bounce, and sleep is supposed to recharge the mind with energy, the important corollary being that during work we are constantly and progressively exhausting ourselves. He finds reason to believe that this is not the case, but that the curve of mental work may continue for eight hours with no drop whatever, and then show a sudden drop—due, perhaps, to by-products of mental work.

The experiments were carried out on himself, on a woman college senior, a youth of sixteen, and a little girl of eleven. The tests were mental arithmetic, sums in addition, etc. It was sought to find how such tests differ when carried out on the mornings and evenings of days devoted to prolonged mental work of another kind, and also to ascertain how the same tests were carried out when prolonged.

All the data obtained indicated that mental fatigue does not occur in regular proportion to the work done, though the evening tasks, executed with a strong feeling of repulsion, were somewhat more liable to show mistakes than the morning tests. Much mental work can be done before there is any change in ability to work. Not only were the evening results only slightly more faulty, but they were often more rapidly obtained. Mental fatigue, then, seems to be a very complex affair, not a simple loss of mental energy, but a name standing for a great number of mental and physical conditions; we have to resolve it into its elements and study each by itself. A second conclusion is that there is no pure feeling of general mental incompetency. This is, of course, merely a result of introspection, but confirms the previou conclusion as to the complex nature of mental fatigue. A third

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conclusion is that the feelings of fatigue, such as they are, are not measures of mental inability. Kraepelin had already found that we can be mentally fatigued without feeling so. Thorndike wishes to emphasise that we can *feel* mentally fatigue without being so, the sign to stop work coming before there is any measurable evidence that ability to work is decreasing. The relation between the fact and the feeling of fatigue is thus very involved; and while it may be that we have to regard the feeling of fatigue as a beneficent warning, it may also be due merely to a lack of desire to work. HAVELOCK ELLIS.

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4. Ætiology of Insanity.

Relation of Syphilis to Organic Brain Disease and Insanity. (*Arch. of Neurol., London County Asylums*, 1899.) *Mott, F. W.*

It is with very great pleasure and satisfaction that the alienists of this country will welcome the *Archives of Neurology* of the Pathological Laboratory at Claybury, and they will similarly welcome the promise of an annual publication of the work done in that laboratory.

The whole volume shows that the Claybury pathologist and his assistants have commenced their work by a vigorous study of causes of insanity. They have begun upon what Möbius would call the exogenous causes, and have at present limited themselves to the study of syphilis in the insane.

The article at present under review is divided into two sections. The first deals with "brain syphilis in hospital and asylum practice," with notes of sixty cases and twenty-three asylum post-mortem examinations. The second is devoted to "observations on the ætiology and pathology of general paralysis."

We take it that the first part forms a preliminary study of brain syphilis generally. We have failed to find much in this paper which can be regarded as original; indeed, the paper is more of the nature of a critical digest, syphilitic brain disease being discussed under the usual headings of basic meningitis, meningitis of the convexity, cerebro-spinal meningitis, arteritis and neoplastic formations (gummata), encephalitis.

We must agree entirely with Dr. Mott's symptomatology of these conditions so far as physical signs are included, but we cannot agree that there are any mental symptoms which can be regarded as characteristic or even suggestive of brain syphilis. We learn, for instance, that "recurrent attacks of drowsiness, stupor, and coma should always make one suspect basic meningitis." This may be true of recurrent coma; but recurrent stupor is most common in the endogenous cases of insanity. Again, we cannot accept that there is of necessity even a suggestion of syphilis because "there is weakness of memory, slowness of thought and action, loss of will power, often a stolid indifference, with a tendency to causeless outbursts of passions, even of cheerfulness and mirth." These symptoms are not even characteristic of a toxic condition.

We must, however, agree with the author when he states that mercury should be exhibited whenever the physical signs suggest a

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