might, in Soethre's Institution, learn a good deal about the means and art of teaching in which its great strength lies.

The most striking feature to me was the drill, which was, of course, conducted on Ling's system. I could not have believed from mere report that imbecile boys or girls could have been taught to go through such a long series of different exercises. The great advantage of Ling's system is that all the muscles are called into play in one way or other. For exercising the body and invigorating the health it is thus superior to exercises based upon military drill, which is naturally designed to lead up to fighting purposes. Another advantage is that very few apparatus are required. There is a good manual of gymnastics, with engravings, which is used in the ordinary schools in Sweden and Norway.* As far as I know, Dr. Mathias Roth can claim to be the first, or one of the first, to render into English the rational gymnastic system of Ling. It is scarcely necessary to direct readers to the very instructive report on Swedish Gymnastics, by Miss Ellen White, in the October number of this Journal.

PART II.—REVIEWS.

The Nervous System and the Mind; a Treatise on the Dynamics of the Human Organism. By C. Mercier, M.B. 8vo. London: Macmillan, 1888.

Had Dr. Mercier done no more in this book than recall us to the consideration of the principles that, consciously or unconsciously, underlie all our dealings with the insane, he would have established a claim on our gratitude. It is a peculiar refreshment for us, who are usually occupied with harassing practical details, to turn to speculation of an elevated kind, and dwell for awhile in the calm atmosphere of philosophy. It is, however, unnecessary for us to tell our readers that he has given us much more, and that his book will be studied with at least as much advantage as pleasure.

The introduction gives the key to the whole work; its object being to urge the importance of the study of psychology to alienists. He has laid his finger on the true reason why practical men have undervalued it; it has too often been studied from a standpoint so purely introspective as to offer them no obvious advantage. He goes on to point out with great force that "the first, most important, and most imperative, duty of the student of psychology is to recog-

* Gymnastiska Dagöfningar af C. H. Liedbeck. Stockholm.

nize the impassable gulf, the fathomless abyss, that separates the world of consciousness from the world of material things," so that any attempt to express the one in terms of the other is simply meaningless.

The two first parts of the volume deal with the physical and physiological functions of the nervous system. As they are merely preparatory to the main purpose of the work, we are compelled to pass them over, though there are several points in them on which we should have been glad to dwell. It is right, however, to remark the very clear account of the nervous mechanism of co-ordination and inhibition; and in particular the neatly stated antithesis of the two main groups of co-ordination—successive and simultaneous. The successively co-ordinated movements being worked out in the cerebrum, a high probability is shown for the co-ordination of simultaneous movements in the cerebellum. In this department of his subject, the author starts from Dr. Hughlings Jackson's "bahnbrechend" speculations, but makes an advance in connecting these more explicitly with other departments of neurology.

With the seventh chapter we enter on psychology proper. It should be remarked at once that Dr. Mercier only professes to address himself to those who accept Mr. Herbert Spencer's philosophy. The present writer is unable to do so, though he gladly recognizes the great value of many details in Mr. Spencer's work; his criticisms may, therefore, appear unfounded to those who go with the author in his entire acceptance of the Spencerian philosophy. He divides his subject into Conduct, Thought, and Feeling. With this no one would probably be inclined to quarrel; but he seems to have involved himself in needless difficulties by dealing with them in this order. Since conduct is the adjustment of the individual to his environment, and thought and feeling are necessary elements in such adjustment, it would have been clearer to give an account of them, before describing their interaction with the world outside. In like manner, Thought is defined to be a relation between Feelings, and ought therefore to have been dealt with after these had been enumerated. In his account of conduct he most closely follows Mr. Spencer. The chief point of interest is the account of the different ways by which Intelligence may be manifested in adjusting the individual to his environment. Newton is taken as an example of *novelty* of adjustment; an organ-player of *complexity* in adjustment; a draughtsman, of *precision;* while

practical success in life is shown to be due to another adjustment, the choice of circumstances. The subordinate descriptions of character under this last head are worked out with great acuteness; and we here meet for the first time with a direct reference to insanity. Dr. Mercier points out that disorder of the first three forms of adjustment is never considered insane; but that it is the loss of "common-sense," or shrewdness, which causes the individual to be looked upon as imbecile. Is there not in all this some over-refining? We should have said it was nearer the truth to speak of common-sense or practical shrewdness as embracing all the other varieties of adjustment, of which they are more highly-developed specializations. It then becomes correct to say that we treat a man as insane as soon as his power of adjustment is so far lost as to affect vitally the conservation of the organism. For the sake of completeness it should have been added that insanity may also consist in a want of adjustment to the social organism, as well as to the individual. Thought is treated, in strict uniformity with Mr. Spencer's system, as the relation between Feelings. But a good deal of stress is rightly laid upon the complexity of many cognitions and feelings, each composed of multitudes of simpler feelings and thoughts. To our mind this goes far to invalidate the Spencerian classification altogether; but its practical importance to the alienist is great, as disproving the possibility that delusions can exist alone on the one hand, or on the other, that feeling can be disordered independently of intelligence, though this, as we shall see, may be stated too absolutely. Dr. Mercier's classification of Thoughts differs considerably from Mr. Spencer's, on which it seems to us a decided improvement. It may be briefly stated thus: Every relation between conscious states is either the establishment of a new relation or the revival of an old one. The former case is a process of reasoning, and the results are termed Judgments. In the latter, both terms may be wholly represented, when the result is a Memory; or presented elements are contained in one or both terms, when the result is a Percept. The difference between a mistake and an insane delusion is stated thus: In both there is a want of adjustment between the relation in thought and the relation in the environment; but in the case of insanity the power of readjustment is lost, so that a correct adjustment cannot be arrived at. The importance of this statement cannot be overrated, but mainly, as it seems to the present writer,

because it points to a loss of the power of co-ordination as the cerebral element in such cases. It may be questioned, however, if this is not put too absolutely. The loss of adjusting power may, sometimes at least, depend upon incorrect feelings; it will, of course, be replied that these can only be known as correct or incorrect in virtue of an act of thought. Still there must be an end somewhere, and a point at which the fault would lie with the sensation, and not with any subsequent mental act. In like manner the case of physiological hallucinations ought to have been considered.

The chapters dealing with Feeling constitute the most elaborate part of the work; Dr. Mercier's classification of feelings in particular being the part to which he has devoted most care. He rejects Mr. Spencer's arrangement, mainly on the ground that it is subjective, and does not take sufficient account of external circumstances. His own division is certainly more in accordance with the philosophy of evolution. The chief divisions are as follows:—

Class I.—Those Feelings which affect the conservation of the organism.

Class II.—Those which affect the perpetuation of the race.

Class III.—Those which affect the common welfare.

Class IV.—Those which affect the welfare of others.

Class V.—Those which are neither conservative nor destructive.

Class VI.—Feelings corresponding with relations between interactions.

These are again subdivided over and over again; to what an extent may be imagined when it is mentioned that 32 different feelings of Antagonism alone are enumerated. The arrangement is all the more complicated since it is not serial, but with such varied affinities that (as our author says) it requires three dimensions for its adequate exposition. We are therefore here unable to do it any justice, beyond acknowledging very gladly the great ability and acuteness with which similar feelings are discriminated, which makes this the most interesting part of the book to the ordinary reader. But we much fear that the very complexity and richness in detail of the scheme will prove a bar to its general reception, and even to its being fairly studied in this age of hurry and impatience. We confess that for practical purposes the simpler, and what Dr. Mercier would call the pre-scientific schemes, are far more likely to be really useful; for instance, we agree with Dr. Maudsley in preferring Spinoza's account

of the passions to most modern ones. There are many points on which it would be profitable to dwell, but we are compelled to restrict ourselves to one only—our author's view of the nature of the Will. In this, as in so many other details, he shows himself a more consistent Spencerian than Spencer himself. He considers it to be the feeling that corresponds to the incipient stage of every act, of which the physiological correlative is the passage of the nerve-current from the highest regions to the muscles. This he believes is raised by persons ignorant of physiology into a separate feeling, the antecedent of all action. We will not venture to criticize this theory, for we are expressly warned it is only intended for Spencerians, and we readily admit its superiority to Mr. Spencer's own, and its greater consistency with his psychology. It may, however, be remarked, that Dr. Mercier is not quite consistent himself. Having just told us that the physiological correlate of Will is the passage of the nerve-current, when he has to account for the unique character which he admits Will has psychologically, he states that it corresponds to the activities of all the higher regions, and not of any one region.

The conclusion brings together the three divisions of his subject—Nervous Process, Conduct, and Mind—which he has examined separately. He admits that only certain broad principles can be laid down, and these are such as all physiologists will agree to. No one doubts that the nervous process which underlies feeling is the process by which we act, and which is evoked when we are acted upon; and we suppose few doubt that thought is accompanied by the remaining factor of nervous action, the current in the fibres. This is, however, followed by a rearrangement of the molecules in the ground-substance of the grey matter, whereby subsequent currents pass with greater ease and less conscious effort. The reader will be sorry that Dr. Mercier should have thought it "out of place to deal with morbid processes," when he might have thrown so much light upon them, as the solitary instance he gives is enough to show.

It was due to Dr. Mercier, as well as to the importance of his subject, that we should criticize the most obvious points in his book as far as space would allow. Our chief regret is, that we have been unable to give proofs of the power of analysis which is displayed throughout; but our readers will have studied the book for themselves before this, and recognize its ability. We presume that Dr. Mercier's articles in

this Journal ("The Data of Alienism," &c.) will be expanded and published as a supplementary volume to the one under review. As these papers explicitly applied the doctrines of evolution to the subject of insanity, such a volume is a necessary corollary to the present one, and the more interesting because Mr. Spencer has never attempted to make this application. J. R. G.

Animal Magnetism. By Alfred Binet, and Charles Féré, Assistant Physician at the Salpêtrière, London. Kegan Paul, Trench, and Co., 1887. The International Scientific Series.

We have already commented favourably upon this work and now proceed to give an analysis of its contents. After giving a useful sketch of so-called Animal Magnetism from its early history to the present day, when the distinguished physician of the Salpêtrière has done so much to work out the subject clinically and on the lines of the famous Manchester surgeon, who, unfortunately, did not live to see the recognition of his doctrines by the medical profession, the authors of the work before us describe the modes of producing hypnosis and the symptoms of its various stages. The experience of Heidenhain, Grützner, and Berger in producing *unilateral hypnosis*, displayed by excessive muscular excitability, by means of slight and prolonged friction on one side of the head, is referred to. Pitres has maintained that there are in some subjects hypnogenic zones, and that the irritation of these localities may cause hypnosis. This observer may have tested a sufficient number of subjects to avoid fallacies, but it requires an immense amount of care to escape that source of fallacy which arises from a chance association of ideas and expectancy with special localities. The same remark applies to the statements by our authors that sleep can be induced by opposition of a magnet to a hypnogenic zone. Some suspicion of the presence of the above source of error is aroused by the fact that "each subject may display different hypnotic zones, not only as to their site, but as to their action." MM. Binet and Féré assert that the fact of the influence of the magnet on hypnosis, first pointed out by Landouzy in 1879, and verified by Chambard, has been confirmed by themselves. In opposition to the opinion that imagination is indis-