as to the fundamentalist theologian. The process is assisted by the tendency of the ordinary man to seek short cuts; he does not want to travel by the true road, the road of further experiences.

Having described the character, and the good and evil results of habit, the author gives us an excellent chapter upon the nature of society. He traces the development of four principal theories of the origin of society, and maintains that there is some truth in each. He then deals with that ill-used word "Nature," pointing out how tyrannical a conception has been evolved therefrom, and contending that a thing may be natural without being, therefore, unchangeable. Next he takes up the problem of mind and matter. He inclines to a monistic position, holding that mind and matter are distinct, but not separable. The importance of language is carefully distinguished from the tyranny of words.

The final part of the book is occupied by applications of the author's views to various practical problems. Morality is a process of growth, and is, in the last analysis, an art. The prized stabilities of any age form no kind of metaphysical reality. The "moral" is an attitude of conduct, and not of things, nor of existences. Science is not merely knowledge, but it is knowledge so organized that the unsatisfactory in life may be reduced to a minimum. The aim of religion is to find a way of escape from immediate experiences into a world of meanings and values; so religion must grow, just as science grows. The author is Professor of the Philosophy of Education at the University of Wisconsin, and he has some scathing remarks upon our so-called educational system. As for philosophy, we all seek it, but it comes by growth, not by observation, and is not to be taken by force. The claim that all nations should be subject to a single pattern of law is faithfully dealt with.

In the present era, as in all times of rapid change, new wine is being poured into old bottles, and the bottles are bursting. The author does not indulge in facile prophecy. He is content to indicate that the task of humanity is to develop personality, whilst avoiding the dangers of the system known as individualism. Man must, if possible, be put in possession of himself, and of all his resources. This goal is as yet, far from being attained. "The pilgrim's feet walk the highways of custom and habit, but his eyes are lit with the radiance that shines over the city of intelligence."

Prof. John Dewey provides an introduction to a thoughtful and stimulating volume.

M. HAMBLIN SMITH.

Magnetism and Magic. By BARON DU POTET DE SENNEVOY. Edited and translated by A. H. E. LEE. London: George Allen & Unwin, Ltd. Crown 8vo. Pp. 154. Price 6*s.* net.

This strange book provides an interesting excursion into those days, not so very remote, when folklore and animism flourished—ideas indeed still to be met with in the parlour of the clairvoyant and the meeting houses of the Christian Scientists.

The introduction to this translation is written with evident

sincerity, and its author traces the history of magnetism from the early alchemists through Van Helmont, Mesmer and others. He believes that animal magnetism is a thing of the spirit and must be approached only from the spiritual side, when it is capable of conferring great benefits, both spiritual and physical. A brief quotation will serve to show the nature of the introduction to this unusual work:

"As Townshend and others had observed, if you magnetize a person he is lifted for the time into a purer sphere. The sensuous medium once put aside or dissolved, the consciousness is aware of the Divine life, in a much deeper way than is possible in the normal sense life. The mesmeric passes loosen the outermost chain which links the spirit to its corporeal dwelling-place; and at such a time the trained clairvoyant might clearly perceive the true atmosphere of the patient's spirit, the brightness or blackness which are its 'ethers.' This atmosphere is called by Easterns the 'Akashic record,' containing all the imaged ambitions, desires, passions, etc., of the patient's life. It was from the observation of this atmosphere or etheric aura that painters drew the halo or aureole round the heads of saints."

The writer says that Mesmer "had as it were half opened a forgotten door, grimy with ages of neglect, yet capable of giving access, if the true key be applied, to an inner sanctuary of infinitely greater worth."

The book then turns to an account of the Baron du Potet de Sennevoy, his life and his work. The Baron was born at the little village of La Chapelle in the Commune of Yonne on April 12th, 1796. In his early days he preferred the fields to books, and never became a shining light in the academies. In 1815 his attention was drawn to the Mesmeric School, and for five years he studied under Leleuze, Puysegur and the Abbé Faria. In 1820 he performed certain experiments on the sick in front of many incredulous doctors, an account of which he gives in his *Introduction to the Study of Animal Magnetism*.

He continued his work in spite of many rebuffs, and in 1826 he opened a school for instruction in magnetism, which many people attended, but du Potet never took any money for these demonstrations or for his later magical experiments. About 1838 du Potet came to England, and through the influence of Dr. Elliotson he was allowed to treat some patients at the North London Hospital. Owing to the opposition of the Managing Committee he was not allowed to continue, and afterwards treated patients at his own house, 20, Wigmore Street. He did not publish anything of importance concerning the medical side of his work, but the present volume prints in the appendix the experiences of one of his English patients.

An account is given of du Potet's technique, and we are told that he claimed to "take a man wide awake, full of health and strength, put a cane into his hand and say, 'In a minute you will be drunk and behave like a drunken man'; the patient then smiled incredulously, but hardly a minute passed before he staggered, his eyes grew bloodshot, etc."

We are given a translation of du Potet's account of his experiments and his comments thereon. They do not appear convincing

to present-day readers, and bear a queer flavour of mediæval days. Indeed, the whole of this interesting book seems to have been written from the emotional rather than from the critical point of view.

D. N. HARDCASTLE.

Brains of Rats and Men: A Survey of the Origin and Biological Significance of the Cerebral Cortex. By C. JUDSON HERRICK. Chicago: University of Chicago Press. (Cambridge University Press.) Crown 8vo. Pp. xii + 382. Price 15*s.* net.

The title of this interesting book covers a great deal more than the name indicates.

The author gives a useful *résumé* of the biological development of the human brain, contrasted with that of the rat, as representative of the inferior type of educable mammal.

Accurate experiments are described in the appropriate chapters, throwing much light on the very difficult task which the author has set for himself.

Chapters are devoted to the corpus striatum, the thalamus, cerebral hemispheres, reflex and conditioned action, to the method of learning and the brain-mechanism in the rat. Especially clear is the account of the "brightness discrimination test," with illustrations by Lashley.

The theory of the localization of "learning" is frankly dealt with, the author stating that "the path of progress is strewn with derelict theories, discarded because too simple to fit more than a selected few of the known facts." The conclusion is reached, however, that "there is no evidence of extensive areas of purely associational cortex so characteristic of higher brains, nor does the rat exhibit any behaviour requiring the use of such associational mechanism." The experiment is described of the chimpanzee that, by means of a stick and repeated efforts, succeeded in obtaining a banana which was out of his arms' reach. This action, called by Lloyd Morgan "intelligence as distinguished from reasoning," by Hobhouse termed "practical judgment," by Carr "perceptual motor learning," and by Hunter "sensory thought," is a type of behaviour probably making up a large part of the conduct of many men. It appears to the onlooker as a judgment effected by trial and error.

The tracing of mechanism in these lower brains is not an easy matter, owing to the extreme smallness of the associational and projection areas, and as conduct is here less complex, so we find "reactivated cortical patterns (memories) also on a smaller scale, but knit in with the lower sensori-motor system and at the moment of action serving as deciders of conduct." This seems to explain why the primitive reactions to external stimulation are mass reflexes, as seen in the act of swimming. The simplest vertebrates can perform but few adjustments to changing environment. The young larva of the salamander or the tadpole, each well equipped with sense-organs, considering all his advantages, does very little.