of economic life as they actually exist, blended with the political, legal, and social life. It has no such abstraction as the 'economic man,' but thinks only of man living in state relations, under the bond of law, and surrounded by the influences of family, custom, and social habits. Political economy is thus not isolated from the other branches of social science, but finds a thousand points of contact with them. It adds to their knowledge, and in return receives from them the explanation of many of its phenomena. In fact, we may say that each set of phenomena is inexplicable without some knowledge of the others, and to isolate them is to make each incomplete in itself.

The value of this method of investigation is strikingly seen in the function which political economy performs in the study of political science. That function is a double one. In the first place, political history can never be understood without a knowledge of the economic condition of the community which we are studying. The feudal system was possible only at a time when land was the principal kind of wealth. Aristocratic city republics could exist only where the growth of industry and commerce enabled the burghers to make themselves independent of the feudal nobility. Absolute monarchy rested on a class sufficiently rich to pay taxes, and sufficiently interested in the preservation of law and order to be willing to pay them. Representative institutions arose only when at last the industrial and commercial class was strong enough to assert itself against both kingship and land-holding aristocracy. The first function of political economy is purely historical. It investigates economic life in past ages for the purpose of explaining political history. When it gets down to the present time, it is purely descriptive, for the political institutions of different nations at the present time are conditioned by varying economic circumstances.

But political economy has a second function in connection with the study of political science. Every state action, every law that is passed, or ordinance enforced, or treaty negotiated, has economic consequences sometimes of the highest importance. Political economy must here direct state action, must say what will be the consequences of such action, and whether it will be for good or evil. It can do this only by appeal to history, by comparison of the experience of other nations, and by the use of statistics. In other words, we find that the most faithful ally of political science is the use of the historical, comparative, and statistical method of investigation in political economy.

RICHMOND MAYO SMITH.

RECENT BOOKS ON PSYCHOLOGY.

WHEN a very successful English translation was made some years ago of Ribot's 'La psychologie Anglaise contemporaine,' it was a matter of surprise that his 'Psychologie Allemande' also was not translated as soon as it appeared. For though we may agree with Mr. James Ward, that the latter book is in a measure superficial and sometimes misleading, it is nevertheless the only compact summary of that psychological activity in Germany that began with Herbart; and that is that represented to-day by Professor Wundt of Leipzig. We are very glad that it is now put into the hands of English readers. M. Ribot has found that the advance in psychological investigation between 1879 and 1885 has necessitated the rewriting of his original work; and it is from this second French edition that the translation before us is made.[1]

This second edition is without the brief but interesting chapter on Beneke which was included in the first edition, but as compensation it covers the latest discussion of Weber's law and the more recent investigations of Wundt. Ribot is very clear as to what he means by the German psychology of to-day: he calls it the 'new' psychology, but rather exults than otherwise in the idea of 'a psychology without a soul.' He describes the new psychology tersely, thus: "It has for its object nervous phenomena accompanied by consciousness, finding in man the type most easy of recognition, but bound to pursue the investigation through the whole animal series, however difficult" (p. 8). This is explicit enough surely, but has a strange sound to the student of English psychology, who is accustomed to the discussion of problems which the Germans, since Kant, have relegated to a separate branch of mental science called *erkenntnisstheorie*.

For the older school of psychologists, M. Ribot expresses what we may best designate as respectful contempt. "We owe to it good descriptions, excellent analyses; but its work is done. Its province now is simply details, shades of meaning, refinements, subtilties" (p. 3). This is, in its way, exquisite, and is one of the many passages in which M. Ribot implies that Locke, Leibnitz, Berkeley, Hume, Reid, Stewart, and Hamilton can be called psychologists only by historical courtesy. With this narrow conception of psychology we are not going to quarrel: we merely point it out as the key to understanding M. Ribot's excellent accounts of Herbart, Lotze, Fechner, and Wundt. Nowhere else are their investigations and teach-

[1] *German psychology of to-day: the empirical school.* By TH. RIBOT. Tr. by T. M. Baldwin, B. A., with a preface by James McCosh, D.D., LL.D., Lit. D. New York, *Scribner*, 1886. 8°.

ings brought together so clearly and so compactly as in this little book. It should be in the hands of every student of psychology, and most of it will appeal even to readers who are without special philosophical training. Of the translation we can speak cordially, but not enthusiastically. It is clear and accurate enough for all practical purposes, though more attention to literary form would have improved it. The unpardonable lack of any index to such a book as this should be remedied without fail, if a second edition is ever called for.

Dr. McCosh's new book [1] would undoubtedly incur M. Ribot's condemnation; for while recognizing the work of the new school in investigating the relations of mind and brain, in measuring the duration of psychic acts, etc., it views psychology from the old-school stand-point. It is refreshing to read a book so clear, so candid, and so self-confident; and, even when disagreeing with the positions of the author most completely, we cannot withhold our admiration from his vigor of thought and expression. This book is the final expression of President McCosh's well-known psychological views. It is based on his academic lectures, and is a direct, simple, and dogmatic presentation of his system. Dr. McCosh does not beat around the bush. He defines the soul as "that self of which every one is conscious" (p. 1); self-consciousness, as "the power by which we take cognizance of self as acting; say, as thinking or feeling, as remembering the past or anticipating the future, as loving, fearing, and resolving" (p. 2). We have intuitive evidence of the existence of the soul (p. 7). "It is not the exact or full truth to say that I feel an external object, or that I have an idea of it (which I may have when it is not present), or that I apprehend it, or have a notion of it, or believe in it: the correct expression is, that I have knowledge of it, or that I cognize it" (p. 20). These are Dr. McCosh's postulates, and on them his system is built up. We believe that it is coherent, but that it is not scientific. Its fundamentals are assumed, not proven. It is a system that will not allow the question, 'How is knowledge possible?' to be raised. It follows Reid and Hamilton in assuming the famous distinction of primary and secondary qualities without meeting the arguments of Berkeley, Kant, and Spencer. Yet we fully admit that it is far easier to find fault with Dr. McCosh's system as a whole than to replace it. Perhaps the time has not yet come for building a complete system of psychology on the new basis.

In this book Dr. McCosh deals only with the cognitive powers, reserving his treatment of the motive powers for another volume. This we hope will be issued before long, and enable us to view entire the venerable author's psychological teaching. When the history of philosophy in America comes to be written, it will be found, that, right or wrong himself, no one has contributed so much, or given such an impulse, to the study of philosophy and psychology in this country, as the distinguished president of Princeton.

Of Mr. Jones's 'Human psychology' [1] we need not say much. It is principally a compend of other persons' views in other persons' words. It is not unskilfully put together, but cannot expect recognition as an original or independent treatise. It is of no use to the trained philosophical teacher, and a poor manual to recommend to an untrained student.

[1] *Psychology: the cognitive powers.* By JAMES MCCOSH, D.D., LL.D., Litt.D., New York, *Scribner*, 1886. 12°.

MR. GRABER has recently described, in the Transactions of the Vienna academy, the results of observations indicating that eyeless animals are sensible to light. In a box divided into compartments, and each furnished with two openings, he distributed equally a number of earth-worms. One of the openings in each compartment he obscured or concealed, and exposed the box to the light, examining the worms from time to time, and adding new ones every four hours. By repeated observations he found that they showed a decided tendency to withdraw to the darker parts of the compartments, only forty out of a total of two hundred and fifty remaining in the light. He also studied the influence of different rays upon them, and found them susceptible to the different colors. When the openings were covered with blue and red glass, they manifested a marked preference for the red light.

— Mr. A. Sanson, in an article in a recent number of the *Revue scientifique*, states, that, from a comparison of animal and steam power, in France at least, the former is the cheaper motor. In the conversion of chemical to mechanical energy, ninety per cent is lost in the machine, against sixty-eight in the animal. He finds that the steam horse-power, contrary to what is generally believed, is often materially exceeded by the horse. The cost of traction on the Montparnasse-Bastille line of railway he found to be for each car, daily, fifty-seven francs, while the same work done by the horse cost only forty-seven francs; and he believes, that, for moderate powers, the conversion of chemical into mechanical energy is more economically effected through animals than through steam-engines.

[1] *Human psychology: an introduction to philosophy.* By E. JONES, A. M. New York, *Baker & Taylor.*