Essai sur la classification des sciences. By Edmond Goblot, Docteur és lettres, Professeur au lycée de Toulouse, Ancien élève de l'École normal supérieure. Paris, Felix Alcan, editeur. Bailliere et Cie. 1898.

The excellence of this book, such as it has, lies rather in the way in which the details of the system of classification adopted are worked out than in any fresh or important general view of classification itself, in this respect differing widely from Spencer, whom the book aims largely to correct, and from Comte, whom it aims to complete. For this reason it is not easy to give in a few words a fair outline of this latest serious attempt to classify the branches of human knowledge.

One may say in general of Professor Goblot that his method is historical and critical. He does not attack the problem at first hand, but has continually in mind what has been done already in this field.

The author tells us that be began his study with the problem of immaterial wealth. This led him to study political economy in general; whence he passed to sociology. He discovered that sociology includes many things, logic among the rest, and that it was desirable to form a definite concept of, and to define if possible, this new science. This attempt led him inevitably to a general classification of the intellectual wealth of the race.

Of the two well-known meanings of the word science which we recognize in our English speech, a narrow meaning and a broad one, Mons. Goblot always has in mind the broad one, of which he regards the narrow meaning as a special case. All general knowledge, certain or probable, belongs to science. Philosophy is a part of science: even metaphysics, which, he argues, is either science or nonsense. He will have none of a *chose en soi*. So too there is no valid philosophy of the unknowable. The domain of science is the entire domain of human intelligence and interest. Even the arts are practical or applied sciences and must come into the general scheme.

Savants divide themselves into three groups according as they specialize: (1) mathematics, or (2) the physical and natural sciences, or (3) the moral sciences. Between the last group and the two first groups there is a deep gulf, partly on account of the almost exclusively literary training of historians, economists and sociologists, and partly by their traditions and habits of thought. The first two groups are closely allied.

Everything tends to show the present inferiority of the moral sciences. Although they have occupied the entire field of human interest from early antiquity, they are still poor in results and have neither a fixed object, principle or method. Just now they are making a show of becoming positive, of freeing themselves from metaphysics and taking rank among the sciences of nature. Psychology is about where astronomy was in the time of Tycho Brahe. It has already created for itself a method of observation and a technic and seems ready for a Kepler and a Newton. So psychology essays to become a true natural history of the human soul, and sociology of human society.

So we are coming to have not three, but two divisions of the sciences: (1) sciences of reasoning, deductive and abstract: and (2) sciences of observation, inductive and concrete.

Having maintained the radical opposition of the sciences of demonstration to those of observation there are only two roads to a proof of the fundamental unity of science: (1) the sciences of demonstration (the mathematical sciences) may be regarded as having passed through an early concrete stage to their present form: or (2) the sciences of nature, beginning in the concrete, are now passing forward and in part, have already progressed to the demonstrative stage. Mechanics and mathematical astronomy exemplify this tendency.

Of the two contentions named above the latter is, in point of fact, the one which the author adopts. The sciences of fact tend constantly to become more and more ideal until at last they free themselves from their original empiricism, have for object pure concepts, and proceed by abstract definitions and deductive demonstrations. The demonstrative sciences are the typical sciences: all other knowledge is on the road to this goal.

He does not think that our conception of the universe will become more and more simple, passing finally into one unique and supreme

law. Rather in each order of knowledge there is a unique concept which serves to form all the other concepts of the same order. So he cannot with Comte conceive that the highest science consists in the co-ordination of scientific results. "This new specialty, the specialty of generalization is philosophy." No, says Mons. Goblot, the co-ordination of the results of science is purely literary work. It is the literateur and not the savant who has much to say of the 'majestic unity of sicience.' To specialize generalization is to specialize ignorance.

Historically, philosophy was at first simply science: the whole of science. Then it was science minus a few special sciences which began to be organized. And so this went on, philosophy being continually impoverished by new sciences which were formed from time to time. Philosophy is thus ever the residue: the yet unorganized part of human knowledge.

The book nowhere gives evidence of any considerable acquaintance with any branch of physical or natural science at first hand. It does show much acute thinking and a wide range of reading, especially in what the author would call 'the moral sciences.' Of the 296 pages in the book 169 are occupied with cosmology, biology, and sociology.

E. A. S.

GENERAL.

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