advantage, have been given to this aspect of the subject. For example, four times as much space is devoted to reeling, and nearly as much to bundling, as to gassing. This is not commensurate with the relative importance of the operations.

It is when the author turns his attention from machinery to the material to be treated and after its treatment that lack of clearness, loose statements, over-statements, and errors are found. The matter on p. 17 relating to the diameter of yarns may be cited as an example of these defects. Mr. Taggart's book, as a whole, is so good that it is unfortunate that those parts which deal with cotton and its behaviour during and after spinning have not been revised.

How to Know the Ferns. By S. L. Bastin. Pp. viii + 136. (London: Methuen and Co., Ltd., 1917.) Price 1*s.* 6*d.* net.

THIS book contains descriptions of the British ferns and their allies, prefaced by an account of ferns in general and an outline of their classification. The chapter on life-histories is well up to date, as is also that on fossil ferns, a group usually ignored in books of this kind. The species are described without unnecessary technicalities and on a uniform plan; first comes an explanation of the name, then a general account of the structure of the plant, followed by an indication of its habitat and, in most cases, hints on its cultivation. These descriptions, written in narrative form, give a good account of the general appearance and distinctive characters of the various species, but their use would have been greatly increased by adding a short key to genera to the synopsis of families on pp. 8–12. The last two chapters deal with collecting, preserving, and cultivating ferns.

Amongst the fern-allies there is a description of *Azolla caroliniana,* an American water plant, which has been naturalised and has spread with great rapidity during recent years in this country, but no reference is made to *A. filiculoides,* which is also naturalised in Britain.

There are thirty-three illustrations taken from photographs, which have not been reproduced very successfully. This book is a trustworthy and up-to-date addition to the many popular accounts of British ferns. C. H. W.

Chemistry in the Service of Man. By Prof. Alex. Findlay. Second edition. Pp. xvi + 272. (London: Longmans, Green, and Co., 1917.) Price 6*s.* net.

WE are glad that Prof. Findlay's enlightening account of the facts and ideas of chemical science of to-day has reached a public large enough to require a second edition within about a year of its original publication. The work was described in our issue of August 31, 1916, as "a distinct and valuable addition to the popular literature of science"; and the encomium then passed upon it has been fully justified. A new chapter has been added on "Fermentation and Enzyme Action," but otherwise the volume remains unchanged. Not many works on chemistry can be followed with interest by lay readers, but this is one of the first rank, and it should long continue to perform the useful service of stimulating attention to chemical science for its own sake as well as for the value of its achievements to man.

CHEMISTRY AND THE WAR.

A RECENT issue of *Science* (June 15) contains an address by Prof. J. R. Withrow, delivered at the Columbus meeting of the Ohio Academy of Science, on "The Relation of War to Chemistry in America," which has certain features of interest for us at the present juncture. To begin with, it is a scathing indictment of the mentality of a people that can condone and even applaud the damnable conduct of their armies and Government at home and in the hapless countries for a time at their mercy. The nation seems to have become the willing, or at least the easily manipulated, pawn in the hands of unscrupulous statesmen.

We have not forgotten that it was a chemist—Ostwald—in the early days of the war, when he was acting as a spokesman for Germany to men of science throughout the world, who was quoted, when Germany was in the flush of her initial victories over Belgium, as saying the world had outgrown the idea of freedom for little or weak peoples.

The *Kultur* that can lead men of great mental endowments and catholicity of thought into such a mental position stands self-condemned. It affronts every instinct of charity and fair-dealing and stinks in the nostrils of right-minded men.

The greater part of the address, however, is concerned with a question of more immediate practical importance to chemists, namely, the influence of the war upon the progress and development of their special branch of science. Of course, it need scarcely be said that this world-wide cataclysm, affecting directly the most powerful and most highly developed of nations, has profoundly modified the course and trend of chemical progress. But it would be untrue to affirm that it has stagnated or declined as a consequence of war.

"Since," says Prof. Withrow, "war requires brains, science is of course utilised, and since the demand is inexorable, science must produce, and when science and engineering are producing, they grow."

It is stated that it requires three men in the shops to maintain one man in the Army and seven men for one in the Navy.

It is evident therefore that it is the applied portions of science that are most used, and hence that grow most under war's influence. It is common experience, however, that the stretching into new domains and the striving for new goals by applied science enrich the feeding-ground of unapplied science, and uncover fertile fields for the patient and quiet research which follows.

But there can be no doubt that, whatever the future may have in store for us, in the meantime progress in pure chemistry all the world over has been greatly retarded, and in proof of this Prof. Withrow points to the serious and progressive decline in the number of *Chemical*