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## Books of the Day

### Soilless Gardening

Complete Guide to Soilless Gardening. By William F. Gericke. (Putnam. 12s. 6d.)

SOILLESS gardening, once called by the simple and sensible name of aquiculture, now hydroponics, by which commercial crops and flowering plants may be grown without soil in specially constructed tanks of water treated by certain chemical nutrients, has made an appeal to public imagination that might be compared with that first made by broadcasting twenty years ago. The apparent miracle of transmitting and receiving voices and music without wires appeals to a lay public in much the same way as the apparent miracle of growing plants without soil. This appeal has already been manipulated by the Press and by some commercial firms offering, sometimes for a few shillings, sometimes at exorbitant prices, the packeted chemicals and instructions necessary to perform the trick of growing bumper crops in the back-yard bath-tub. Any such attitude, by which hydroponics is treated as a stunt, is both absurd and dangerous. Hydroponics, by no means a new discovery, is the practical application to horticulture and agriculture of certain scientific processes, themselves worked out by exhaustive experimental practice. In Dr. Gericke's own words, it "is based on the theory that all the factors of plant growth naturally supplied by the soil can be co-ordinated artificially by the use of water and chemicals into a crop-production method capable of competing with agriculture." This does not mean that "the nutrient solution will take care of everything, and that, like Topsy, the crops will just grow." Hydroponics, as Dr. Gericke is careful to point out, is not yet an exact science; there are no magical formulae; care must be taken in selecting the crops to be grown, and with certain crops the established methods of agriculture will yield better results than those of hydroponics; complete success depends on an ability to "combine to some extent the knowledge of the chemist, the botanist and the farmer" and on the "skill in working out a proper technique indescribable in text-book language."

Hydroponics, therefore, offers not so much a solution to the amateur as a challenge of a problem. Throughout Dr. Gericke's book there runs a cool note of warning. The cost of hydroponic equipment is, for some crops, impossibly high; in determining the constitution of the nutrient solution it is necessary to know the composition of the water to be used; without this knowledge the correct chemical mixture is almost impossible, since "large quantities of solutes in the water may upset the life processes of the plant by physical force." Equipment must be strong and durable. It consists of basins, six inches or less in depth, constructed of concrete (great care needed again), sheet metal (still more care), or wood. These basins, which are the largest items of cost in hydroponics, hold the nutrient solution. Above them, in a wire-netted seed-tray, the plants germinate, thrusting down long fibre roots which derive nourishment from the solution below. Seeds will germinate in a seed-bed of vegetable litter: leaf-mould, sawdust, peat, wood-shavings, straw, chaff or ordinary soil. Whether germinated in this way or in soil, in the usual way, and subsequently pricked out, it appears that plants establish themselves more rapidly than under ordinary agricultural conditions.

Dr. Gericke's book is American; its advice and conclusions, admirable in themselves, are based entirely on American experiments. The English reader, faced with the knowledge that English climatic conditions differ greatly from those in the United States, will rightly wonder if hydroponics has an equal chance of practical success in his own country. Throughout the book labour and material costs are given in dollars; crops are listed which we do not grow. Nevertheless, it appears probable that most flowers, many agricultural crops and most market garden vegetables and saladings may be grown under hydroponic conditions with an excellent chance of higher yields and lower costs than under ordinary conditions. Whether any commercial grower in this country has confirmed or disproved this I cannot discover. It is odd that the impression left of an extremely able, authoritative and balanced work should be one of scepticism. Yet this is the impression left on me by Dr. Gericke's book: the impression that hydroponics, whatever its potentialities, has not yet reached the stage where its adaptation to the life of the community can be either very wide or very practical. As the cinema and the radio only supplemented the drama and the gramophone instead of killing them according to prophecy, so hydroponics will, I think, never displace the established methods of soil culture. This view does not at all mean that Dr. Gericke's very thorough, sensible and in places highly technical work should be missed. On the contrary, it deserves minute attention.

H. E. BATES.

### John Buchan's Memoirs

Memory Hold-the-Door. By John Buchan. (Hodder and Stoughton. 7s. 6d.)

THIS fascinating book, as the author tells us in his preface, is not an autobiography. His "purpose has been to record only a few selected experiences." Yet from the record there emerges a vivid picture of one of the most versatile and lovable men of our time; of the son of the manse who in his pilgrimage through life touched it at innumerable points as student, lawyer, man of business, sportsman, author, politician, became Lord High Commissioner to the General Assembly of the Church of Scotland, was raised to the peerage as Lord Tweedsmuir and died as Governor-General of Canada.

The roots of his being were laid deep in the Scottish Puritan home of his family in the Border country of his childhood and in the Oxford of his youth. He loved them all with the same faithful devotion and, far as he ranged, was ever close to them in spirit. Such was his background; but the quality in him which is likely to strike most forcibly the reader of these experiences of his was his amazing genius for friendship. He, if anyone, might have made the claim "*Humani nihil a me alienum puto*." Shepherd or sovereign were alike to his all-embracing sympathy.

So it comes about that much of this book is not about John Buchan at all, but about men whom he knew and loved and who are gone. We are presented with a wonderful exhibition of portrait sketches. The brilliant contemporaries of the author's young days live again. Of Milner, under whom he served in South Africa from 1901 to 1903, there is a penetrating study. Balfour, F. E. Smith, Haldane, Haig, Ramsay MacDonald and F. S. Oliver, to name only a few, for this is not the place for a catalogue, are drawn with the same sure touches. The portraiture, though not uncritical, is always as kindly as it is arresting. The artist's generosity of soul reveals itself in his art, but leaves him little space in which to tell of his own work as an author, though it is for that, among all his multifarious activities, that he is best known to the great mass of his countrymen.

We are told nothing of the admirable short stories which he wrote as an undergraduate. It is not until we are two-thirds of the way through this book, and have reached the years after 1914, that we find him admitting that he was "beginning to deserve the name of man of letters," and just touching upon his military histories and his novels. *The Thirty-nine Steps* and the pure adventure stories which follow it were more of a relaxation than a task for this born story-teller; but some of his romances called for great effort of creative imagination, and among these the author is, we think, right in placing *Witch Wood* first. His four biographies, of Montrose, Cromwell, Augustus and Sir Walter Scott, which constitute probably his most enduring contribution to literature, receive a bare paragraph apiece. We could wish that we had been told more of the work that went to the writing of them; but John Buchan must hurry on to other topics, and these are many indeed.

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The Prime Minister has disclosed that a large proportion of the 92,000 British casualties are Prisoners of War in Germany. These men face an autumn and winter of great strain and appalling monotony and their desperate need is for something to occupy their minds during the long months of waiting. We are sending each prisoner of War, as soon as his name reaches us, a first "Capture" parcel, containing the Oxford Little Bible (a source of great comfort to men in captivity), a set of chess and draughts, a novel or "thriller", and a pack of playing-cards, and the men are asked to state their own preferences for future parcels. We also send sports equipment, music and gramophones, so that the men can organize team games, impromptu concerts, etc., to keep up their spirits. Will YOU please help forward this vital work and prove to our men that THEY ARE NOT FORGOTTEN? Donations, large or small, gratefully received by

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