

kind go hang. I am looking for intellectual stimulation and personal satisfaction."

It is the purpose of this letter to suggest that Mr. Robin is here making a false antithesis. Disagreement does exist among modern scientists as to the value and significance of science, but the disagreement is confused by Mr. Robin's antithesis. On the one hand, there are scientists who regard science as existing solely for the part it can play in supplying the material wants of man. On the other hand, there are scientists who value science as an end in itself (without, of course, denying that it also serves man's material welfare if properly used). Those who lay stress on the immaterial or spiritual values of science do not say, "Mankind go hang." On the contrary, they consider that they serve mankind well in discovering truth. They believe that the establishment of truth, with its corollary, the disestablishment of falsehood and superstition, is one of the highest functions a human being can fulfil (apart altogether from the applications of discovery to material welfare). The scientist who pursues truth disinterestedly is only unsocial if he keeps his results secret after he has made sure of them, or if he only makes minor investigations when his mind is capable of work that would result in large generalizations (for if truth be good, then large truths expressed in generalizations are better than small, disconnected discoveries).

Any one who considers that it is mystical to consider truth a good in itself should ask himself what is the alternative belief. Mr. Robin writes of "richer, fuller, more comfortable lives." It is true that most men exercise their higher functions best when adequately nourished, properly sheltered from the elements and protected from disease, but when these conditions have been secured, what are they living for? Surely the whole of mankind can not be living *only* to nourish, shelter and protect others, so that these may do the same for yet others, in endless and senseless succession? Would it not be more sensible to suggest that art, music, literature and philosophy, for instance, are valid ends for which it is worth while to live? And if so, can it be denied that science, every bit as much as any of these, has intrinsic value? If art and music can help to make men and women live "richer, fuller" lives, can not science too? Mr. Robin's antithesis is false: the true antithesis is between those who adopt the crudely materialistic view and value nothing but what serves man's material wants, and those who believe on the contrary that science, with art, music and the rest, is an example of man's highest striving after a worth-while life.

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EPSOM SALTS AND NUTRIENT VALUE OF BERRIES

THE first instance of definite and profitable response from magnesium applied to Oregon soils was recently obtained by the Soils Department of Oregon Agricultural Experiment Station, in connection with fertility experiments with cane fruits. Treatments were made with gooseberries on Amity silty clay loam in connection with extensive fertilizer experiments that have been carried on since 1939. Application of 30 pounds per acre of magnesium sulfate, or Epsom salts, resulted in the maximum yield of gooseberries in 1944 in comparison with other treatments. The treatment improved cane growth and appearance of foliage, and the net profit was increased \$62.25 an acre above the cost of the treatment.

Leaf blotch from lack of magnesium is similar to leaf scorch from potash deficiency. Where high applications of potash were made to overcome leaf scorch, there appeared to be a tendency to make the magnesium already in the soil less available to plants. Four plots receiving fertilizer supplying a medium amount of potash gave a net increase of \$10.70 an acre from the treatment. The minor element plots had been given a blanket application of 500 pounds an acre of complete (5-15-20) fertilizer.

More than a decade ago, some western Oregon soils such as Veneta silty clay loam and Labish peat were found to be low in magnesium, yet profitable response from the use of magnesium-calcium carbonate as compared with calcium carbonate was not previously obtained. Field crops were previously used as indicator plants. Dolomitic limestone has been applied to four plots in two experiment fields, and sulfate of potash-magnesia is also to be tried.

Analyses by Dr. L. K. Wood in our soils laboratory show scorched leaves to be high in manganese when grown on our acid soils with no fertilizer. Gooseberry leaves from four out of a dozen fertilizer plots were near the indicated critical concentration of magnesium. While available magnesium in these soils is rather low, liming should precipitate and suppress manganese, and magnesium limestone may do this and also supply magnesia which is needed for chlorophyll.

The Vitamin C content of boysenberries from a plot treated with 40 pounds an acre of magnesium sulfate was found to be 24.4 per cent. above that of berries from an untreated check plot. This was 2.1 milligrams more per hundred grams than the fruits of any of nine other plots. Raspberries had 4 per cent. more vitamin C when grown on a plot treated with magnesium sulfate. These determinations were made with fruit grown on plots located on Powell silt loam. The determinations were made by Dr. J. R. Haag, assisted by Melvin Williams.

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