

in the ground level of the oxygen molecule prove that the molecule is unsymmetrical. It is also true that the "generally accepted deductions" from crystallographic evidence are in favour of the existence of the complex cations  $[\text{Co.6NH}_3]^{+++}$  and  $[\text{Ni.6NH}_3]^{++}$  as well as of the complex anion  $[\text{SiF}_6]^{--}$ . It is perhaps desirable to add that, since the note was written, my doubt whether the theoretical views of the authors of the paper would 'hold water' when subjected to a critical examination has been confirmed by consultation with theoretical physicists, who concur in the view that the chemical deductions are based upon an inexact interpretation of current physical theories.

THE WRITER OF THE NOTE.

### Power in Social Psychology

I DO NOT know how far the columns of NATURE are suitable for the discussion of "power" (in the human community). But when I find no less than three of the nine chief reviews in the issue for December 8 dealing with this question, and Dr. Snow and myself being scolded for "false methodology" and the want of a "robust" political faith, it is perhaps permissible to point out that the class-war dogma which underlies this sort of criticism has no scientific standing.

Social psychology, like every other branch of human ecology, is still in the squinting, vaguely exploratory stage of infancy; we have no adequate description of social "power", no analysis of its miscellany of factors and no clear conception of its attainment or the scope of its operation. We have clear definitions of legal "powers", but these definitions are independent of any qualifications by disregard, resistance or inaccurate or insufficient enforcement. This belatedness of social psychology is a misfortune for the world but it is a fact. That "robust" political faith to which the reviewer urges Dr. Snow, is really emotional doctrinaire mysticism born of impatience and trying to compensate for its poverty of assembled knowledge by a tawdry 'dialectic'.

The premeditated achievement of social resultants is a business for clearer heads and a stouter patience. Formal education, adult education, social stimulation, the mechanisms of production and distribution, a complex of diverse forces, all come into that process. Politicians and rulers of men have to 'get results', but as Dr. Snow's recent novel demonstrates admirably, it is a primary crime against science for a man of science to produce 'results' unjustifiably.

So far as I am concerned, I am not a propagandist but an experimentalist in projection. This class-war stuff, this 'dialectic materialism' is essentially unscientific talk, pseudo-scientific talk; it is literary, pretentious, rhetorical. As sincere, patient and steadfast scientific analysis spreads into human biology we shall begin to get the general concepts of human relationship and social process clear and plain—and then we shall not need to worry about "power"; power will flow to the effective centres of direction. Stalin in our recent conversation accused me of believing in the goodness of human nature. I do at any rate believe in man's ultimate sanity. The political and social imaginations of very many people nowadays seem to me to be obsessed by the transitory triumphs of violence in various countries, and a lot of this talk about the need to organise the illegal seizure of power for direct creative

(revolutionary) ends by those masses of the population which presumably have the most unsatisfied desires, is due largely to a lack of perspective in the outlook of the intelligentsia and a want of patience and lucidity in their minds. There is a limit to the concentration of power in human society, beyond which it becomes ineffective and undesirable. The limit has been passed in Germany and Russia to-day.

H. G. WELLS.

I CANNOT answer for the implications Mr. Wells has drawn from the other reviewers. For myself, I am amazed that he does not see himself as a propagandist among his other rôles. Others do; and that is good enough for scientific purposes. Talk of the seizure of power in present-day England is, of course, just rubbish. That question has not been raised. What was being discussed was, 'From which fulcrum would the lever for change to the Wellsian World State be finally applied?' Mr. Wells seems to see it in the people in key positions, but paradoxically enough he complains that they have not the brains to see. What then? My contention was that it is not simply an intellectual "seeing" that he must seek but an active desire, a liking for his world solution.

Mr. Wells has left out the emotional content in assent to a social solution. His letter repeats it in simply demanding more scientific examination, as if objective science covered the whole of life, and yet he bases his case on two scientifically unverifiable assertions:

(1) He believes in man's ultimate sanity, meaning, I suppose, that he *feels* people in key positions will ultimately accept his solution.

(2) Power will flow to the effective centres of direction, meaning that he *feels* this will be so although he does not see it happening to-day in Russia and Germany.

I do not see why he should expect others to share his sanguine feelings.

H. LEVY.

### Relationship of Soils to Manganese Deficiency of Plants

MANGANESE deficiency disease is confined to soils of pH 6.7 or more and occurs especially on heavily limed sandy podsols. Most neutral and alkaline soils, however, evidently contain ample quantities of manganese in a form available to plants. A method of chemical analysis has been found which appears to measure the amount of this available manganese.

(1) The soil is first leached with normal ammonium acetate of pH 7.0. This removes the manganese which can take part in the base-exchange reaction at such a high pH. The amount of this manganese is very small for all alkaline soils, and is well below one part per million of soil for the very fertile calcareous grey soils of the Wimmera districts (Victoria), on which no symptom of deficiency has ever been seen.

(2) The residual soil is then leached in the cold with the same reagent containing 0.2 per cent quinol in solution. (Each leaching is completed in about seven hours.) This second treatment dissolves only those manganic compounds which can oxidise quinol at pH 7 with reasonable speed.

This 'active  $\text{MnO}_2$ ' (using a conventional formula to represent manganic oxides) exceeds 100 parts of manganese per million of soil in the healthy soils tested, and is less than 15 parts in soil associated with manganese deficiency. This is the only test