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The Behavior of Solutions at the Critical Temperatures - A Preliminary Report

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THE BEHAVIOR OF SOLUTIONS AT THE CRITICAL TEMPERATURES—A PRELIMINARY REPORT.

PERRY A. BOND.

The writer has felt that at or about the critical temperature of solutions, there might be found phenomena which would throw light on the mechanism of the formation of solution. The question of whether the solvent is chemically combined with the solute, whether in all or only in special cases, is the final object of the research.

Thus far the work, carried on in liquid sulphur dioxide, has given only hints of what may be expected, but enough has been accomplished to show that interesting results may appear.

In addition to the question of the solubility of a solid in the gaseous phase which is now being studied, it is expected that the electrical conductivity of the solutions as they approach the critical temperature will be investigated. The great problem in a practical way lies in the fact that the pressures under which all the experiments must be made lie close to 80 atmospheres, and in glass tubes which are essential for the work as outlined, the risk of explosion and consequent loss of calibrated instruments is very great.

A more extensive report will be made in next year's Proceedings.

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