

1936

## An Opportunistic Laboratory

John A. Eldridge  
*State University of Iowa*

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metal but not in a linear fashion. Iron has the most marked effect, .01 per cent iron producing as much increase as 0.5% copper. The temperature coefficient is lowered, depending on the added impurity. The ratio of principal resistivities,  $\rho_0/\rho_{90}$ , is about the same as for zinc crystals, i.e. with no added impurities.

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### SOME OBSERVATIONS ON TEACHING BRIGHT STUDENTS

C. J. LAPP

During the summer of 1935 bright students who were finalists in the Iowa Academic meet in Iowa high school physics were given college physics throughout the first six weeks of the summer session. These bright boys were under intensive observation during this period. Many unusual reactions were observed.

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### ON TEACHING THE VERNIER CALIPER

C. J. LAPP

Fifty students divided into twenty-five pairs were studied. Twenty-five of them were taught by the usual method in laboratory while twenty-five were given instruction on the vernier caliper in the library. The following week both groups were given an actual performance examination. The results are surprising.

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### AN OPPORTUNISTIC LABORATORY

JOHN A. ELDRIDGE

A laboratory has a joint function (a) to create happy attitudes and (b) to teach subject matter practically and realistically. It

has sometimes been questioned whether the laboratory does act effectively either as inspiration or as a teaching device. The paper describes experiences in a laboratory where the experiments were exactly correlated with the class work, where laboratory manual was dispensed with, where the experiments were usually unconventional.

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IOWA CITY, IOWA.

THE LIQUID STRUCTURE OF THE N-PARAFFINS.

A. B. CARR

The object of this investigation is to determine whether or not Pierce's density computations compare the more favorably with the hexagonal or the square array.

Professor W. C. Pierce, Department of Chemistry, University of Chicago, in an article in the Journal of Chemical Physics, Vol. 3, pp. 252-255, on Scattering of X-rays by Polyatomic Liquids. n-Heptane says "recent publications in the field of x-ray scattering by liquids have led the writer to the questions:

(a) How much information concerning the structure of single molecules may be obtained from liquids scattering data?

(b) Is the use of the Fourier integral theorem valid for data extending over a small range of  $\sin \theta/\lambda$ ?

These computations are concerned with the first question mostly. The number of atoms and their computed distance, ( $r$ ), from the reference atom were determined for the hexagonal and the square

