

by the diameters of all the molecules in that length. This expression fits from 300 ccs per gram to 5 ccs per gram, & less well at lower volumes. He is coming to talk the matter over with me on Tuesday eve.

We are all well. Just heard Weldon on Crabs & Shrimps, mathematically considered. Good. Wife sends love.

Ever yours

W. Ramsay.

When do you Easter holidays come? What would you say to a trip to Paris for a week?

$\frac{d^2 \rho}{250} = \frac{10^9 \text{ dynes}}{\text{Reynold's}}$

12. APRIL 1894

9th Feby 1894.

Dear Fitzgerald,

There is an interesting article by Van't Hoff on osmotic pressure, and deductions from it in the Berichte der d.-Chem. Gesellschaft. Reynolds will have it, or can show you it, no doubt. Shields would like to translate it for the Phil. Mag., and it appears to me will work while translating, because such work doesn't come before English physicists when visible only in the Berichte. Do you

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think it might go in? It is a capital assume. He does not insist on consideration when he comes to that part, but merely points out the concordance between the theory & fact.

I think the latent heats are going to come out well. The apparatus works beautifully, and is quite easily handled. Good results are being got too with poly's apparatus about the melting-points of salts & compounds generally.

I have been following up the esters to their critical points, & find the linear relation holds well, as before,

but there is the same divergence near the critical point. The values of $\frac{dE}{dT}$, however, are not constant; but they appear to be influenced by the structure of the esters. There are 10 now available, so that influence should be traceable.

Rose-Jones has made a great advance in a formula for compressed gases - I don't think it is realised how far out van der Waals' is; Rose-Jones goes on this line.

$$P = \frac{RT}{v - cv^{\frac{2}{3}}} - \frac{a}{v^2 - c}$$

The ~~$cv^{\frac{2}{3}}$~~ expands to $\frac{RT}{v - c^{\frac{2}{3}}}$

$$\text{expands to } \frac{RT}{v} \cdot \frac{v^{\frac{2}{3}}}{v^{\frac{2}{3}} - c}$$

The $v^{\frac{2}{3}} - c$ is the length from side to side of the vessel, diminished