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MOLECULAR WEIGHTS OF SOME CARBON COMPOUNDS; A FEW WORDS MORE.

BY C. L. SPEYERS.

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IN a short review by Noyes¹ of an article by me,² Noyes writes: "No discussion of the results is given, however, nor is any evidence of their accuracy presented, which is particularly unfortunate, since, according to the reviewer's experience, a Beckmann thermometer, which is subjected to considerable variations of pressure, may give quite unreliable readings, owing to the imperfect elasticity of the bulb."

In regard to the discussion of the results, I would state that the measurements made at the boiling-points under ordinary pressures need no discussion; such measurements have been thoroughly discussed by others. In regard to the measurements made under reduced pressure, I would state that I am altogether at a loss to account for the peculiar results obtained. The values given under "cor." in my article show that the rise in the temperature is, in most cases, probably the rise actually caused by the substance dissolved and that the rise is not appreciably influenced by irregular boiling nor by the very slight change in pressure during a set of determinations.

In regard to an error that might seem to come from the imperfect elasticity of the thermometer bulb, I would state that

¹ *Rev. Am. Chem. Research*, **4**, 55 (1898).

² *J. Phys. Chem.*, **1**, 766 (1897).

I had already considered that possibility and came to the conclusion that such an error could not be serious in my measurements. In the first place, I did not introduce any substance until the thermometer was either stationary or changing in such a steady way that the change during the solution could be accounted for and corrected with very few exceptions, which exceptions are readily seen in the high values of their corrections. These high values are due to the long time needed for the solution of the less soluble bodies at low temperatures.

Moreover, the effect of imperfect elasticity in the bulb of the thermometer would seem to be such as to always reduce the rise of the mercury, but in many cases the rise is too great. Besides, in some cases, the measurements of a whole series are very satisfactory.

I do not think that there is any evidence of a disturbance coming from the elasticity of the bulb.

On the other hand, in regard to the imperfect elasticity of thermometer bulb in a series of experiments such as Noyes and Abbot made,¹ it is easy to see that imperfect elasticity of the bulb might prevent the use of a thermometer like that of Beckmann, for in their experiments the thermometer had to show, with great precision and throughout a considerable period of time, a certain constant temperature, and not a variation of temperature throughout a very short time, as it had to do in my case.

Finally I would repeat that my object was to determine the molecular weights of carbon compounds at the ordinary temperatures, 25°-35°, as I stated in the article reviewed, and not to determine the effect of temperature on the molecular raising, as the reviewer seemed to assume.

RUTGERS COLLEGE, MAY 11, 1898.

NOTE ON DROWN'S METHOD OF DETERMINING SILICON IN STEEL.

BY GEORGE AUCHY.

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IN determining silicon in steel by Drown's method there is some reason to believe that sometimes not all the silicon is obtained.

¹ *Ztschr. phys. Chem.*, 23, 56.