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THE DEVELOPMENT OF VIEWS REGARDING THE NATURE OF CHEMICAL FORCES¹

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At the beginning of my lectures before the department of chemistry of Cornell University, I wish to express my great pleasure at having the opportunity to spend a few months in this wonderful laboratory, beautifully situated on a knoll of the picturesque campus, and to come into close personal contact with my distinguished colleagues as well as with the students. I am sure to learn many things from the splendid organization of this department which will be of great use in my own institute. I thank Professor Dennis heartily for the honor of his invitation to the George Fisher Baker Non-resident Lectureship and for the opportunities he thus affords me.

It is a pleasant custom that the holder of this lectureship begins his activities with a general address for a wider circle of listeners than will attend his later lectures in his special field. Several of my pred-

¹ Introductory public lecture.

ecessors have chosen for this introductory lecture subjects that were more or less far removed from the particular lines of their own research. If you will permit me, I will join the other group and discuss a problem which lies in my own field, for I regard the problem of chemical forces as one that may be of interest not alone to the specialist but to the general public as well. These forces affect deeply not only the surrounding, inanimate world but also the life processes within our own organism, and I shall endeavor to present to you the problem of their true nature.

This question has greatly interested theorists for many centuries. Let me briefly recount at least a few of the steps in the older development before I pass on to the discussion of the views that are held at the present time. There is a characteristic trend that has been common to most of the various theories which have arisen. Chemistry, as you know, serves as a

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