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FRIDAY, AUGUST 10, 1900.

CERTAIN RECENT ATTEMPTS TO TEST THE
NEBULAR HYPOTHESIS.*

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It is a far cry from the glacial period to the nebular hypothesis, but yet it is not beyond the view hulloa of logic. Glacial periods have certainly been dependent on atmospheric states, whatever else may have been concerned in causing them. Surely no one will imagine glaciation in the air of the putative molten earth, nor in the warm dense atmosphere currently assigned to the early ages, nor yet in the later periods when figs and magnolias grew in Greenland. If carbon dioxide has the thermal qualities which eminent physicists assign it, continental glaciation could scarcely have occurred while it was a large constituent of the atmosphere. Now the atmosphere has,

* This paper, prepared at the request of the editor of SCIENCE, is little more than an abstract of the following three papers :

I. 'A Group of Hypotheses bearing on Climatic Changes,' by T. C. Chamberlin ; *Journal of Geology*, Vol. V., No. 7, 1897, pp. 653-683.

II. 'An Attempt to test the Nebular Hypothesis by the Relations of Masses and Momenta,' by T. C. Chamberlin ; *Journal of Geology*, Vol. VIII., No. 1, January-February, 1900, pp. 58-73.

III. 'An Attempt to Test the Nebular Hypothesis by an Appeal to the Laws of Dynamics,' by F. R. Moulton ; *Astrophysical Journal*, Vol. XI., No. 2, March, 1900, pp. 103-130.

By 'nebular hypothesis' the gaseous hypothesis of Laplace is always to be understood in this article. The arguments, for the greater part, apply also to all spheroidal hypotheses in convective equilibrium, whether gaseous or meteoroidal.

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.