SCIENCE

FRIDAY, JULY 13, 1900.

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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.

*ON KATHODE RAYS AND SOME RELATED PHENOMENA.**

I.

AMONG the branches of physical investigation that have recently shown especial activity, few occupy a more prominent position at the present time than those that are related to the electrical discharge in rarefied gases. This is true not only because of the rapid development of the subject, but also because of the far reaching importance of the results, and the influence which they seem destined to exert upon widely different branches of physics. When I learned that I was to have the privilege of addressing you to-day, it appeared to me that I could not better utilize the opportunity than by briefly recalling the progress in this subject during the last few years, and calling attention to some of the results that we may reasonably hope for in the future. The whole subject of vacuum tube discharge is, of course, too large to be treated in the brief space of an hour. I shall therefore confine myself to one of its more important subdivisions, namely, the phenomena and theory of the kathode rays.

Of the many beautiful and interesting phenomena that accompany the electrical discharge in rarefied gases, certainly none has attracted such widespread attention as

* Address of the Vice-President and Chairman of Section B (Physics) of the American Association for the Advancement of Science, given at the New York meeting.