

SCIENCE

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FRIDAY, DECEMBER 18, 1903.

THE ACTION OF RADIUM, ROENTGEN RAYS
AND ULTRA-VIOLET LIGHT ON
MINERALS AND GEMS.*

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THE purpose of this paper is to recount the results of our investigations as to the conduct of the gems and gem-material of the Tiffany-Morgan collection under the influence of Roentgen rays, ultra-violet light and emanations of radium preparations. By the courtesy of the American Museum of Natural History, we were permitted to make a careful study of the action of these agents upon the minerals in the handsome Morgan-Tiffany and Morgan-Bement collections. These undoubtedly are the most complete collections of authenticated minerals and gems on exhibition in the United States. The fluorescence and phosphorescence resulting from the action of ultra-violet light upon about 13,000 verified minerals were carefully observed. In addition to the above, we had an opportunity to submit selected stones from about 15,000 British Guiana diamonds and two particularly handsome diamonds (one being a tiffanyite) and several carbonadoes to these influences, the products of the most modern scientific investigations.

As there is no uniform meaning accepted for the term 'fluorescence' and 'phosphorescence,' in the outset we wish to emphasize our interpretation. Jackson would have

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