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## WHAT TO BELIEVE ABOUT COSMIC RAYS<sup>1</sup>

By Dr. ROBERT A. MILLIKAN

CALIFORNIA INSTITUTE OF TECHNOLOGY

It is almost inevitable that any new field in which there are many workers should appear to the public and even to many of the workers themselves to be in a state of hopeless confusion. This is because the individual workers, unrestrained in a new field by a body of established fact, tend to set up hypotheses that seem to fit their particular experiments or their particular theories and are themselves ignorant of, or at least incredulous about, the findings of others, so that the public soon loses itself in a maze of incompletely understood and apparently contradictory statements and opinions, and knows not whom or what to believe. This situation is not improved by the existence of the daily newspaper, which, as its very name implies, is under a greater pressure to find for its pages some-

thing that is new than something that is true. The truth is illusive, as Pilate long ago observed, and it can not possibly be determined in time for the three o'clock edition. If the present craze for the new regardless of the true, in art, science, society and government, goes much further the remedy may be found in the prospect that a nugget of sober uncolored truth may become the most exciting news there is just because of its rarity. I venture the prediction that our present age, because of its craze for the new regardless of the true, will be looked back upon by our children's children with more amazement and ridicule than we ourselves feel because of the credulity of the middle ages or the smugness and hypocrisy of the Victorian age.

In talking therefore, as I am asked to do to-day, to teachers who seek to know what to pass on to their pupils in order to instruct and develop rather than to excite and mislead them, I propose to stick closely

<sup>1</sup> Address on the occasion of a special conference of the Committee on the Place of Science in Education, American Association for the Advancement of Science, Pittsburgh, December 29, 1934.

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# READY IN MARCH

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