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## THE RÔLE OF ANALYSIS IN SCIENTIFIC INVESTIGATION<sup>1</sup>

By Professor DOUGLAS JOHNSON

COLUMBIA UNIVERSITY

CUSTOM decrees that the chairman of your section should, at the interval of a year following his presidency, deliver before you an appropriate address. It has seemed to me that I could best command your interest in some field of discussion where every one of us, geographer and geologist alike, has had experience. So I have selected the broad field connoted by the highly inclusive term, "scientific investigation"; and I would direct your attention, not to any particular results of such investigation, but to a concrete problem of method which I suppose must concern every scientific worker. This problem can briefly be stated as follows: What is the precise rôle of analysis

in a properly conceived and successfully executed scientific investigation?

It goes without saying that I am not competent to speak of methods of research in chemistry and physics, where experiment plays a far larger rôle than in geology and geography. So also the biologist, the astronomer and investigators in other fields must speak for themselves. For this reason the title of my address may seem unduly ambitious. Yet I prefer the broader, more inclusive term "scientific investigation" to the more restricted if more accurate "geologic and geographic investigation," because it seems to me probable that some of the principles here discussed may find application beyond the limits of my particular field.

It is a pleasure to express here my indebtedness to several of my Columbia colleagues, Robert S. Woodworth, professor of psychology; Adam Leroy Jones, associate professor of philosophy; Sam F. Trelease,

<sup>1</sup> Abbreviated form of address as retiring vice-president and chairman of Section E—American Association for the Advancement of Science, delivered at Atlantic City, on December 27, 1932. The address will be published in amplified form, with fuller illustration from shore line studies, in the *Bulletin of the Geological Society of America*.

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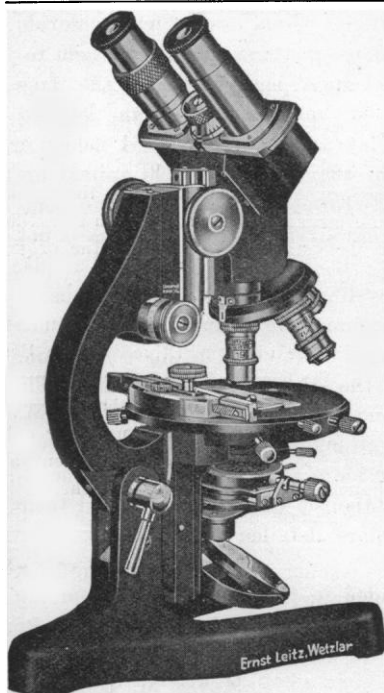
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