

SCIENCE

VOL. 77

FRIDAY, JUNE 16, 1933

No. 2007

The Rôle of Analysis in Scientific Investigation:
PROFESSOR DOUGLAS JOHNSON 569

Scientific Events:

Unification of Radio Research Facilities in Great Britain; The Annual Meeting of the Royal Institution; National Research Fellowships in the Biological Sciences; Summer Conference in Spectroscopy; Psychology at Chicago 576

Scientific Notes and News 579

Discussion:

The Problem of Twisted Trees: DR. MAURICE COPISAROW. *Chlorpicrin Injurious to Greenhouse Plants:* DR. G. H. GODFREY. *The Anniversary of the Normal Curve:* CHARLES J. MARSH. *Questions:* DR. FREDERICK S. HAMMETT 581

Reports:

Public Service as an Element in the Life of the American Scientist: PROFESSOR YANDELL HENDERSON 584

Scientific Apparatus and Laboratory Methods:

A Low-cost Laboratory Unit for Lighting and Appliances: DR. SAMUEL E. POND and OTTO MEIER, JR. *A Simple Sub-surface Thermometer:* PROFESSOR G. F. SLEGGs. *A Specimen Mount for Insects and Other Objects of Natural History:* PROFESSOR HERBERT OSBORN 585

Special Articles:

The Absolute Motion of the Solar System and the Orbital Motion of the Earth Determined by the Ether-drift Experiment: PROFESSOR DAYTON C. MILLER. *The Phosphorescence of Solid Nitrogen and its Relation to Crystal Structure:* L. VEGARD. *Coupled Reactions in Biological Systems:* HERMANN F. SCHOTT and HENRY BOSOOK. *Some Aspects of Intermediary Protein Metabolism:* DR. ERWIN BRAND and DR. MEYER M. HARRIS 587

Science News 6

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal
Lancaster, Pa. Garrison, N. Y.
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE RÔLE OF ANALYSIS IN SCIENTIFIC INVESTIGATION¹

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,

¹ 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*.

Science

77 (2007)

Science **77** (2007), 6-590.

ARTICLE TOOLS

<http://science.sciencemag.org/content/77/2007.citation>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.