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Esge Mawr Paper

The Operational Man's Pardon

May 27/45 - at Esge Mawr

R. A. Kann. Notes and Documents—A Contribution to the Medieval Discussion: *Utrum Aristoteles Sit Salvatus: Anton-Hermann Chroust.* Anti-Semitic Ideas in the Middle Ages: *K. W. Deutsch.*

THE PERSONALIST. Spring, 1945. Progress as Personal Achievement: *R. T. Flewelling.* Progress as Value-Directed Science: *H. L. Searles.* Is Science Explanatory? *L. W. Norris.* The Ascetic Temper of Modern Humanism: *B. E. Meland.* What Is It to Philosophize? *Arthur Lapan.* The Religious Apologetic and Program: *G. Y. Rusk.*

NOTES AND NEWS

We regret to announce the death on April 13, 1945, of Ernst Cassirer in New York City at the age of 70. He was Visiting Professor of Philosophy at Columbia University.

The Carus Lectures on "The Meaning of Human History" by Morris Raphael Cohen will be delivered this year at The City College of New York, where he is Professor Emeritus of Philosophy. There will be three lectures as follows: May 17, at 4:00 p.m., "The Task of the Historian"; May 17, at 8:30 p.m., "The Metaphysics of History"; May 18, at 3:00 p.m., "The Tragic View of History." Members of the American Philosophical Association and their guests are cordially invited to attend.

The Fullerton Philosophical Club of Pennsylvania will hold its first annual regional meeting at Bryn Mawr College on Saturday, May 12, 1945. The subject of the morning session will be "The Theory of Experimental Inference" with the following speakers: Walter A. Shewhart, Bell Telephone Laboratories, "The Operational Meaning of Random"; W. Edwards Deming, U. S. Department of Agriculture, "Statistical Inference and Action"; Malcolm Preston, University of Pennsylvania, "Experiment in Psychology"; Paul Ushenko, Princeton University, "Truth in Physics"; C. West Churchman, University of Pennsylvania, "Theory of Experimental Inference." The afternoon session will be devoted to the subject, "Reason and Art," with the following speakers: Abraham Edel, College of the City of New York, "Content and Context in the Theory of Art"; T. T. Lafferty, Lehigh University, "Pragmatism and Reason—A Critical Examination of Recent Criticisms"; Brand Blanshard, Swarthmore College, "Current Structures on Reason."

Information may be obtained by addressing Professor Paul Weiss, Bryn Mawr College, Bryn Mawr, Pennsylvania.

The American Society for Aesthetics wishes to announce that the *Journal of Aesthetics and Art Criticism*, which (up to and including its current issue, No. 12) has been edited and published by Dr. Dagobert D. Runes, was recently offered by him to the Society and has now become its property.

The Society, which will publish all subsequent issues, has appointed the following editorial staff: *Editor*, Thomas Munro (Cleveland Museum of Art, Cleveland, Ohio); *Associate Editor*, H. G. Schrickel (Carnegie Institute of Technology, Pittsburgh, Pa.); *Managing Editor*, Max Schoen (Carnegie Institute of Technology, Pittsburgh, Pa.); *Reviews Editor*, Helmut Hungerland (128 Indian Road, Piedmont, California).

Articles offered for publication should be sent to the Editor; books for review to the Reviews Editor; and business communications, including subscriptions, changes of address, etc., to the Managing Editor.

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W. A. SHEWHART'S COLLECTION

The

Operational Meaning

of

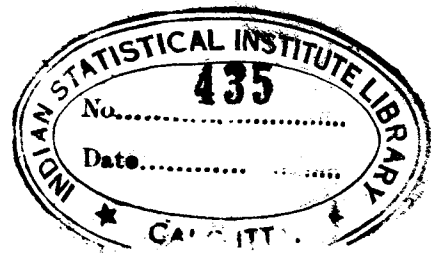
Random

by

W. A. Shewhart

Bell Telephone Laboratories

To be given at the first annual regional meeting of The Fullerton Philosophical Club at Bryn Mawr College on Saturday, May 12, 1945



OBJECT

Professor Hendel, secretary of the Commission on the Function of Philosophy in Liberal Education of the American Philosophical Association, made the following request of several men in walks of life other than philosophy:

"Without intending to confine you in any way by the suggestion, we should like, for example, to learn from your experience or observation of business and public life what difference you think it would make in the decision of serious issues if reflection of a philosophic kind were brought to bear effectively on them".

The answer in terms of the problem of the control of quality or the general problem of control in applied science is of great importance to every one of us.

I

The Importance of Operational Meaning in Quality Control

1. The Specification of Quality.

Slide 1 - The quality control problem.

#13713

Slide 2 - Three types - #13710

Slide 3 - Operational meaning of quality of Type 1.

#25437

Slide 4 - The statement, "The quality characteristic X of this thing is such and such" implies a prediction.

#25438

Such a prediction is of the nature of a probable inference.

Slide 5 - Meaning of the statement, "The quality characteristic X of thing A shall be such and such".

#17836

Slide 6 - Operationally a constant of nature is a random sequence.

#25376

II 5

1/7/45

How many observations
before making a prediction?

Normal law - not a
criterion of randomness.

2. Judgment of Quality

Slide 7 #22370

II

The Importance of Randomness

1. The only kind of observable constancy.
2. State of randomness is the limit to which we may approach in control of quality.
3. Random assembly.
4. Basis for valid probability inferences.

III

The Operational Meaning of Random

1. Meaning in terms of the physical operation.
 - 1.1 Throw of die or coin.
 - 1.2 Drawing from a bowl.
2. Von Mises meaning in terms of the results obtained in an infinite sequence of repetitions of the physical operation.
 - 2.1 $\lim_{n \rightarrow \infty} \theta = \theta'$
for original sequence.
 - 2.2 $\lim_{n \rightarrow \infty} \theta = \theta'$
for any subsequence drawn without reference to numbers in original sequence.

CONCLUSION

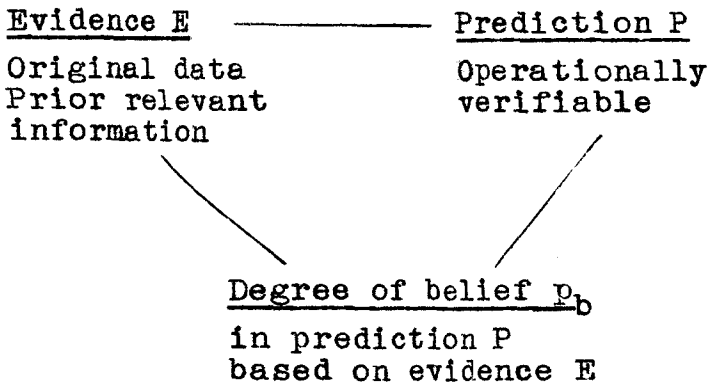
Slide 16 - The general problem of control.

#23040

The two steps in scientific method of control to which the philosopher can contribute are:

1. Specification

2. Judgment of test of hypothesis.



American Standards Association

Resolution of the Directors of the
American Standards Association,
May 19, 1944.

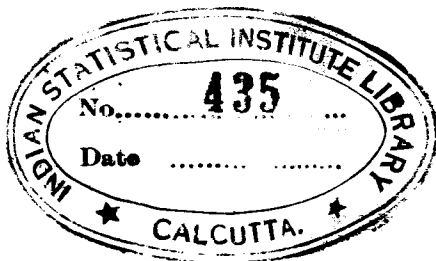
Resolved, That in the opinion of the Board, because of the growing importance of standards for consumer goods, the scope and work of the ASA be broadened and clarified by removing the present restrictions which limit the work of the ASA to the engineering field; and that the ASA should be so organized that it can handle any standard or standardization project which deserves national recognition, whether in the field of engineering, accounting, business practice, or consumer goods.

Secretary of Commerce

Invitation to fifty of the nation's leading industrial executives:

"At the request and in the name of the Secretary of Commerce of the United States, you are hereby invited by the Visiting Committee of the National Bureau of Standards to attend a "Conference on Standardization" on Friday, January 12, 1945, at 10:00 A.M."

December 15, 1944, signed by F. B. Jewett, K. T. Compton, W. D. Coolidge, Gano Dunn, Vannevar Bush, Visiting Committee of the National Bureau of Standards.



ASTM

ASTM Bulletin, March, 1945

"The successful development of standards in the ultimate consumer goods field will require more factual knowledge concerning the wants of consumers and more basic data on use values than are now available. Accordingly, the Executive Committee, acting upon a recommendation of the special committee, is arranging for the establishment of a project within the Society for the development of techniques for obtaining knowledge of consumer wants and for accumulating data on which to base specifications and methods of test for ultimate consumer goods. This project will be an important aid in the implementation of the entire program and will necessarily utilize social, statistical, psychological, and economic approaches, in addition to those of science and engineering.

Straw #4

Article from Consumers' Guide, March 1945.

"How Good is It?"

Our Uncle Sam shops by standards to get an answer to that question.

Why don't you?

"Buyers and sellers in retail stores and markets seldom speak the same language—do not have the opportunity to speak the same language as is given other sellers and buyers from the producer to the retailer. The manufacturer or producer sells according to standard, the processor, the wholesaler, and the retailer all buy according to standard. They speak the same language. They know what they are talking about. (Can you imagine any of these operators paying attention to prices without knowing quality and quantity?) But there, too often this common language stops. The buyer in the retail store or market can't talk that language because he hasn't had a chance to learn it. When standards are stated on labels so that shoppers understand them we'll all be talking the same language."

New York Times:

"Quality deterioration of many types of goods has been notable during the war period. This, of itself, will make for a sharp rebound when merchandise once again becomes more freely available. Better definition and control of quality will become paramount.

"Consumer groups, even during the war period, have been pressing for merchandise standards keyed with price and are likely to exert an extremely powerful influence during the post-war period. Better goods at lower prices will be their objective.

"Retailers and manufacturers are fully aware of this and many of them have plans well in hand to take the lead in buying according to standards and specifications and in training sales people in use of labeling to provide the customer with essential data on merchandise."

Definition of Management:

"Management is the art and science of preparing, organizing, and directing human effort applied to control the forces and to utilize the materials of nature for the benefit of man".

Transactions ASME, 1913, page 1272.

W. A. SHEPHERD'S COLLECTION

