

1987

A Partial Inventory of Statistical Literature on Quality and Productivity through 1985

Stephen B. Vardeman

Iowa State University, vardeman@iastate.edu

John A. Cornell

University of Florida

Follow this and additional works at: https://lib.dr.iastate.edu/stat_las_pubs



Part of the [Statistics and Probability Commons](#)

The complete bibliographic information for this item can be found at https://lib.dr.iastate.edu/stat_las_pubs/150. For information on how to cite this item, please visit <http://lib.dr.iastate.edu/howtocite.html>.

This Article is brought to you for free and open access by the Statistics at Iowa State University Digital Repository. It has been accepted for inclusion in Statistics Publications by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

A Partial Inventory of Statistical Literature on Quality and Productivity through 1985

Abstract

In 1984 the American Statistical Association established a Committee on Quality and Productivity. The Publications Subcommittee of this group adopted as one of its tasks the inventory of existing statistical literature on quality and productivity. This article is a partially annotated bibliography produced as a result of that effort.

Disciplines

Statistics and Probability

Comments

This article is published as Vardeman, Stephen, and John A. Cornell. "A partial inventory of statistical literature on quality and productivity through 1985." *Journal of Quality Technology* 19, no. 2 (1987): 90-97. DOI: [10.1080/00224065.1987.11979044](https://doi.org/10.1080/00224065.1987.11979044).

Rights

Reprinted with permission from *Journal of Quality Technology* (c) 1987, www.asq.org.

A Partial Inventory of Statistical Literature on Quality and Productivity through 1985

STEPHEN VARDEMAN

Iowa State University, Ames, IA 50011

JOHN A. CORNELL

University of Florida, Gainesville, FL 32611

In 1984 the American Statistical Association established a Committee on Quality and Productivity. The Publications Subcommittee of this group adopted as one of its tasks the inventory of existing statistical literature on quality and productivity. This article is a partially annotated bibliography produced as a result of that effort.

Introduction

IN early 1984 the American Statistical Association (ASA) established an Ad Hoc Committee on Quality and Productivity (which later became a regular committee of the ASA). It was formed in recognition of the importance of statistics in the improvement of manufacturing and service quality and productivity, and the realization that in spite of this importance, the ASA had no formal group active in this area. The committee formed several subcommittees and task forces, among them a Publications Subcommittee, chaired first by Robert Easterling, and later by Harrison Wadsworth (of the Georgia Institute of Technology).

Publications Subcommittee discussions included the problem of the very dispersed nature of the literature on the use of statistics in quality and productivity. It was decided that inventorying the existing literature and producing a bibliography might provide a point of entry into the area for statisticians and others interested in the application of statistical methods to problems in quality and productivity. This article is the result of that initial inventory.

It is, of course, possible to argue that nearly any statistical method has potential application to problems of quality and productivity, and so the scope

appropriate for such an inventory would be somewhat unclear. In order to avoid this problem and identify a manageable task, we chose to stay reasonably close to classical statistical quality control and industrial experimental design areas; and rather than attempting to list articles on specific methods in these areas (which quickly could have led to cataloguing of most of the contents of the *Journal of Quality Technology*, *Technometrics*, etc.), this document is limited to a listing of journals, review articles, case studies, books, booklets and some audio-visual materials.

Only publications in print by the end of 1985 are included here. However, bibliographic efforts are ongoing, both in the ASA Quality and Productivity Committee and in the American Society for Quality Control (ASQC) Bibliography Committee (that is headed by Roger Berger of Iowa State University). Readers with suggested additions and updates for the present listing or wishing to bring items to the attention of these committees are encouraged to contact the appropriate committee chairperson.

Every effort was made to be as complete as possible within the area and publication date boundaries set out above. However, in any project of this kind some appropriate work is overlooked, and the authors apologize to those whose material inadvertently has been omitted.

The inventory is organized according to the following outline:

- I. Glossary of Abbreviations
- II. Journals Publishing Articles About or Related to SQC.

Dr. Vardeman is a Professor in the Statistics Department and the Industrial Engineering Department. He is a Member of ASQC.

Dr. Cornell is a Professor in the Department of Statistics. He is a Senior Member of ASQC.

- A. Statistical journals past and present usually containing articles on SQC.
 - B. Statistical journals publishing an occasional article on SQC.
 - C. Selected journals in disciplines other than statistics currently publishing an occasional SQC-related article.
- III. Review Articles and Bibliographies About or Related to SQC.
- A. Technical review articles and bibliographies about or related to SQC.
 - B. General review articles and bibliographies on the role of statistics in quality and productivity.
- IV. Case Study Articles About or Related to SQC.
- V. Books About or Related to SQC.
- A. Classical SQC books.
 - B. Books with significant SQC content and/or treating the management of SQC activities.
 - C. Selected industrial design of experiments books.
- VI. Selected SQC Booklets, Standards and Printed Training Materials of American Technical Societies.
- VII. Selected Audio-Visual SQC Materials.

The amount of annotation and the availability of information provided varies according to outline category and reflects our assessment of the minimum necessary to make this document helpful to those newly interested in the statistical literature on quality and productivity.

I. Glossary of abbreviations.

ANSI	American National Standards Institute
ASA	American Statistical Association
ASQC	American Society for Quality Control
ASTM	American Society for Testing and Materials
EVOP	Evolutionary Operation
IEEE	Institute of Electrical and Electronics Engineers
IIE	Institute of Industrial Engineering
JQT	Journal of Quality Technology
JRSS	Journal of the Royal Statistical Society
OR	Operations Research
QA	Quality Assurance
QC	Quality Control
SQC	Statistical Quality Control

II.A. Statistical journals past and present usually containing articles on SQC.

IAPQR Transactions (published twice per year by the Indian Association of Productivity, Quality and Reliability) Publishes articles with "a bearing on the

theory and/or application of productivity enhancing and regulatory techniques."

Industrial Quality Control (published 1944-1967 by ASQC) This forerunner of the *Journal of Quality Technology* and *Quality Progress* was published monthly and carried the same type of statistical articles now printed in *Journal of Quality Technology*, as well as articles oriented toward managers and engineers and advertising and news now carried in *Quality Progress*.

Journal of Quality Technology (published quarterly in January, April, July, and October by ASQC) Publishes papers that "emphasize the practical applicability of new techniques for improving quality, instructive examples of the operation of existing techniques, and results of historical researches. Expository, review, and tutorial papers are also acceptable if written in a style suitable for practicing engineers."

Technometrics (published quarterly in February, May, August, and November jointly by ASA and ASQC) Publishes articles contributing to the "development and use of statistical methods in the physical, chemical, and engineering sciences." Contains papers describing "new statistical techniques, innovative applications of known statistical methods, expository papers on particular statistical methods, and papers dealing with the philosophy and problems of applying statistical methods."

II.B. Statistical journals publishing an occasional article on SQC.

Applied Statistics (*Journal of the Royal Statistical Society Series C*)

The American Statistician

Communications in Statistics

International Statistical Review

Journal of the American Statistical Association

Journal of the Royal Statistical Society (Series B)

II.C. Selected journals in other disciplines currently publishing an occasional SQC-related article.

American Laboratory (published monthly) Occasionally includes an article on SQC in the analytical laboratory.

AT&T Bell Laboratories Technical Journal (formerly the *Bell System Technical Journal*, published ten times each year) This journal is "devoted to the scientific and engineering aspects of electrical communication" and has published the recent Bell SQC contributions.

Evaluation Engineering (published monthly) A magazine of "electronic evaluation and test" aimed at engineers in the electronics industries, including those with QA/QC responsibilities.

- IEEE Transactions on Reliability* (published 5 times per year) A publication of the Reliability Society, "an organization of members with a professional interest in product assurance." Regularly carries statistical articles.
- IIE Transactions* (published quarterly) An industrial engineering research and development journal that publishes articles on quality and reliability engineering.
- Industrial Research and Development* (published monthly) Reports research and development activities of industry, government, and non-profit institutes. Provides sources of information about instrumentation, processes, products, materials and changes in regulations and practices that affect people who work in research and development and QC.
- The International Journal of Engineering Science* (published monthly) Publishes research pertaining to the application of the physical, chemical and mathematical sciences to engineering.
- Journal of the Operational Research Society* (published monthly) "Addressed to the practitioner of OR" and aims to publish "good practical case studies of OR in action." In fact, publishes mostly theory.
- Management Science* (published monthly) Publishes articles that "identify, extend, or lead in any other way to furthering the scientific knowledge pertaining to management."
- Naval Research Logistics Quarterly* (published quarterly by John Wiley and Sons, Inc.) "devoted to the dissemination of information in logistics and will publish research and expository papers." The majority of the February 1985 issue is devoted to the proceedings of a QC workshop.
- Operations Research* (published six times a year) Publishes papers across the full range of operations research activities that emphasize practice, tutorials, surveys, and research problems and topics.
- Quality* (published monthly) A trade magazine that aims to be "the magazine for product and service quality."
- Quality Assurance* (published quarterly by the Institute of Quality Assurance and the British Quality Association) Publishes quality related articles by contributors world wide.
- Quality Progress* (published monthly by ASQC) Publishes articles promoting the "discussion of issues in the field of quality." Advertises society meetings and other news-worthy events of ASQC.
- Semiconductor International* (published monthly) Has applications, reviews and advertisements in the semiconductor industry.
- III.A. Technical review articles and bibliographies about or related to SQC.**
- ALT, F. B. (1983). "Multivariate Control Charts." *Encyclopedia of Statistical Sciences*. Vol. 6, pp. 110-122.
- American Society for Quality Control (1985). *Journal of Quality Technology* 17, no. 4. The October issue of *Journal of Quality Technology* is largely devoted to the role of statistical experimental design in product and process design.
- CHIU, W. K. and WETHERILL, G. B. (1973). "The Economic Design of Continuous Inspection Procedures: A Review Paper." *International Statistical Review* 43, pp. 357-373.
- EVANS, D. H. (1974). "Statistical Tolerancing, the State of the Art." *Journal of Quality Technology* 6, pp. 188-195.
- FEDERER, W. T. (1980). "Some Recent Results in Experimental Design With a Bibliography." *International Statistical Review* 48, pp. 357-368.
- GIBRA, I. N. (1975). "Recent Developments in Control Chart Techniques." *Journal of Quality Technology* 7, pp. 183-192.
- GODFREY, A. B. and MUNDEL, A. B. (1984). "Guide for Selecting an Acceptance Sampling Plan." *Journal of Quality Technology* 16, pp. 50-56.
- HAHN, G. J. (1970). "Statistical Intervals for a Normal Population." *Journal of Quality Technology* 2, pp. 115-125, 195-206.
- HAHN, G. J. (1980). "Planning Experiments: An Annotated Bibliography." *CHEMTECH* 10, pp. 36-39.
- HAHN, G. J. and MEEKER, W. Q. (1984). "An Engineer's Guide to Books on Statistics and Data Analysis." *Journal of Quality Technology* 16, pp. 196-218.
- HILL, W. J. and HUNTER, W. G. (1966). "A Review of Response Surface Methodology: A Literature Survey." *Technometrics* 8, pp. 571-590.
- HUNTER, W. G. and KITTRELL, J. R. (1966). "Evolutionary Operation: A Review." *Technometrics* 8, pp. 389-397.
- MONTGOMERY, D. C. (1980). "The Economic Design of Control Charts: A Review and Literature Survey." *Journal of Quality Technology* 12, pp. 75-87.
- NELSON, B. N. (1967). "Survey and Application of Interlaboratory Testing Techniques." *Industrial Quality Control* 23, pp. 554-559.
- OSTLE, B. (1967). "Industry Use of Statistical Test Design." *Industrial Quality Control* 24, pp. 24-34.
- STEINBERG, D. M. and HUNTER, W. G. (1984). "Experimental Design: Review and Comment." *Technometrics* 26, pp. 71-97 (with discussion).
- VANCE, L. C. (1983). "A Bibliography of Statistical Quality Control Chart Techniques, 1970-1980." *Journal of Quality Technology* 15, pp. 59-62.

WETHERILL, G. B. and CHIU, W. K. (1975). "A Review of Acceptance Sampling Schemes with Emphasis on the Economic Aspect." *International Statistical Review* 43, pp. 191-200.

The *Current Index to Statistics*, published yearly since 1975 by the American Statistical Association and the Institute of Mathematical Statistics. Indexes much of the world's statistical literature. As such, it is a valuable resource when searching for SQC-related information.

The *Encyclopedia of Statistical Science* (available at least through volume 5, ending with Multitrait-Multimethod Matrices) edited by Kotz and Johnson and published by John Wiley. Has introductory articles with bibliographies on many SQC tools. For example, volume 2 has useful articles on "Control Charts" by L. S. Nelson and "Cumulative Sum Control Charts" by A. L. Goel.

Quality Control and Applied Statistics, a digest of abstracts produced monthly by Executive Sciences Institute, P.O. Drawer M, Whippany, NJ 07981.

III.B. General review articles and bibliographies on the role of statistics in quality and productivity.

HAHN, G. J. and BOARDMAN, T. J. (1985). "The Statistician's Role in Quality Improvement." *Amstat News*, March, pp. 5-8.

HAHN, G. J. and BOARDMAN, T. J. (1985). "Statistical Concepts for Quality Improvement: A New Perspective." *Quality Progress* 18, no. 11, pp. 30-36.

HOGG, R. V. et al. (1985). "Statistical Education for Engineers: An Initial Task Force Report." *The American Statistician* 39, pp. 168-177.

JOINER, B. L. (1985). "The Key Role of Statisticians in the Transformation of North American Industry." *The American Statistician* 39, pp. 224-233.

MARQUARDT, D. (1984). "New Technical and Educational Directions for Managing Product Quality." *The American Statistician* 38, pp. 8-14.

SCHILLING, E. G. (1984). "The Role of Statistics in the Management of Quality." *Quality Progress* 16, no. 3, pp. 32-35.

VARDEMAN, S. B. and DAVID, H. T. (1984). "Statistics for Quality and Productivity: A New Graduate Level Statistics Course." *The American Statistician* 38, pp. 235-243.

IV. Case study articles about or related to SQC.

American Society for Quality Control (1985). *Quality Progress* 18, no. 6. The June 1985 issue of *Quality Progress* is devoted to service quality and contains several case studies involving SQC in service industries as well as a bibliography for quality in the service industries.

ANDERSON, R. W. and WORTHAM, A. W. (1958). "An Application of Variance Component Analysis in the Transistor Industry." *Industrial Quality Control* 14, no. 9, pp. 11-15.

ARMSTRONG, J. A. JR. (1956). "Some Uses of Statistics in Plant Maintenance." *Industrial Quality Control* 12, no. 7, pp. 12-17.

BASS, L. (1957). "Make it Right the First Time." *Industrial Quality Control* 13, no. 11, pp. 35-42.

BENZ, W. M. (1967). "Quality Control in the Office." *Industrial Quality Control* 23, no. 11, pp. 531-534.

BINGHAM, R. S. JR. (1958). "A Guide to the Use of Statistics in the Chemical Industry." *Industrial Quality Control* 15, no. 3, pp. 14-18.

BURGHAM, P. M. (1985). "Design of Experiments, the Taguchi Way." *Manufacturing Engineering*, May, pp. 44-47.

CAPLAN, F. JR. (1958). "Process Control in a Job Shop." *Industrial Quality Control* 15, no. 5, pp. 16-18.

CHATEAUNEUF, R. (1960). "Modern QC Pays Off in Woodwork." *Industrial Quality Control* 17, no. 3, pp. 19-25.

CHEUNG, K. Y.; LINDSAY, W. S.; and FRIEDLAND, D. J. (1985). "A Statistical Study of Sources of Variation in Primary Battery Testing." *Journal of the Electrochemical Society* 132, pp. 1-5.

CLIFFORD, P. C. (1971). "A Process Capability Study Using Control Charts." *Journal of Quality Technology* 3, pp. 107-111.

CONNELL, F. M. JR. (1967). "Statistical Quality Control of Clerical Operations." *Industrial Quality Control* 24, no. 3, pp. 154-162.

DAW, H. R. (1965). "Systematic Procedure of Trouble Spotting." *Industrial Quality Control* 21, no. 9, pp. 443-449.

DEBUSK, R. E. (1962). "Experience in EVOP at Tennessee Eastman Company." *Industrial Quality Control* 19, no. 4, pp. 15-21.

EICHELBERGER, L. S. (1956). "Statistical Quality Control in a Press Shop." *Industrial Quality Control* 13, no. 2, pp. 12-17.

FREY, W. C. and SPENCER, W. M. (1958). "Automatic Statistical Filling Control, a Case History." *Industrial Quality Control* 14, no. 8, pp. 13-16.

FULLER, F. T. (1984). "Fix the Process, Not the Product." *Electronic Packaging and Production* 24, no. 2, pp. 107-175.

GLASSER, G. J. (1985). "Quality Audits of Paperwork Operations: The First Step Toward Quality Control." *Journal of Quality Technology* 17, pp. 102-109.

GLUCKMAN, P. (1984). "Using Statistical Quality Control to Improve Manufacturing Yields." *PC FAB*, June, pp. 44-53.

- HAHN, G. J. (1982). "Statistical Assessment of a Process Change." *Journal of Quality Technology* 14, pp. 1-9.
- HAHN, G. J. (1984). "Experimental Design in the Complex World." *Technometrics* 26, pp. 19-31.
- HAMAKER, H. C. (1961). "Examples of Designed Experiments." *Industrial Quality Control* 17, no. 9, pp. 16-20.
- HAMLIN, C. K. (1957). "Statistical Quality Control Methods at Rome Cable Corporation." *Industrial Quality Control* 14, no. 2, pp. 8-16.
- HARRISON, H. R. (1956). "Statistical Quality Control Will Work on Short-Run Jobs." *Industrial Quality Control* 13, no. 2, pp. 8-11.
- HILL, W. J. and WILES, R. A. (1975). "Plant Experimentation (PLEX)." *Journal of Quality Technology* 7, pp. 115-122.
- HINCHEN, J. D. (1956). "Correlation Analysis in Batch Process Control." *Industrial Quality Control* 12, no. 11, pp. 54-59.
- HITZELBERGER, A. J. (1967). "Improve Your Reliability." *Industrial Quality Control* 24, no. 6, pp. 313-316.
- HOFFMAN, E. R. (1955). "Quality Control in Paper Finishing." *Industrial Quality Control* 12, no. 5, pp. 7-12.
- KENWORTHY, I. C. (1967). "Some Examples of Simplex Evolutionary Operation in the Paper Industry." *Applied Statistics* 16, pp. 211-224.
- LANGEVIN, R. G. (1977). *Quality Control in the Service Industries*. Argyle Associates, New Canaan, CT.
- LATZKO, W. J. (1984). "The Paperwork Factory." *Quality*, March, pp. 31-33.
- LECLAIR, T. G. (1958). "Quality Control in the Electric Service Industry." *Industrial Quality Control* 14, no. 10, pp. 9-11.
- LINDSAY, W. S. and PICONE, R. F. (1984). "Components of Variance Analysis: A Useful Statistical Technique for Analytical Chemistry." *Analytical Letters* 17, pp. 1731-1742.
- Metals Technical Committee of ASQC (1964). *Case Histories on Statistical Methods for Quality Control Series III*. American Society for Quality Control, Milwaukee, WI.
- MEYER, T. R.; ZAMBONE, J. H.; and CURCIO, F. L. (1957). "Applications of Statistical Quality Control in Glass Fabrication." *Industrial Quality Control* 14, no. 2, pp. 21-23.
- MUELLER, F. X. and OLSSON, D. M. (1971). "Application of Statistical Design for the Solution of Industrial Finishing Problems." *Journal of Paint Technology* 43, pp. 54-62.
- OCCASIONE, J. F. (1956). "Quality Control as Applied to Continuous Processes." *Industrial Quality Control* 13, no. 4, pp. 9-13.
- OSTLE, B. (1967). "Industry Use of Statistical Test Design." *Industrial Quality Control* 24, no. 1, pp. 24-34.
- OTT, E. R. and SNEE, R. D. (1973). "Identifying Useful Differences in a Multiple-head Machine." *Journal of Quality Technology* 5, pp. 47-57.
- OXENHAM, J. P. (1957). "An Application of Statistical Quality Control Techniques to a Post Office Processing Operation." *Industrial Quality Control* 14, no. 3, pp. 5-10.
- PHADKE, M. S. (1982). "Quality Engineering Using Design of Experiments." *1982 Section on Statistical Education Proceedings of the American Statistical Association*, pp. 11-20.
- PHADKE, M. S.; KACKAR, R. N.; SPEENEY, D. V.; and GRIECO, M. J. (1983). "Off-Line Quality Control in Integrated Circuit Fabrication Using Experimental Design." *Bell System Technical Journal* 62, pp. 1273-1309.
- PRASAD, C. R. (1982). *Statistical Quality Control and Operational Research. 160 Case Studies in Indian Industries*. Indian Statistical Institute, Calcutta, India (203 Barrackpore Trunk Road, Calcutta-700035, India).
- PRINGLE, J. B. (1962). "SQC Methods in Telephone Transmission Maintenance." *Industrial Quality Control* 19, no. 1, pp. 18-22.
- RCA Technical Excellence Center (1985). *RCA Engineer* 30, no. 3. (P.O. Box 432, Princeton, NJ 08540). The May-June issue of *RCA Engineer* has as its theme applications of statistics in manufacturing.
- ROGERS, W. T. (1956). "Quality Control of Tubular Steel Products." *Industrial Quality Control* 13, no. 2, pp. 6-11.
- SNEE, R. D. (1983). "Graphical Analysis of Process Variation Studies." *Journal of Quality Technology* 15, pp. 76-88.
- SNEE, R. D.; HARE, L. B.; and TROUT, J. R. (eds.) (1985). *Experiments in Industry: Design, Analysis and Interpretation of Results*. Quality Press, Milwaukee, WI. (A technical supplement of the Chemical and Process Industries Division of ASQC.)
- VON OSINSKI, R. (1962). "Use of Median Charts in the Rubber Industry." *Industrial Quality Control* 19, no. 2, pp. 5-8.
- WADDELL, J. J. (1961). "Quality Control in the Construction Industry." *Industrial Quality Control* 17, no. 7, pp. 12-15.
- WADE, P. F. (1961). "The Use of Statistical Methods in Industrial Experimentation." *Industrial Quality Control* 18, no. 2, pp. 5-9.
- WALTER, J. T. (1955). "Continuous Process Control in a Petroleum Refinery." *Industrial Quality Control* 12, no. 6, pp. 5-7.

WARD, R. V. (1963). "SQC Applications in the Chemical Industries." *Industrial Quality Control* 20, no. 1, pp. 4-8.

WAY, C. B. (1961). "Statistical Quality Control Applications in the Food Industry." *Industrial Quality Control* 17, no. 11, pp. 30-34.

WILSON, C. C. (1955). "Textile Quality Analysis." *Industrial Quality Control* 12, no. 6, pp. 14-18.

ZIMMERMAN, N. H. (1957). "Statistical Quality Control Applied to Precision Manufacture of Weapon Barrel." *Industrial Quality Control* 14, no. 2, pp. 18-21.

The "Have you seen?" and "Have you read?" sections of *Industrial Quality Control* (November 1962 through December 1967) and the "Bibliography" section of *Industrial Quality Control* (July 1949 through June 1958) contain numerous references to articles describing applications of SQC that were published outside the SQC literature.

The Juran Institute, Inc. publishes *The Juran Report* which includes case studies of quality improvement programs led by the Institute and sometimes involving statistical components. (88 Danbury Road, Wilton, CT 06897-4409.)

V.A. Classical SQC books.

BRAVERMAN, J. D. (1981). *Fundamentals of Statistical Quality Control*. Reston Publishing, Reston, VA.

Designed as a text for an in-house or technical school course for those with no statistical background.

BURR, I. W. (1976). *Statistical Quality Control Methods*. Marcel Dekker, New York, NY.

Covers standard SQC topics and has many real SQC data sets.

BURR, I. W. (1978). *Elementary Statistical Quality Control*. Marcel Dekker, New York, NY.

A very elementary treatment of Shewhart charts and acceptance sampling.

CHARBONNEAU, H. C. and WEBSTER, G. L. (1978). *Industrial Quality Control*. Prentice-Hall, Englewood Cliffs, NJ.

An elementary, engineering-oriented treatment of classical SQC.

DODGE, H. F. and ROMIG, H. G. (1959). *Sampling Inspection Tables: Single and Double Sampling*, 2nd ed. John Wiley, New York, NY.

DUNCAN, A. J. (1974). *Quality Control and Industrial Statistics*, 4th ed. R. D. Irwin, Homewood, IL.

The most complete of the classical SQC texts both in terms of topic coverage and inclusion of detail.

Ford Motor Company, Statistical Methods Office (1983). *Continuing Process Control and Process Capability*

Improvement. Ford Motor, Dearborn, MI. (The American Road, Dearborn, MI 48121.)

A Ford Company manual on "the use of control charts for improving quality and productivity for company, supplier and dealer activities."

GRANT, E. L. and LEAVENWORTH, R. S. (1980). *Statistical Quality Control*, 5th ed. McGraw-Hill, New York, NY.

Concentrates on Shewhart charts and acceptance sampling and includes a number of real data examples.

GUENTHER, W. C. (1977). *Sampling Inspection in Statistical Quality Control*. Griffin, London, United Kingdom.

Presents the theory of both attributes and variables acceptance sampling.

HALD, A. (1981). *Statistical Theory of Sampling by Attributes*. Academic Press, New York, NY.

A comprehensive mathematical treatment of attributes acceptance sampling.

ISHIKAWA, K. (1976). *A Guide to Quality Control*. Asian Productivity Association, Tokyo, Japan. (Available through ASQC.)

Illustrates the importance of the simplest of statistical devices in quality and productivity.

KATEMAN, G. and PIJERS, F. W. (1981). *Quality Control in Analytical Chemistry*. John Wiley, New York, NY.

Discusses some standard SQC topics as well as techniques especially suited to analytical laboratories.

LENZ, H. J.; WETHERILL, G. B.; and WILRICH, P.-TH. (eds.) (1981). *Frontiers in Statistical Quality Control*. Physica-Verlag, Wurzburg-Vienna.

LENZ, H. J.; WETHERILL, G. B.; and WILRICH, P.-TH. (eds.) (1984). *Frontiers in Statistical Quality Control—2*. Physica-Verlag, Wurzburg-Vienna.

Proceedings from recent research conferences on mathematical methods in SQC.

MONTGOMERY, D. C. (1985). *Introduction to Statistical Quality Control*. John Wiley, New York, NY.

A recent text including a treatment of the economic design of Shewhart charts and some multivariate quality control.

OTT, E. R. (1975). *Process Quality Control*. McGraw-Hill, New York, NY.

Treats Shewhart charts, acceptance sampling, and the usefulness of statistical ideas in troubleshooting. Contains many case studies.

SARKADI, K. and VINCZE, I. (1974). *Mathematical Methods of Statistical Quality Control*. Academic Press, New York, NY.

A mathematical treatment of traditional SQC.

SCHILLING, E. G. (1982). *Acceptance Sampling in Quality Control*. Marcel Dekker, New York, NY.

- A comprehensive application-oriented treatment of the subject.
- SHEWHART, W. A. (1931). *Economic Control of Quality of a Manufactured Product*. Van Nostrand, New York, NY. (A reprint is available through ASQC.)
- The original book on SQC. Still relevant and well worth reading.
- TAGUCHI, G. (1981). *On-line Quality Control During Production*. Japanese Standards Association, Tokyo, Japan. (Available from the American National Standards Institute, 1430 Broadway, New York, NY 10018.)
- A Japanese engineer's view of economic process control.
- TAGUCHI, G. and WU, Y. (1980). *Introduction to Off-Line Quality Control*. Central Japan Quality Control Association, Nagoya, Japan. (No. 2 Toyota Building West, 4-10-27 Meieki, Nakamura-ku, Nagoya 450, Japan.)
- A Japanese engineer's ideas on the role of experimental design in robust product design.
- WADSWORTH, H. M.; STEPHENS, K. S.; and GODFREY, A. B. (1986). *Modern Methods for Quality Control and Improvement*. John Wiley, New York, NY.
- A new text that covers the classical SQC topics, some design of experiments and some reliability, all in the spirit of the new quality emphasis.
- Western Electric (1958). *Statistical Quality Control Handbook*, 2nd ed. Western Electric, Indianapolis, IN. (Available through ASQC.)
- Has extensive discussions of Shewhart charts, process capability studies and several nice case studies.
- WETHERILL, G. B. (1977). *Sampling Inspection and Quality Control*, 2nd ed. Halsted Press, New York, NY.
- A clearly written overview of acceptance sampling, control charting and continuous inspection. The annual ASQC Publications Catalogue (available from ASQC, Federal Plaza, 310 West Wisconsin Avenue, Milwaukee, WI 53203) carries advertisements for many books relevant to the applications of statistics in quality and productivity. Books published by ASQC's Quality Press and other publishers are included.
- IV.B. Books with significant SQC content and/or treating the management of SQC activities.**
- BASU, A. P. (ed.) (1986). *Reliability and Quality Control*. Elsevier, North Holland.
- Proceedings of a 1984 conference on mathematical methods of reliability and SQC.
- CHO, CHIN-KUEI (1980). *Introduction to Software Quality Control*. John Wiley, New York, NY.
- Treats quality control for computer software and has material on SQC.
- DAVIES, O. L. and GOLDSMITH, P. L. (eds.) (1980). *Statistical Methods in Research and Production*. Longman, New York, NY.
- A beginning statistics text with a strong industrial flavor, treating SQC. Published for the Imperial Chemical Industries, Ltd.
- DEMING, W. E. (1982). *Quality, Productivity and Competitive Position*. MIT Center for Advanced Engineering Study, Cambridge, MA.
- A printed exposition of the management philosophy presented in Deming's seminars.
- FEIGENBAUM, A. V. (1983). *Total Quality Control*, 3rd ed. McGraw-Hill, New York, NY.
- Contains some quantitative and much qualitative, management-oriented quality control material.
- HAYES, G. E. and ROMIG, H. G. (1982). *Modern Quality Control*, revised ed. Glenco, Encino, CA.
- Begins with some basic statistical methods and covers both classical SQC and managerial material.
- JURAN, J. M. (ed.) (1974). *Quality Control Handbook*, 3rd ed. McGraw-Hill, New York, NY.
- A huge collection of quality related articles, some statistical.
- JURAN, J. M. and GRZYNA, F. M. (1980). *Quality Planning and Analysis*, 2nd ed. McGraw-Hill, New York, NY.
- Covers both statistical and managerial aspects of quality assurance.
- V.C. Selected industrial design of experiments books.**
- BOX, G. E. P. and DRAPER, N. R. (1969). *Evolutionary Operation*. John Wiley, New York, NY.
- BOX, G. E. P.; HUNTER, W. G.; and HUNTER, J. S. (1978). *Statistics for Experimenters*. John Wiley, New York, NY.
- CORNELL, J. A. (1981). *Experiments with Mixtures: Designs, Models, and the Analysis of Mixture Data*. John Wiley, New York, NY.
- DANIEL, C. (1976). *Applications of Statistics to Industrial Experimentation*. John Wiley, New York, NY.
- DAVIES, O. L. (ed.) (1971). *The Design and Analysis of Industrial Experiments*. Hafner (Macmillan), New York, NY.
- DIAMOND, W. J. (1981). *Practical Experimental Designs for Engineers and Scientists*. Lifetime Learning Publications, Belmont, CA.
- HICKS, C. R. (1982). *Fundamental Concepts in the Design of Experiments*, 3rd ed. Holt, Rinehart and Winston, New York, NY.
- MONTGOMERY, D. C. (1976). *Design and Analysis of Experiments*. John Wiley, New York, NY.

- MYERS, R. H. (1976). *Response Surface Methodology*. Available from Edwards Brothers, Ann Arbor, MI.
- NATRELLA, M. G. (1963). *Experimental Statistics*. National Bureau of Standards, Washington, DC. (NBS Handbook 91.)

VI. Selected SQC booklets, standards and printed training materials from American technical societies.

- American Society for Quality Control (1983). *Glossary and Tables for Statistical Quality Control*, 2nd ed. American Society for Quality Control, Milwaukee, WI.
- American Society for Testing and Materials (1976). *ASTM Manual on Presentation of Data and Control Chart Analysis*. American Society for Testing and Materials, Philadelphia, PA. (ASTM Special Publication 15D.)
- ANSI/ASQC Standards A1-1978, A2-1978, A3-1978, C1-1968, B1, B2, B3-1958, Z1.15-1979, Z1.4-1980, Z1.9-1980 and E2-1984 are joint publications of the American National Standards Institute and ASQC. They provide standard terminology and procedures for control charting and acceptance sampling. They are available from ASQC and are described in the "Bookmart" Section of *Quality Progress*.
- The ASQC Basic References in Quality Control: Statistical Techniques* "How to" series of booklets sponsored by the Statistics Division of ASQC. Its aim is to present the latest statistical techniques in a form which is easily followed by the quality control practitioner so that the procedures can be readily applied to solve industrial quality problems. Published by the ASQC.

VII. Selected audio-visual SQC materials.

- "Engineering Statistics," "Manufacturing Quality Control," "Statistics for Technicians," and "Statistics for Managers" available from Department Q, Engineering Renewal and Growth, Colorado State University, Engineering Research Center, Fort Collins, CO 80523.
- Four courses that are part of the large videotape offerings of CSU Engineering Extension.
- "If Japan Can, Why Can't We?" available from The American Statistical Association, Washington, DC.
- Videotape of a 90 minute NBC television documentary.
- "Juran on Quality Improvement," available from

Juran Institute, Inc., 88 Danbury Road, Wilton, CT 06897-9980.

Videotapes of the Juran seminars.

"Quality, Productivity and Competitive Position," available from MIT Video Courses, Massachusetts Institute of Technology, 81CB-24, 77 Massachusetts Avenue, Room 9-234, Cambridge, MA 02139.

Videotapes of the Deming seminars.

"Roadmap for Change" and "Management's Five Deadly Diseases," available from Encyclopedia Britannica Educational Corporation/ Business and Industry Division, 780 South Lapeer Road, Lake Orion, MI 48035.

Two films/video cassettes featuring W. E. Deming and his management philosophy. The first documents the applications of Deming's 14 points at the Pontiac Fiero plant.

"Statistics in Quality, Productivity and Problem Solving," available from MIT Video Courses, Massachusetts Institute of Technology, 81CB-24, 77 Massachusetts Avenue, Room 9-234, Cambridge, MA 02139.

A series of video tapes of lectures on basic SQC by Lloyd Nelson.

"The Transformation of American Industry Training System," available from The Transformation of American Industry, P.O. Box 633, Dayton, OH 45459.

12 video modules, instructor's guides and student's guides originally developed by a Community Colleges National Training Project.

Quality Progress carries an increasing number of advertisements for videotapes produced by quality control consultants, some of which have significant statistical content.

Acknowledgments

This bibliography was produced under the aegis of the American Statistical Association's Committee on Quality and Productivity and was reviewed by the committee. The authors gratefully acknowledge the specific suggestions and contributions of A. Basu, S. Bisgaard, T. Boardman, R. Bryce, J. Dalal, R. Dmytrow, R. Easterling, R. Freund, M. Gaudard, E. B. Godsey, G. Hahn, C. Hendrix, W. Hill, M. Hixson, B. Hoadley, R. Hogg, H. Iyer, W. Latzko, W. Lindsay, D. Montgomery, P. Nelson, R. Perry, T. Pittman, R. Platt, I. R. Savage, M. Snyder, J. Williams, and W. Woodall.