

intellectual stimulation and achievement more highly than other educated Americans, but ranked religious and self-restrictive values lower. Among scientists, biologists cared relatively more for *national security* and less for being *broad-minded*, physical scientists less for being *self-controlled*.

The many observed differences provide provocative cues for future theorizing. Rokeach offers plausible interpretations for some, and also suggests that value profiles indicate the quality of life a group enjoys—people concerned with self-actualizing as against adjustive values (for example, *a sense of accomplishment* versus *a comfortable life*) being better off. Although the functions and meanings of values are discussed, it is not completely clear what the ranking process means to the individual. I infer that high ranks reflect the current active strivings of a person after a value, while low ranks may reflect unimportance, undesirability, or something else.

Rokeach holds that both attitudes and behavior express subsets of values, though our understanding is still inadequate to specify in advance the values underlying most responses. He presents value profiles associated with racist and civil rights attitudes, protest behavior, political preferences and activism, hippie and homosexual lifestyles, religious involvement, and so on. Most thoroughly and convincingly developed is a model of the left-right continuum of political ideology as depending on the relative importance of two values, *equality* and *freedom*.

Persuasion research in social psychology has tended at best to achieve short-term changes in attitudes and in unimportant behaviors. Rokeach's experimental demonstration of long-term changes in significant cognitions and behaviors is therefore most unusual and striking. His key theoretical premise is that self-dissatisfaction is aroused when a person becomes aware of contradictions between his self-conceptions on the one hand and his values, attitudes, or behaviors on the other. This leads to change in the latter. In the basic experimental paradigm, a subject ranks his own values, receives information about and an interpretation of particular value rankings by a significant group of others, and compares his own rankings with theirs. Following the typical half-hour experiment there occurs, sequentially, a reorganiza-

tion of values toward consistency with preferred self-conceptions, a shift in related attitudes, and, last, a change in behavior. Modifications of attitudes or behavior that are not grounded in value reorganization are bound to erode.

In several studies university-student subjects ranked their own values. Experimental subjects, but not controls, were informed that students who tend to be against civil rights rank *freedom* far higher than *equality*, while those who favor civil rights rank both these values very high. (A better design would have exposed controls to irrelevant information about others' values.) Differences observed 3, 15, and even 21 months later suggest real changes, not mere responsiveness to experimenter demands. Compared to controls, experimental subjects increased their rankings of *freedom* and *equality* more, responded more favorably to NAACP solicitations, registered more in ethnic core courses, switched more from natural-science to social-science or education majors, and engaged in more direct eye-contact during interaction with blacks. Behavior has been modified by information about other values as well. Smoking was reduced by exposure to an interpretation of the information that smokers rank *broad-minded* substantially higher than *self-controlled* while nonsmokers reverse this order.

An effective method of behavior change with obvious application for educational, therapeutic, commercial, and political purposes can be dangerous. Rokeach himself has consulted ethics committees and has been guided by a commitment to using truthful feedback about values exclusively. On the basis of his theory, he speculates that change may occur only in directions that produce a more moral or competent self-conception. Dare we perform the experiments to test this speculation?

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Books Received

Accountability in Education. David E. Barbee and Aubrey J. Bouck. Petrocelli Books, New York, 1974. xviii, 142 pp., illus. \$9.95.

Accounting and Computer Systems. H. D. Clifton and T. Lucey. Petrocelli Books, New York, 1974. xii, 192 pp., illus. \$13.95.

Adapting Universities to a Technological Society. Eric Ashby. Jossey-Bass, San Francisco, 1974. xviii, 158 pp. \$8.75. Jossey-Bass Series in Higher Education.

Annual Review of Plant Physiology. Vol. 25. Winslow R. Briggs, Paul B. Green, and Russell L. Jones, Eds. Annual Reviews, Palo Alto, Calif., 1974. viii, 628 pp., illus. \$12.

Applied Optimal Estimation. Technical Staff, Analytic Sciences Corp. Arthur Gelb, Ed. MIT Press, Cambridge, Mass., 1974. x, 374 pp., illus. Paper, \$6.95.

The Archaeology of British Honduras. A Review and Synthesis. Don Stephen Rice. Museum of Anthropology, University of Northern Colorado, Greeley, 1974. xii, 159 pp., illus. Paper, \$3.25. Occasional Publications in Mesoamerican Anthropology, No. 6.

Arid Zone Irrigation. B. Yaron, E. Danfors, and Y. Vaadia, Eds. Springer-Verlag, New York, 1973. x, 434 pp., illus. \$36.20. Ecological Studies, vol. 5.

Bibliography of Publications Issued by UNESCO or Under Its Auspices. The First Twenty-Five Years: 1946–1971. United Nations Educational, Scientific and Cultural Organization, Paris, 1973 (U.S. distributor, Unipub, New York). xviii, 286 pp. \$9.90.

Clinical Immunobiology. Vol. 2. Fritz H. Bach and Robert A. Good, Eds. Academic Press, New York, 1974. xviii, 312 pp., illus. \$14.50.

Cold Spring Harbor Symposia on Quantitative Biology. Vol. 38, Chromosome Structure and Function. Papers from a symposium, Cold Spring Harbor, N.Y., May 1973. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1974. xxii, 1010 pp., illus. \$30.

The Community and the Police. Conflict or Cooperation. Joseph Fink and Lloyd G. Sealy. Wiley-Interscience, New York, 1974. xxiv, 216 pp. \$9.95.

Comparative Studies by Harold E. Driver and Essays in His Honor. Joseph G. Jorgensen, Ed. HRAF Press, New Haven, Conn., 1974. iv, 246 pp., illus. \$20.

Computer Technology in the Health Sciences. David B. Shires. Thomas, Springfield, Ill., 1974. xiv, 140 pp., illus. \$10.75.

Concepts in Bioenergetics. Leonardo Peusner. Prentice-Hall, Englewood Cliffs, N.J., 1974. xiv, 306 pp., illus. Cloth, \$12.50; paper, \$6.95. Concepts of Modern Biology Series.

Conservation and Restoration of Archive Materials. Yash Pal Kathpalia. United Nations Educational, Scientific and Cultural Organization, Paris, 1973 (U.S. distributor, Unipub, New York). 232 pp., illus. + plates. Paper, \$6.60.

Control of Proliferation in Animal Cells. Papers from a meeting, Cold Spring Harbor, N.Y. Bayard Clarkson and Renato Baserga, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1974. xiv, 1030 pp., illus. \$30. Cold Spring Harbor Conferences on Cell Proliferation, vol. 1.

The Courage to Fail. A Social View of Organ Transplants and Dialysis. Renee C. Fox and Judith P. Swazey. University of Chicago Press, Chicago, 1974. xviii, 396 pp. \$12.50.

Crime Investigation. Paul L. Kirk. John I. Thornton, Ed. Wiley, New York, ed. 2, 1974. xviii, 508 pp., illus. \$14.95.

Cyclic AMP, Cell Growth, and the Immune Response. Proceedings of a symposium, Marco Island, Fla., Jan. 1973. Werner Braun, Lawrence M. Lichtenstein, and Charles W. Parker, Eds. Springer-Verlag, New York, 1974. xviii, 416 pp., illus. \$23.80.

The Depressed Woman. A Study of Social Relationships. Myrna M. Weissman and Eugene S. Paykel. University of Chicago Press, Chicago, 1974. xx, 290 pp. \$10.

A Dictionary of Useful and Everyday Plants and Their Common Names. F. N. Howes. Cambridge University Press, New York, 1974. x, 290 pp. \$12.50.

Elementary Functional Analysis. Georgi E. Shilov. Translated from the Russian by Richard A. Silverman. MIT Press, Cambridge, Mass., 1974. viii, 334 pp., illus. \$18.95. Mathematical Analysis, vol. 2.

Energy. The New Era. S. David Freeman. Walker, New York, 1974. x, 386 pp. \$14.50.

Experimental General Chemistry. W. T. Lippincott, Devon W. Meek, and Frank H. Verhoek. Saunders, Philadelphia, ed. 2, 1974. xxiv, 502 pp., illus. Paper, \$6.95. Teacher's manual available.

Felder und Wellen in Gyrotropen Mikrowellenstrukturen. Ingo Wolff. Vieweg, Braunschweig, Germany, 1973. 378 pp., illus. DM 96. Sammlung Vieweg, Band 135.

Finite-Dimensional Linear Analysis. A Systematic Presentation in Problem Form. I. M. Glazman and Ju I. Ljubic. Translated from the Russian edition (1969) by G. P. Barker and G. Kuerti. MIT Press, Cambridge, Mass., 1974. xx, 520 pp. \$18.50.

Governing the University. Leon D. Epstein. Jossey-Bass, San Francisco, 1974. xvi, 254 pp. \$10.50. Jossey-Bass Series in Higher Education.

The Great Barrier Reef. Isobel Bennett. Photographs by the author. Scribner, New York, 1974. 184 pp., illus. \$17.50. Reprint of the 1971 edition.

Human Histology. A Textbook in Outline Form. Leslie Brainerd Arey. Saunders, Philadelphia, ed. 4, 1974. x, 338 pp., illus. \$11.

In the Human Interest. A Strategy to Stabilize World Population. Lester R. Brown. Norton, New York, 1974. 190 pp., illus. \$6.95.

Information Systems. A Management Science Approach. Hamed Kamal Eldin and F. Max Croft. Petrocelli Books, New York, 1974. xii, 268 pp., illus. \$10.95.

Instrumentation for Airbreathing Propulsion. Papers from a symposium, Monterey, Calif., Sept. 1972. Allen E. Fuhs and Marshall Kingery, Eds. MIT Press, Cambridge, Mass., 1974. xvi, 552 pp., illus. \$20. Progress in Astronautics and Aeronautics, vol. 34.

International Review of Cytology. Vol. 37. G. H. Bourne, J. F. Danielli, and K. W. Jeon, Eds. Academic Press, New York, 1974. x, 402 pp., illus. \$29.50.

Introduction to Artificial Intelligence. Philip C. Jackson, Jr. Petrocelli Books, New York, 1974. xviii, 454 pp., illus. \$17.50.

An Introduction to Biochemical Reaction Mechanisms. James N. Lowe and Lloyd L. Ingraham. Prentice-Hall, Englewood Cliffs, N.J., 1974. xiv, 146 pp., illus. \$9.95. Foundations of Modern Biochemistry Series.

An Introduction to Electrooptic Devices. Ivan P. Kaminow. Academic Press, New York, 1974. xiv, 410 pp., illus. \$17.50.

Introduction to Psychopathology. Shervert H. Frazier and Arthur C. Carr. Aronson, New York, 1974. xiv, 168 pp. \$10.

An Introduction to Solid State Physics and Its Applications. R. J. Elliott and A. F. Gibson. Barnes and Noble, New York, 1974. xxii, 490 pp., illus. \$17.95.

Introduction to Soviet Ethnography. Stephen P. Dunn and Ethel Dunn, Eds. Highgate Road Social Science Research Station, Berkeley, Calif., 1974. Two volumes, illus. Vol. 1, x + pp. 1-362. Vol. 2, vi + pp. 363-708. \$10.

Laser Micro-spectrochemical Analysis. H. Moenke and L. Moenke-Blankenburg. Translated from the German edition (Leipzig, 1968) by R. Auerbach. Crane, Russak, New York, 1974. viii, 254 pp., illus. \$19.75.

Leaf Prints of American Trees and Shrubs. (A Modern American Herbal.) David S. Marx and Chester B. Dugdale. Littlefield, Adams, Totowa, N.J., 1974. 290 pp., illus. Paper, \$4.95.

Living Clocks in the Animal World. Miriam F. Bennett. Thomas, Springfield, Ill., 1974. xiv, 222 pp., illus. \$11.75. American Lecture Series, No. 902.

Logic, Methodology and Philosophy of Science IV. Proceedings of a symposium, Bucharest, Rumania, Aug. 1971. Patrick Suppes, Leon Henkin, Athanase Joja, and Gr. C. Moisil, Eds. North-Holland, Amsterdam, and Elsevier, New York, 1974. x, 982 pp. \$56. Studies in Logic and the Foundations of Mathematics, vol. 74.

The Logic of Social Systems. Alfred Kuhn. Jossey-Bass, San Francisco, 1974. xxxii, 534 pp. \$15. Jossey-Bass Behavioral Science Series.

Low Temperature Laboratory Techniques. The Use of Liquid Helium in the Laboratory. A. C. Rose-Innes. English Universities Press, London, ed. 2, 1973 (U.S. distributor, Crane, Russak, New York). 256 pp., illus. \$12.75.

Management Problem-Solving with APL. A Guide to the Solution of Typical Accounting and Finance Problems through APL Time-Sharing. John W. Buckley, Mallur R. Nagaraj, Durwin L. Sharp, and James W. Schenck. Melville (Wiley), Los Angeles, Calif., 1974. Variously paged, illus. \$9.95.

Manpower Planning Models. Proceedings of a conference, Cambridge, England. D. J. Clough, C. G. Lewis, and A. L. Oliver, Eds. English Universities Press, London, and Crane, Russak, New York, 1974. xvi, 504 pp., illus. \$29.75.

Mathematics Education in China. Its Growth and Development. Frank Swetz. MIT Press, Cambridge, Mass., 1974. xviii, 364 pp. \$15.

Mécanismes du Vieillissement Moléculaire et Cellulaire. Papers from a meeting, Paris, Dec. 1973. Institut National de la Santé et de la Recherche Médicale, Paris, 1973. x, 260 pp., illus. Paper, 50 F. INSERM Colloques et Séminaires 1973, vol. 27.

Mediterranean Type Ecosystems. Origin and Structure. Francesco di Castri and Harold A. Mooney, Eds. Springer-Verlag, New York, 1974. xii, 406 pp., illus. \$30.10. Ecological Studies, vol. 7.

Memory and Nerve Cell Connections. Criticisms and Contributions from Developmental Neurophysiology. Richard Mark. Clarendon (Oxford University Press), New York, 1974. x, 156 pp., illus. \$10.95.

Methods and Applications of Linear Programming. Leon Cooper and David Steinberg. Saunders, Philadelphia, 1974. x, 434 pp., illus. \$14.75.

Modern and Ancient Geosynclinal Sedimentation. Proceedings of a symposium, Madison, Wis., Nov. 1972. R. H. Dott, Jr., and Robert H. Shaver, Eds. Society of Economic Paleontologists and Mineralogists, Tulsa, Okla., 1974. viii, 380 pp., illus. \$11.50; by subscription, \$9.50. SEPM Special Publication, No. 19.

Modules. A Primer of Structure Theorems. Tom Head. Brooks/Cole, Monterey, Calif., 1974. x, 150 pp., illus. \$10.95. Contemporary Undergraduate Mathematics Series.

Muscle Physiology. Francis D. Carlson and Douglas R. Wilkie. Prentice-Hall, Englewood Cliffs, N.J., 1974. vi, 170 pp., illus. \$8.95.

Obstetrics and Gynecology Annual. Vol. 3, 1974. Ralph M. Wynn, Ed. Appleton-Century-Crofts (Prentice-Hall), New York, 1974. xii, 564 pp., illus. \$16.

Optimization Methods for Resource Allocation. Proceedings of a NATO conference, Elsinore, Denmark. Richard Cottle and Jacob Krarup, Eds. English Universities Press, London, and Crane, Russak, New York, 1974. viii, 440 pp., illus. \$36.50.

Psychedelic Drugs. Psychological, Medical, and Social Issues. Brian Wells. Aronson, New York, 1974. 250 pp. \$10. Reprint of the 1973 edition.

Psychology and Social Behavior. John W. McDavid and Herbert Harari. Harper and Row, New York, 1974. xiv, 418 pp. \$10.95.

Rarefied Gas Dynamics. Proceedings of a symposium, Stanford, Calif., July 1972. K. Karamcheti, Ed. Academic Press, New York, 1974. xx, 542 pp., illus. \$22.50.

Reactivity, Mechanism and Structure in Polymer Chemistry. A. D. Jenkins and A. Ledwith, Eds. Wiley-Interscience, New York, 1974. xviii, 614 pp., illus. \$37.50.

Recent Advances in Polymer Blends, Grafts, and Blocks. Proceedings of a symposium, Chicago, Aug. 1973. L. H. Sperling, Ed. Plenum, New York, 1974. xii, 440 pp., illus. \$29.95. Polymer Science and Technology, vol. 4.

Special Topics in Carcinogenesis. Proceedings of a symposium, Düsseldorf, Germany, Mar. 1972. E. Grundmann, Ed. Springer-Verlag, New York, 1974. viii, 190 pp., illus. \$22.40. Recent Results in Cancer Research, vol. 44.

Treatise on Materials Science and Technology. Vol. 4. Herbert Herman, Ed. Academic Press, New York, 1974. xii, 324 pp., illus. \$29.50.

Violence and Aggression in the History of Ideas. Papers from a conference, Philadelphia, Pa., June 1972. Philip P. Wiener and John Fisher, Eds. Rutgers University Press, New Brunswick, N.J., 1974. xii, 274 pp. \$15.