types of students play the games in the gameroom. (45) The gameroom atmosphere is bad. It's just a room with machines. (46) The gameroom is convenient. (47) With the gameroom you don't have to fight with the townies like you do in the ones downtown. (48) The gameroom attendants are doing a good job.

NEWS, NOTES & COMMENT

Recent and Forthcoming Scholarship

William Stephenson, "Q-Methodology and English Literature," in Charles Cooper (Ed.), *Researching Response to Literature and the Teaching of Literature* (Norwood, NJ: Ablex Publishing Corp.). Publication of this 16-chapter volume is tentatively scheduled for June 1, 1983, as part of the Discourse Processes Series; tentative prices are $35 cloth, $17 paper. In his chapter, Stephenson begins with the assumption that "the primary step in understanding literature from the subjective standpoint is to study it as immediate experience," whereupon he introduces the reader to concourse theory, a theory of meaning, Q technique, and factor analysis, using for an illustration Keats' "Ode on a Grecian Urn." This paper is a replacement for Stephenson's earlier "Q-Methodology and the Subjectivity of Literature," which was delivered at the 1977 Buffalo Conference on Researching Response to Literature and the Teaching of Literature (see *Operant Subjectivity*, 1978, *1*, 85-86), and which was judged "too abstract" for literature students and researchers who might wish to employ Q in their own studies on literary effect. The original paper was published in *Operant Subjectivity*, 1980, *3*, 111-133. Further details can be obtained from the volume editor, Professor Charles Cooper, Department of Literature, C-005, University of California-San Diego, La Jolla, CA 92093.

William Stephenson, "Quantum Theory and Q-Methodology: Fictionalistic and Probabilistic Theories Conjoined," *Psychological Record*, forthcoming. *Abstract:* The close parallels between quantum and factor theor-

ies (Q) are outlined. Both theories are largely statistical. That self-reference was rejected in the Scientific Revolution is now being reconsidered, as in the Big Bang theory of the universe's origin. History suggests the same, that a full structure for science should include the simultaneous claims for certainty and for certitude--the age-long frameworks for which are the fictionalistic and probabilistic, respectively. The former (hypotheses-testing) led to expulsion of self-reference from Newtonian science; the latter (probabilistic belief) accepted nature and self as conjoined, as in the case for the Q-methodological approach to subjectivity, and as now appears to be the case for quantum theory and relativity. The main application to general psychology is considered in terms of Charles Spearman's attempt to provide it with laws and functions, clearly outmoded by the shift to quantum and relativity theories. What remains is interbehavioral psychology, the subjective approach to which is Q-methodology, quantumized by factor theory.

An anonymous reviewer for the above paper commented as follows: "This is an excellent paper--rich in historical perspective and closely related to important developments in theoretical physics. I found the paper even better after rereading it several times. Whether Q-methodology will prove as significant as Stephenson believes remains to be seen but as an exercise in clarifying some basic theoretical issues it is a fine job. As usual with Stephenson's papers I have the feeling that I am missing something important but this time that feeling is not so strong. I can see more clearly than before that Interbehavioral Psychology and Q-methodology are complementary--doing different, but compatible, things in different ways.... One might argue with Stephenson about some of his interpretations but this would be beside the point. He makes his points well and puts together a convincing story. I hope our readers have developed or can develop a taste for reading Stephenson. He is not easy to follow but will reward the patient reader."

Meanwhile, Stephenson's "Q-Methodology, Interbe-

havioral Psychology, and Quantum Theory" (*Psychological Record*, spring 1982) is apparently causing a stir in some quarters. Reprint requests are reported to have been received from countries all over the world, including (in addition to the U.S.) Argentina, Brazil, Canada, Czechoslovakia, Denmark, Finland, France, Holland, Hungary, India, Italy, New Zealand, Norway, Spain, Sweden, and Switzerland--but not the USSR or Britain! (The ghost of Sir Cyril, like the spirit of Christmas Past, still haunts the Thames!) A short summary on "Quantum Theory, Q Methodology, and Newton's Fifth Rule" is at the planning stage; a short volume on *Q Methodology and Quantum Theory* is being contemplated. Stay tuned.

In earlier issues (*OS*, January 1980, pp. 68-69, and April 1980, pp. 101-102), reference was made to the ideas of the psychoanalyst Melanie Klein and of William Stephenson's association with her, and a number of citations were given, including the first two of James Grotstein's series on "The Significance of Kleinian Contributions to Psychoanalysis." The final two papers in this series have now appeared: "III. The Kleinian Theory of Ego Psychology and Object Relations," *International Journal of Psychoanalytic Psychotherapy*, 1982, *9*, 487-510, and "IV. Critiques of Klein," *ibid.*, pp. 511-535. Also of interest is Grotstein's "Newer Perspectives in Object Relations Theory" (*Contemporary Psychoanalysis*, 1982, *18*, 43-91), which places the issues in historical and intellectual context. A bibliography of much of the pertinent literature plus a summary of contentious issues can be found in S.R. Brown, "Political Implications of Ego Psychological and Object Relational Personality Theories," *Political Psychology*, 1981-82, *3*(3/4), 196-210.

Kenneth R. Parker (Eastern Baptist Theological Seminary, Lancaster & City Avenues, Philadelphia PA 19151), "Preliminary Interpretation of Three Types of Biblical Storylistener Response to the Telling of Mark's 'Passion-Resurrection Narrative'," Fall Meeting of the Network of Biblical Storytellers, New York,

October 28, 1982. For further details concerning Professor Parker's project, including a copy of the Q sample, consult the October 1982 issue of this newsletter, pp. 31-34.

Michael Rohrbaugh (76 Clinton Street, Saratoga Springs NY 12866), "Q-Sort Comparisons of the Structural, Strategic and Systemic Family Therapies," American Psychological Association, Washington DC, August 1982.

Steven R. Brown (Political Science, Kent State U, Kent OH 44242), "Monitoring the Vicissitudes of Mood," Third International Symposium on Forecasting, Philadelphia, June 5-8, 1983. Q technique is employed to demonstrate the configurations of mood in a single case, and the way in which images and feelings ebb and flow with respect to objects in the secondary environment as a function, in part, of psychosocial conditions and concrete events in the life of the actor.

Deborah Kay Sell (Honors & Experimental College, Kent State U, Kent OH 44242) and Richard B. Craig, "Q Analysis of Attitude Change Resulting From a Cross-Cultural Experience: A Follow-up Investigation of the Participants in the 1979 Kent in Mexico Program," and Judith M. Fisher, Richard B. Craig, and Deborah Kay Sell, "A Q-Methodological Study of Attitudinal Changes in Vanderbilt Students Abroad," both presented at a meeting of the Midwestern Educational Research Association, Chicago, October 15, 1982. These two papers and others are summarized in Sell and Craig's "The Use of Q Methodology to Investigate Attitude Change in American Students Who Participate in Foreign Study Programs: A Review of the Literature," which was read at the annual meeting of the Council on International Educational Exchange, New York, November 4, 1982, and which will appear in a forthcoming issue of *OS*.

Individual Activities

Charles R. Mauldin (19319 Forest Fern Ct., Humble TX 77338) will be Gannett visiting professor at the

University of Florida during January, during which time he will, among other things, be speaking at a faculty/graduate student luncheon on Q studies (primarily in reference to uses in marketing and mass communication), and will focus at least one class presentation on attitude segmentation using Q technique. He will also be consulting on a Q-based study on microcomputers. Dr. Mauldin teaches in the Executive Development Program, Jones Graduate School of Administration, Rice University, and is a communication/marketing consultant in the Houston area.

Steven R. Brown (Political Science, Kent State U, Kent OH 44242) has received a 1983 summer grant from the Kent State University Research Council for a project on "History of Q Technique and Its Methodology," which is intended to eventuate in an historical overview of Q and the controversies which have surrounded it. This will be the first major historical examination since O.H. Mowrer's "'Q-technique'--Description, History, and Critique" (in Mowrer, ed., *Psychotherapy*, New York, Ronald Press, 1953), and will examine some of the older issues in light of more recent theoretical developments.

Q Sorts and Questionnaires

Two recent papers by Mildred C. Nitzberg provide a comparatively infrequent illustration of Q technique merged with questionnaire design: "Development of Modified Q-Sort Instrument to Measure Priorities Adolescent Places on Developmental Tasks," *Adolescence*, 1980, *15*, 501-508, and "Development of Likert Scale to Measure Salience of Need for Interpersonal Relationships With Parents and Friends," *ibid.*, 871-877. (Previous examples are noted in *OS*, 1981(July), *4*, 134-135.) Reprints can be obtained from Dr. Nitzberg, 4924 Polk Street, Hollywood FL 33021.

Q Tip!

The "handy-dandy Q researcher's paper perforator"! For those situations when a pre-cut, perforated sheet of Q items is needed, just sharpen the points of a tracing wheel (the tool used by pattern-sewers for tracing patterns on cloth), which can be bought in

the domestics section of most department stores. In combination with a straightedge, the sharpened tracing wheel makes neat cuts in paper so that Q sorters can separate the items easily for sorting. (Submitted by Jerry Washington, Operant Factors, Inc., 398 Barrywood Drive, Nashville TN 37211. The activities of Dr. Washington's marketing and consulting firm is described in the July 1980 issue of *OS*, pp. 139-140.)

Postponed

The special issue on "Sir Cyril Burt: The Essential Man," originally scheduled for the 1982 fall issue of the *AEP Journal* (Association of Educational Psychologists, England), has been postponed until spring 1983 to commemorate the *Journal*'s twentieth year. William Stephenson's contribution, "Cyril Burt and the Special Place Examination," was summarized in the July 1982 issue of *OS*, pp. 126, 147.

COMMENTS

Choosing a Personal Computer for Q-method Research

A few years from now, no doubt, practically all Q-sort data analysis will be done on personal computers. The reason is simple--economics. People simply cannot afford the time and inconvenience of using computer center facilities for a purpose that can be satisfied efficiently, easily, and indefinitely on a once-only investment of less than $250. A major obstacle confronting those not already using a personal computer is the apparent complexity of deciding which one to buy. In what follows, I will share with you my answer to this question.

To my knowledge, the Timex/Sinclair is the only computer for less than $250 that is comparable or superior in quality to the entire gamut of microcomputers ranging up to several thousand dollars. For this reason, it is the fastest selling personal computer on the market. (For further information, contact Sinclair Research Ltd., 2 Sinclair Plaza, Nashua NH 03061.) The basic computer costs $100.

For another $120, a 64K memory extension pack is available, yielding more memory than the considerably more expensive 48K Apple II. No special monitors or disk drives are necessary; the Timex/Sinclair plugs into any TV and cassette tape recorder. An inexpensive disk drive will soon be available; an inexpensive printer is already available, although unnecessary for most Q-analysis applications.

Qualitative considerations render an equally decisive verdict in favor of the Timex/Sinclair. Of the many virtues of its design, perhaps the most impressive is its single keystroke entry of BASIC commands. This feature is incredibly more convenient and time-efficient than the alternative of having to type in each command letter by letter. But even more impressively, it is an integral part of a user/machine interface designed to be maximally "user-friendly." For example, the design does not allow the entering of lines containing syntax errors. In other words, the machine is designed to enable a computer-naive person to learn programming quickly and with a minimum of frustration. (Even if a person is not interested in learning programming, in a few years there will probably be more pre-packaged software for the Timex/Sinclair than for any other microcomputer.)

Finally, the Timex/Sinclair is more than adequate for most Q-sort data analyses. It can perform numerical calculations on a 50×50 data matrix, for example, in less than one hour, and can handle matrices as large as 68×68.

I am now in the process of writing a software package that will take in raw data and output factor results and other statistics, and hope to have it available for a minimal cost within a few months. Meanwhile, a program that calculates correlation coefficients from raw data is already available through my consulting service. Inquiries should be addressed to Brian D'Agostino, 600 West 122nd Street, Rm. 212, New York NY 10027, phone 212/663-2751.

Brian D'Agostino, Columbia University

The Narrative Interview Technique

Two research projects at the Institute of Southeast Asian Studies (ISEAS) in Singapore are being launched using a dynamic research technique known as the narrative interview, the major intent of which is not far removed from that of Q methodology. These projects are: (1) "Religious Change and Modernization: The Case of Singapore," which examines religious change and the impact of modernization on the Indian and Eurasian communities in Singapore (Project Directors: Dr. Sharon Siddique, ISEAS; and Professor Joachim Matthes, Institut für Soziologie der Universität Erlangen-Nuernberg, West Germany); and (2) "Language and Language Policy: Everyday Life Meanings and Reality (Based on the Singapore Indian Community)," which examines the use of language by young people and their parents, particularly within the Tamil ethnic group, analyzed in the context of the environment and language policies of Singapore (Project Leader: Ms. Nirmala Srirekan Purushotam, doctoral candidate, National University of Singapore). The project leaders can be reached at ISEAS, Heng Mui Keng Terrace, Pasir Panjang, Singapore 0511.

Reflecting the backlash to conventional social science research, the narrative interview endeavors to derive theory from "the ground up" (much as in B.G. Glaser and A.L. Strauss' *The Discovery of Grounded Theory*, Chicago, Aldine, 1967) and to open the various possibilities of knowledge from the respondents themselves (much as in the case of Q methodology). Rather than relying on a prestructured questionnaire, the researcher begins with a single general and introductory question on the topic under consideration, and then follows up with clarification questions based on statements emanating from the respondents. Respondents are encouraged to expand on ideas; the interviewer simply repeats or rephrases statements, obtruding as little as possible into the situation (much as in the Rogerian client-centered mode). The narrative interview strategy is not limited by conventional sampling procedures, but is more in line with the principle of "theoretical sampling"

outlined by Glaser and Strauss.

For further details concerning the technique, consult Joachim Matthes, *Interactionism in Sociology: Theoretical Basis and Methodological Implications* (Research Notes and Discussions Paper No. 29), Institute of Southeast Asian Studies, Singapore, 1982, 35 pp.

Arturo Pacho, University of the Philippines

For the Record

As an intellectual innovation gathers adherents and moves in the direction of becoming a "normal science" (to use Kuhn's term), its practitioners become increasingly interested in understanding how they got where they are, and in specifying major landmarks along the way. In the case of Q methodology, for example, William Stephenson's 1935 letter to *Nature* is one such landmark, and his *The Study of Behavior* is another. A more thorough historian might also take note of less auspicious events, such as the 1971 panel of the American Educational Research Association ("The Use of Q-Methodology for Research in Educational Administration"), the first such to focus exclusively on Q.

The events which follow are less auspicious still and carry the status of methodological and technical artifacts, or museum pieces, which have been strewn along the way in the course of development. As such, they cannot claim to be the best examples--only the best so far as is known--and readers whose archeological digs have produced bigger (or smaller) artifacts are urged to correct the record.

Largest Q Sample (N = 1575). Constructed by Arnold H. Hilden from a larger set of words classified as at or below the sixth-grade level of difficulty and readily formulizable into statements of human behavior--as reported in Hilden, "Q-Sort Correlation: Stability and Random Choice of Statements," *Journal of Consulting Psychology*, 1958, *22*, 45-50. From this Universe of Personal Concepts (UPC), as Hilden call-

ed it, were sampled twenty 50-item Random Sets of Personal Concepts (RSPC). Four subjects described their selves and ideal selves using each of the 20 RSPCs and the UPC, which were then intercorrelated to provide the basis for sample-universe comparisons.

Smallest Q Sample (N = 14). Reported by Elizabeth S. Manera and Robert E. Wright, "Can You Identify Your Source of Stress?" *Clearing House*, 1981, *55*, 53-58, and focused on stress items common to public school teachers. Among the highest stressors summed across $n = 164$ professional educators from various parts of the country were time management, judging people, and individualized instruction; among the lowest stressors were accepting and using other people's expertise, building a professional reputation, and teacher apathy.

Other candidates for smallest Q sample include William Stephenson's $N = 20$ TRN Q sample (for television, radio, and newspaper news) reported in *The Play Theory of Mass Communication* (University of Chicago Press, 1967, pp. 15-16); Kenneth D. Peterson and Duba Yaakobi's Q sorts (PYQS) consisting of $N = 20$ behavior items for science students and $N = 24$ for teachers, as reported in Peterson and Yaakobi, "Self-Concept and Perceptions of Role Behavior of High School Science Students and Teachers: New Assessment Instruments," *Journal of Research in Science Teaching*, 1979, *16*, 433-438; and the $N = 25$ Laboratory Program Variables Inventory reported by Michael R. Abraham, "A Descriptive Instrument for Use in Investigating Science Laboratories," *Journal of Research in Science Teaching*, 1982, *19*, 155-165.[1]

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[1]Q-sample size runs the risk of being criticized when it approaches an unusually small N. The Peterson-Yaakobi study cited above, for example, is roundly criticized by Donald Humphreys, "Comment on 'Self-Concept and Perceptions of Role Behavior of High School Science Students and Teachers: New Assessment Instruments'," *Journal of Research in Science Teaching*, 1981, *18*, 475-476: "Although I agree with the author[s] that the test can be administered... with fewer than one hundred items, little justifica-

Largest P Set (n = 400). A 60-item Q sample was administered to a stratified random sample of 400 fire fighters in a study reported by Donald C. Shields and John F. Cragan, "A Communication Based Political Campaign: A Theoretical and Methodological Perspective," in Cragan and Shields (Eds.), *Applied Communication Research: A Dramatistic Approach* (Prospect Heights, IL: Waveland Press, 1981), chap. 11, pp. 177-197.

Smallest P Set (n = 1). A multiway tie among several case studies.

Largest Number of Q Sorts Administered to Same P Set. $\nu = 21$, in the same study by Hilden (*supra*). Hilden's Q samples were all drawn from the same population, but $\nu = 10$ Q sorts of undisclosed size and taken from separate concourses were administered to $n = 59$ subjects, as reported in Pamela Johnston Conover and Stanley Feldman, "Schema Theory and the Use of Q-Methodology in the Study of Mass Belief Systems," American Political Science Association, Denver, September 1982. Only six of the ten Q samples are reported: (1) Basic Human Philosophy, (2) Ideological Principles of Government, (3) Economic Beliefs, (4) Racial Beliefs, (5) Social Beliefs, and (6) Foreign

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tion can be made for using as few as 20 and 24 as they did. Since the human mind is capable of visualizing as many as 20 items, it appears that students and/or teachers taking the test could remember directly the previous ordering of the cards when repeated measures are used. The reduced number of cards causes the basic validity of the test to be questioned." There is, of course, the standard error formula $\sigma_r = (1 - r^2)/\sqrt{N}$, good for both correlations and factor loadings, which incorporates Q-sample size in all evaluations; t tests (and Spearman's r_s) are also available for more precise judgments when Ns are exceptionally low. Aside from technicalities, however, the investigator always has the option of an interview following each Q sorting in order to judge for himself the extent to which the subject is actually speaking his mind or simply straining to appear consistent with a previous performance.

Affairs Beliefs.

Largest Number of Q Sorts Administered to Same Person. $\nu = 140$ Q sorts administered to a single subject under seven hypnotic conditions (elation, anger-hostility, anxiety, depression, fatigue, thoughtfulness, and relaxation), as reported in Bruce F. McKeown, *Private Meanings of Public Objects: Hypnotically Induced Mood States and the Displacement Hypothesis* (Doctoral dissertation, Kent State University, 1977), *Dissertation Abstracts International*, 1978, *38*, 5686A (University Microfilms No. 7800351).[2] A mood adjective checklist Q sort (MACL) was first administered to determine the subject's operant mood ("How do you feel now?"), followed by an hypnotic induction (e.g., for elation); the MACL was then re-administered to determine the efficacy of the induction. The subject was then instructed to represent his image of each of four objects (Gandhi, the Democratic Party, Richard Nixon, Nazis) using an object-description Q sort, and then to record his feelings about each of these four objects again using the MACL (e.g., "How do you feel about Gandhi?"). The MACL was also employed at the post-sorting phase to determine if the induced mood was still operative, and again at the post-hypnotic phase to determine if the subject had returned to "normal." The study was then extended to two additional objects (Jimmy Carter and America). The intent was to determine if images change as a function of emotion (as induced hypnotically). The results are briefly summarized in McKeown, "Displacement Effects of Hypnotically-Induced Mood States Upon Perception of Public Symbols" (Midwest Political Sci-

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[2]The record becomes more impressive if we take into account that the same single case to which McKeown attended was also a subject in another separate but related two-phase study (which McKeown also supervised) during the course of which the subject contributed another 145 Q sortings, for a grand total of $\nu = 285$. A partial report of one segment of this latter study is reported in S.R. Brown, *Political Subjectivity* (Yale University Press, 1980), pp. 115-126. The subject has since fully recuperated.

ence Association, Chicago, 1978) and even more briefly in McKeown, "Q Methodology in Political Psychology: Theory and Technique in Psychoanalytic Applications" (American Political Science Association, Denver, 1982), pp. 25-26.

Q BIBLIOGRAPHIC UPDATE (CONTINUED)

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