the pictures. Therefore, the therapist's and significant other's Q sorts are based solely upon their experiences with the subject.

The Q sample consists of 100 statements which refer to 13 dimensions, among them interpersonal relatedness (e.g., "Liked and accepted by others"), emotional comfort ("Calm and relaxed"), behavioral orientation ("Productive, gets things done"), cognitive orientation ("Likes to be objective"), and others. Major comparisons are then made between the therapist's Q-sort description of the person and the descriptions provided by the two judges, although comparisons with the significant other's Q sort will also be made.

The purpose of the study is to demonstrate that a composition of personally meaningful products (the set of Mars trip photos) can be used to describe an individual's stable and transitory dimensions of existence. If successful, the study will broaden the range of clinical assessment tools available within the humanistic, existential-phenomenological school of clinical psychology.

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[Dissertation summaries to be continued]

NEWS, NOTES & COMMENT

More on the Koffka Connection

As noted in the July issue of *OS* (pp. 130-132), Molly Harrower's *Kurt Koffka* (University Presses of Florida, 1983) made several references to an Oxford psychologist named Stephenson, whom Koffka had met in 1939, but otherwise omitted details of Stephenson's identity. When recently provided with the missing information, Harrower (in a letter to the editor dated August 20, 1984) commented as follows:

The name of "Stephenson" constituted quite a

problem for me and for the copy editor in the Koffka book, for nowhere in the correspondence did Koffka mention Stephenson's first name. Therefore, we were at a loss as to how to trace him and say something more pertinent about him.

The Koffka material at the present time is in two forms, the original letters numbering some 6,000 pages on the one hand and a typed edition of 1800 pages with minor editorial omissions on the other. Neither of these enormous files is with me here, but when I get back to Gainesville I shall check on some of those letters, during the Oxford period, which were not included in *Kurt Koffka: An Unwitting Self Portrait.*

More on Klein and Play

Persons interested in the ideas of Melanie Klein, under whose direction William Stephenson analyzed a cretin boy, will wish to take note of Otto Weininger's new work, *The Clinical Psychology of Melanie Klein* (Springfield IL: Charles C Thomas, 1984, 132 pp., $22.75). Weininger, of the Department of Applied Psychology at the University of Toronto, devotes three chapters to Klein's conceptions of the paranoid-schizoid position, the depressive position, and the Oedipal phase, and concludes with a postscript on play therapy, one of Klein's major innovations but which apparently had no effect on Stephenson's development of his own play theory.

Although no American has yet given book-length treatment to Klein's ideas--all major contributions having come from England and Commonwealth countries--her growing influence is reflected, among other places, in John Frosch's *The Psychotic Process* (New York: International Universities Press, 1983) and in Jay R. Greenberg and Stephen A. Mitchell's well-received *Object Relations in Psychoanalytic Theory* (Cambridge MA: Harvard University Press, 1983). Many references to her work are also to be found in Ilham Dilman's *Freud and Human Nature* (Oxford: Basil Blackwell, 1983). Finally, Hugh G. Clegg's *The Reparative Motif in Child and Adult Therapy* (New York: Jason Aronson, 1984) draws on Klein's concept of reparation

in showing how the desire to restore damaged aspects of the self and other manifests itself in play and adult associations, and serves to maintain emotional equilibrium in childhood and adult life.

On play more generally, attention is drawn to James S. Hans' *The Play of the World* (Amherst: University of Massachusetts Press, 1981, 210 pp., $15), in which the author argues that desire and production are the two key elements of play. At the time of the writing, Hans was in the English Department at Kenyon College, and he devotes most of his attention to language, but subsequently explores aesthetics, ethics, and socio-economic matters. He criticizes Johan Huizinga's *Homo Ludens* (Beacon Press, 1950), perhaps unfairly, as being overly concerned with games and rituals, and holds that play structures, organizes, and gives meaning to all human activity.

Important in this same vein is the first Johan Huizinga Address to the Association for the Anthropological Study of Play (TAASP): Edward Norbeck, "The Study of Play--Johan Huizinga and Modern Anthropology," in D.F. Lancy and B.A. Tindall (Eds.), *The Anthropological Study of Play*, Proceedings of the First Annual Meeting of TAASP (Cornwall NY: Leisure Press, 1977), pp. 1-10. Norbeck remarks that the study of play must be taken more seriously, but what is lacking in both of the above works is a method to facilitate that inclination, and Stephenson's contributions are mentioned by neither author. Nor are they mentioned in Brian Sutton-Smith and Diana Kelly-Byrne's more recent paper, "The Phenomenon of Bipolarity in Play Theories," in T.D. Yawkey and A.D. Pellegrini (Eds.), *Child's Play: Developmental and Applied* (Hillsdale NJ: Lawrence Erlbaum, 1984, pp. 29-47), which is an otherwise useful summary of the bipolarity theme of equilibrating and disequilibrating aspects in the play theories of Huizinga, Freud, Piaget, Victor Turner, Gregory Bateson, Jacques Derrida, and others.

Persons interested in the systematic study of play can obtain past issues of the proceedings of the Association for the Anthropological Study of Play (at $14.95 per paperback volume) by contacting the Leisure

Press, P.O. Box 3, West Point NY 10996. Previous volumes, editors, and publication dates are as follows: (I) *The Anthropological Study of Play: Problems and Prospects*, D.F. Lancy & B.A. Tindall, 1977; (II) *Studies in the Anthropology of Play: Papers in Memory of B. Allen Tindall*, P. Stevens, Jr., 1978; (III) *Play: Anthropological Perspectives*, M.A. Salter, 1979; (IV) *Play and Culture*, H.B. Schwartzman, 1980; (V) *Play as Context*, A. Cheska, 1981; (VI) *The Paradoxes of Play*, J. Loy, 1982; (VII) *The World of Play*, F.E. Manning, 1983; and (VIII) *The Masks of Play*, B. Sutton-Smith & D. Kelly-Byrne, 1983.

More PC Programs

Brian D'Agostino is making available at $10 each two additional personal computer programs, the first of which (PLOT) graphically displays the locations of Q sorts in two-factor space as a prelude to judgmental rotation, and the second of which (ROTATION) calculates new loadings as a function of the degree of rotation. An accompanying program (P&RDATA), available at no additional charge, prepares the data file (the unrotated factor matrix) as input into PLOT.

Two programs previously written remain available at $20 and $10, respectively: The first converts raw data into correlation coefficients and factor loadings, and the second produces factor scores on the basis of the rotated factor matrix.

Details of these programs--which run on Timex/Sinclair, Osborne, Apple, and other micros which utilize Basic--can be obtained from D'Agostino c/o Alternative Opinion Research, 360 Riverside Drive, Apt. 4D, New York NY 10025 (phone 212/663-2751).

Misunderstandings, Misattributions, and Mis-Qs

In their *Organizations: A Quantum View* (Englewood Cliffs NJ: Prentice-Hall, 1984), Danny Miller and Peter H. Friesen of McGill University write as follows:

> Factor analysis is a statistical technique for reducing a large number of correlated variables to a small number of generally uncorrelated variables. Our focus will be on Q-analysis (Stephenson, 1936),

> in which organizations rather than variables are factored. *Recall that Q-technique is merely R-technique using a transposed raw-data matrix.* It treats similarities between companies, rather than between variables.... Discussion of Q-technique in particular can be found in Stephenson (1936, 1952, 1953).... (pp. 47-48, italics added)

The gratuitous citations are to William Stephenson's "The Inverted Factor Technique" (*British Journal of Psychology*, 1936), "Some Observations on Q Technique" (*Psychological Bulletin*, 1952), and *The Study of Behavior* (Chicago, 1953), and it is astonishing in this regard to see attributed to Stephenson a viewpoint which he has spent a half century opposing. In his above-cited 1952 paper, for example, Stephenson asserts a position the reverse of Miller and Friesen's, namely that "it is...a mistake to argue as though all that is involved is a single matrix of data which, when correlated down the rows is *R*, and along the columns is *Q*" (p. 484).

Miller and Friesen are, of course, not the only persons to have misunderstood Q technique and, ironically, to have invoked Stephenson's writings. John A. Sonquist and William C. Dunkelberg (in *Survey and Opinion Research*, Prentice-Hall, 1977) assume that only a single data matrix is at issue when they state (citing *The Study of Behavior* in their support) that "the analyst must first decide whether the correlations to be used are between variables (R-analysis) or between people (Q-analysis)" (p. 347); and Michael R. Anderberg (in *Cluster Analysis for Applications*, Academic Press, 1973), while citing Stephenson in his behalf, assumes that the data matrix to be factored (either by R- or Q-mode) consists of several individuals' score profiles across a variety of objective tests, each with its own metric, which gives rise to "the central problem...that a vector of scores for a data unit involves many different units of measurement so that the mean and variance of such scores are rather meaningless. Yet these two statistics along with the covariance are needed in the computation of the 'correlation' with another data unit" (p. 113).

The same mischievous assumptions have been made more recently by Roger K. Blashfield in his *The Classification of Psychopathology: Neo-Kraepelinian and Quantitative Approaches* (New York: Plenum Press, 1984), and Stephenson is again cited as if his approval could be vouchsafed:

> *Inverse factor analysis* uses exactly the same methods that are involved in standard exploratory factor analysis, except that the matrix being factored represents the similarity relationships among the *patients* instead of the relationships among the *variables* (Stephenson, 1953). In other words, for the MMPI example data set, inverse factor analysis would start by forming a 10 × 10 correlation matrix that would show the correlations between pairs of patient profiles. This approach would contrast with standard factor analysis, in which a 11 × 11 correlation matrix would be formed among the variables. (p. 226)

It is as if Stephenson had never emphatically stated that "Q is not a method of profile analysis" (*The Study of Behavior*, p. 101), or had never asserted that "There never was a single matrix of scores to which *both* R and Q apply" (p. 15).

Finally, in their chapter on "Methods of Rating Behavior," Robert Rosenthal and Ralph L. Rosnow (in *Essentials of Behavioral Research*, McGraw-Hill, 1984, pp. 147-148) refer to more recent of Stephenson's writings, but conclude nevertheless that the forced distribution of Q technique inflates the resulting correlations, a criticism advanced by D.M. Sundland (in "The Construction of Q Sorts: A Criticism," *Psychological Review*, 1962), to which the authors favorably refer. To their credit, Rosenthal and Rosnow cite Stephenson's "Independency and Operationism in Q-sorting" (*Psychological Record*, 1963), which addresses Sundland's criticism, but they do not elaborate the argument recorded there, thereby leaving the impression that the criticism is substantial and without effective counterargument.

Change of Publication Date

Charles Cooper's edited volume on *Researching Response to Literature and the Teaching of Literature* was originally scheduled to be published this past February, but the release date has since been moved forward to December. The volume is tentatively priced at $37.50 (cloth only) and contains William Stephenson's "Q-Methodology and English Literature." Library and personal orders can be placed with the Ablex Publishing Corporation, 355 Chestnut Street, Norwood NJ 07648.

Chemistry Discovers Factor Analysis

In their *Factor Analysis in Chemistry* (New York: Wiley, 1980), Edmund R. Malinowski and Darryl G. Howery note that "problems suited to factor analysis can be classified according to the types of designees represented by the row and column headings of the data matrix" (p. 120), with designees being of three types: *Entities* (e.g., subatomic particles, stellar gallaxies, persons, molecules), *properties* (physical ones such as boiling point, and structural ones such as carbon number), and *events* (the times at which measurements are made). In conventional fashion, they then go on to say:

> Based on the preceding classification of designees, we can form six types of data matrices: entity-entity, entity-property, entity-event, property-property, property-event, and event-event. For example, in an entity-property matrix, one set of designees is associated with a group of entities and the other set of designees is associated with a group of properties. In chemistry, entity-property, entity-entity, and possibly entity-event matrices are of particular importance. Entity-property matrices are by far the most studied type of matrix in the behavioral sciences. In the literature of abstract factor analysis, such matrices are called *R*-type matrices if the entities are the row designees and *Q*-type matrices if the properties are the row designees. (p. 121)

Other conventional perspectives are also evident--

e.g., "A large eigenvalue indicates a major factor, whereas a very small eigenvalue indicates an unimportant factor" (p. 12), a dubious proposition even in chemistry--but the authors do distance themselves from varimax and other traditional features of "abstract factor analysis" in favor of "target factor analysis," a least-squares transformation which seeks "chemically recognizable factors" (p. 47) rather than a purely mathematical solution.

William Stephenson's *The Study of Behavior* is included in the bibliography, but is never referred to in the text, yet his principle of simplest structure in rotation and the practice of constructing Q sorts to represent hypothetical positions has much in common with Malinowski and Howery's targeting. In A.I. Oparin's *The Origin of Life* (New York: Macmillan, 1938; Dover, 1953), to take a classic from the annals of chemistry, the author surveys the history of Western thought concerning biogenesis, i.e., the question of whether living matter can be spontaneously generated from nonliving matter. Viewpoints abound:

--The appearance of life is a creative act of God. (ancient religious teaching)
--Living things develop from the amorphous slim under the influence of heat. (Thales)
--Matter by itself is devoid of life but is vivified, purposefully molded, and organized by the aid of the energy of the soul. (Aristotle)
--The spontaneous generation of life occurs through the action of special forces liberated in decay. (Harvey)
--Every living thing must come from another living thing. (Pasteur)
--Life appears in the gradual evolution of primary organic substances. (Oparin)

All such subjective entities can be given structural properties (to use Malinowski and Hower's terminology) in the construction of Q sorts representing Aristotelian, Thomist, and Cartesian positions, as well as the more modern views of Pasteur and Oparin, in the same way that molecules are structured. Factor rota-

tion can then be directed theoretically toward those targets (e.g., Pasteur) which represent intellectual breaking points in thinking about "life's coming into being."

In sum, modern chemometricians have come to appreciate how factor analysis (R) can probe the structure of the external world, from molecule to gallaxy, but have not yet begun to consider how factor analysis (Q) can be used to probe their metaphysical understandings of that same world--nor are they apt to do so as long as they remain fixated on entity-property matrices and the like.

Half-Price Sale

The cloth edition of S.R. Brown's *Political Subjectivity* is currently being offered for $23.75 (down 50% from the usual price of $47.50) for U.S. and Canadian orders attached to the order form appearing in the fall brochure, "Political Science from Yale," available from Yale University Press, 92A Yale Station, New Haven CT 06520. The paperbound edition (usually $14.95) is also available at a 20% discount. A handling charge of $2 is added.

Beauty on the Average

A team of landscape architects from the New York State College of Environmental Science and Forestry at Syracuse has recently completed a study in which 52 students and 63 local residents were instructed to rate 20 photographs of St. Lawrence River scenes on a 10-point scale from most to least beautiful. As reported in *The New York Times* (August 14, 1984, p. 21), three of the researchers and two graduate students selected the 20 representative pictures from 125 taken along a 44-mile stretch of the St. Lawrence, and average ratings were calculated for each picture in both subgroups of respondents.

The project director, Richard C. Smardon, defended polling as a scientifically valid way to measure beauty, but "warned against using numerical ratings to compare different kinds of landscapes such as river and mountain views...." As he was quoted as saying, "You can't compare different areas on the same scale."

This contention is wholly arbitrary and without foundation, and equivalent to denying that a person could choose among eggs, cereal, and pancakes for breakfast since they are different foods. At the very least it is an assumption that can be subjected to empirical test. It goes without saying (almost) that the procedure of averaging responses on a logico-categorical basis is without merit when the retrieval of operant groups is entirely feasible.

A similar study, and one more congenial to operant possibilities, is provided by S.E. Gauger and J.B. Wyckoff, "Aesthetic Preference for Water Resource Projects: An Application of Q Methodology," *Water Resources Bulletin*, 1973, *9*, 522-528. Only water scenes were used in this study as well, but the decision in this case was defended on the basis of research interest rather than cosmic necessity.

MPSA Call for Papers

The Midwest Political Science Association chair for the section on Political Attitudes, Behavior, and Psychology has issued a call for papers and has expressed special receptivity for "panel and paper proposals concerning the following topics: (1) the linkage between attitudes and behavior; (2) the application of social psychological and sociological theories to the study of political attitudes and behavior; and (3) the use of non-survey methods (e.g. experimental, intensive interviewing, Q sorts) in the study of political thinking and behavior." The 1985 meeting of the Association is scheduled for April 18-20 at the Palmer House Hotel in Chicago. Interested persons should contact section chair Pamela Johnston Conover, Department of Political Science, University of North Carolina, Chapel Hill NC 27514.

For the Record

A study which appeared more than 35 years ago, and was recently brought to our attention by Celia Kitzinger (University of Reading, England), eclipses earlier records for the smallest Q sample, despite the fact that the author was apparently unaware of Q. In his article entitled "Is Religious Behavior Dependent

Upon Affect or Frustration?" (*Journal of Abnormal Psychology*, 1947, *42*, 310-319), A.T. Welford instructed subjects to rank $N = 6$ anecdotes according to three conditions of performance. The anecdotes were divided equally between pleasant and unpleasant situations, as in the following illustrations:

> It was one of those late spring days when the boisterous sky and fresh wind seem to brace even the most lethargic of us to go out into the country for a long walk. As he strode along, the carpet of moist grass under foot, the bright green of the hedges and trees and the smell of the damp soil around him, a sensation of renewed vigor came over him and he felt supremely happy.

> It was an anxious group that gathered round the bedside in that little room; the doctor shook his head gravely at their whispered questions and stood for a while in silence; then picking up his bag, he went quietly downstairs. As soon as he had gone, the father slipped away from the others into the parlor. The fire had burned low, and the one candle lit up the room but dimly....

Welford was interested in determining the relationships of religious behavior (praying) to affect and frustration, and so instructed his subjects, in effect, to Q sort the anecdotes according to the extent to which they (1) stirred emotions, (2) presented situations which were beyond the subject's capacity to deal with, and (3) would likely induce prayer. What amounted to Q correlations were calculated (using Kendall's τ) among the three rankings for each person, but instead of factoring the results Welford calculated mean τs--between prayer and affect, prayer and frustration, and affect and frustration--despite the fact that there was considerable variation in the results, and despite Welford's recognition that individuals were making use of religious concepts in different ways. He also reported comments which his subjects made during the testing:

--I would feel most like praying in the hour of death because I believe that only prayer can carry you through such a time.
--I pray when I feel thankful for benefits received.
--I do not think I would pray in a moment when extreme physical activity would be required.

These would nowadays be recognized as a concourse and the most direct expressions of the feelings which Welford wished to examine. It is to be recalled that William Stephenson's publishing was suspended from 1940 to 1949, due to his war involvement, which may help account for Welford's apparent lack of acquaintance with Q technique and its methodology.

Q at the Ambassadorial Level

Leonard Barchak (English, La Salle U), with the assistance and encouragement of Finland's ambassador to the U.S., is organizing a conference of neutral ambassadors, tentatively to be held next February or March at La Salle. The ambassadors from Austria, Finland, and Sweden have already agreed to participate, and Switzerland's participation is expected. It is planned for public officials and academics to give lectures and attend symposia around a central theme yet to be determined, and Barchak intends for a Q study of the proceedings to provide an integrative role. It is anticipated that selected contributions during the conference will appear in book form.

"Adso," William said, "solving a mystery is not the same as deducing from first principles. Nor does it amount simply to collecting a number of particular data from which to infer a general law. It means, rather, facing one or two or three particular data apparently with nothing in common, and trying to imagine whether they could represent so many instances of a general law you don't yet know, and which perhaps has never been pronounced...." (Umberto Eco)