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ABSTRACT

Confined to the interaction of complexity/simplicity of the stimulus play, this paper both focuses on the differing patterns of response between cognitively complex and cognitively simple persons to the characters in "The Homecoming" and "Private Lives" and attempts to determine the responses to specific characters or groups of characters. The subjects for the study were 60 female and 30 male undergraduates in six sections of speech and English classes at Bowling Green State University. The results of the study are presented in both graphic and narrative form, and a summary of the statistical operations is included. (RB)

COGNITIVE COMPLEXITY AND THEATRICAL INFORMATION PROCESSING: AUDIENCE RESPONSES TO THE HOMECOMING AND PRIVATE LIVES

by

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Introduction.

> Given objectively equivalent stimulus conditions, two persons may manifest markedly different degrees of response versatility. For one tourist, a castle perched upon a hill is just another ruin, while for another it is a particular type of architectural style, situated in a strategic setting, and embodying the social and political structure of a certain period of history. What could explain these differences in response? Why is it that one person can bring to bear upon a task or respond to a stimulus with a greater variety of alternative responses than can another person? (Bieri, in Fiske and Maddi, 1961, p. 355.)

Essentially that same question, raised by the psychologist James Bieri as prelude to his discussion of cognitive complexity in human creatures, is the focus of a study reported in this paper, with specific reference to variations in responses to dramatic characters by theatre audience members. Witnessing a dramatic performance, an audience member is presented with a variety of stimuli, responses to which may be mediated by psychological or personality variables affecting the spectator's ability to process information. An assumption undergirding this approach to an analysis of spectator response is that it is legitimate to think of a play as a transmitter of information which, in order ultimately to affect (move? stimulate? activate? delight? enlighten?) the spectator, must first be dealt with by the spectator's information-processing apparatus.

Specifically, this paper reports results from an experiment conducted to discover relationships between theatre audience members' information processing abilities and their responses to characters in complex and simple plays. The total study included four independent variables: cognitive complexity of subjects, sex of subjects, complexity/simplicity of the stimulus play, and the characters in the two stimulus plays. This report, however, deals only with the interaction of subject complexity and the ten characters in The Homecoming and Private Lives.

Ordinarily a major portion of the information transmitted by a play's performance is carried by the characters. A spectator has only a short time in which to become familiar with those characters, to make judgments about them and comparisons among them, and to attempt predictions about their behaviors--intentionally or unintentionally. If a spectator possesses but few constructs for arriving at conclusions about other persons, what are her responses likely to be vis-a-vis the characters in a play? Doubtless each of us has experienced the phenomenon of widely divergent reactions to a given dramatic production. Without, at the moment, undertaking to distinguish between "qualitative" and "quantitative" (if, indeed, the distinction can be made) features of "understanding," it is relatively easy to observe that different members of an audience appear to achieve different kinds of success in integrating their responses to specific plays or films--in "making sense out of" Othello, Hedda Gabler, Little Murders, Cries and Whispers, Boom Boom Room, etc. If we can assume that one function of theatrical art is somehow to increase a spectator's understanding of her experiential world, it seems legitimate also to investigate processes which seem to bear significantly upon the concept of "understanding," from the dual viewpoint of the information-processing capacity which a spectator brings to the theatre and of the nature of the theatrical information to which she is exposed. On the basis of studies in personality theory and in information processing theory, there is reason to believe that a concept such as "Cognitive Complexity-Simplicity" can aid us in explaining response differences in spectators.

In recent years a number of personality psychologists have fastened upon "information processing" as an admixture of theories which seems to facilitate explanation of a variety of phenomena in human development and behavior.

Information processing theory, defined most simply, analyzes "the characteristic ways in which an individual organizes, stores, and uses information in adapting to various aspects of his world . . . ." (Schroder and Suedfeld, 1971, p. iii.) Included under the rubric of information processing theory is the concept of cognitive complexity-simplicity, deriving principally from George Kelly's (1955) Personal Construct Theory of personality, and developed specifically by such researchers as Bieri (1955), Berkowitz (1957), Bieri and Blacker (1956), and Nidorf and Argabrite (1970). Cognitive complexity-simplicity postulates an intra-personal continuum of information-processing ability, at one end of which are persons who possess a multitude of constructs or categories to be used as criteria for making judgments about the external features of their perceptual worlds, and at the other end of which are persons who possess significantly fewer numbers of such categories or constructs, and whose abilities to make fine distinctions between and among perceptual phenomena are correspondingly limited.

Research question.

This paper focuses specifically on two questions: (1) Will differing patterns of response to the characters in plays emerge between cognitively complex and cognitively simple persons; (2) will such differences, if any, interact with responses to specific characters or groups of characters?

Independent variable I: Cognitive complexity-simplicity.

Scores on the complexity-simplicity continuum were obtained by using a version of the Role Concept Repertory Test devised by Bieri and others (Bieri, et. al., 1966, pp. 190-191), and consisted of a 10 x 10 matrix or grid, each column of which was labeled with the role title of a person considered to be a significant other in the subject's social environment. Adjacent to the grid

was a set of ten six-step Likert scales, each identified by a pair of bipolar adjectives (constructs). The subjects rated each of the persons listed across the top of the grid on each of the ten Likert scales, inserting a number from 1 to 6 in the grid block under the person's role title. The test form and its instructions are reproduced in the Appendix, Figures 4 and 5.

In scoring the test, each horizontal row is compared with each other horizontal row of ratings. A score of 1 is given for every exact agreement of ratings on any one person. There are 45 possible row comparisons in a 10 x 10 matrix; the highest possible score, therefore, is 450. That is, if a subject used the same number to rate each of the ten persons on each of the ten constructs, her total score would be 450. Such a subject would be considered relatively cognitively simple, because her ability to use different constructs or categories to rate the ten persons would be demonstrably limited. By the same token, a score of, say, 90, would suggest that the subject had used a variety of constructs or categories to rate the ten persons, and we would say that such a subject is relatively cognitively complex. There are no established upper or lower limits for scores indicative of absolute degrees of complexity and simplicity. Accordingly, final subject selection was based upon first and fourth quartile distributions. The 90 subjects used in the main study had C-C scores distributed as follows:

Female, high-complex (score range 86-129):	29 subjects
Female, low-complex (score range 174-263):	31 subjects
Male, high-complex (score range 95-119):	15 subjects
Male, low-complex (score range 164-263):	15 subjects

Independent variable II: Characters.

The ten principal charactors in The Homecoming and Private Lives were designated as a 10-level independent variable in the multivariate model.

Much of the research in cognitive complexity indicates that the concept is strongly related to people's perceptions of and discriminations among other persons. It was therefore hypothesized that significant relationships might exist between subject complexity-simplicity and subjects' perceptions of characters in the stimulus plays.

Design of the experiment.

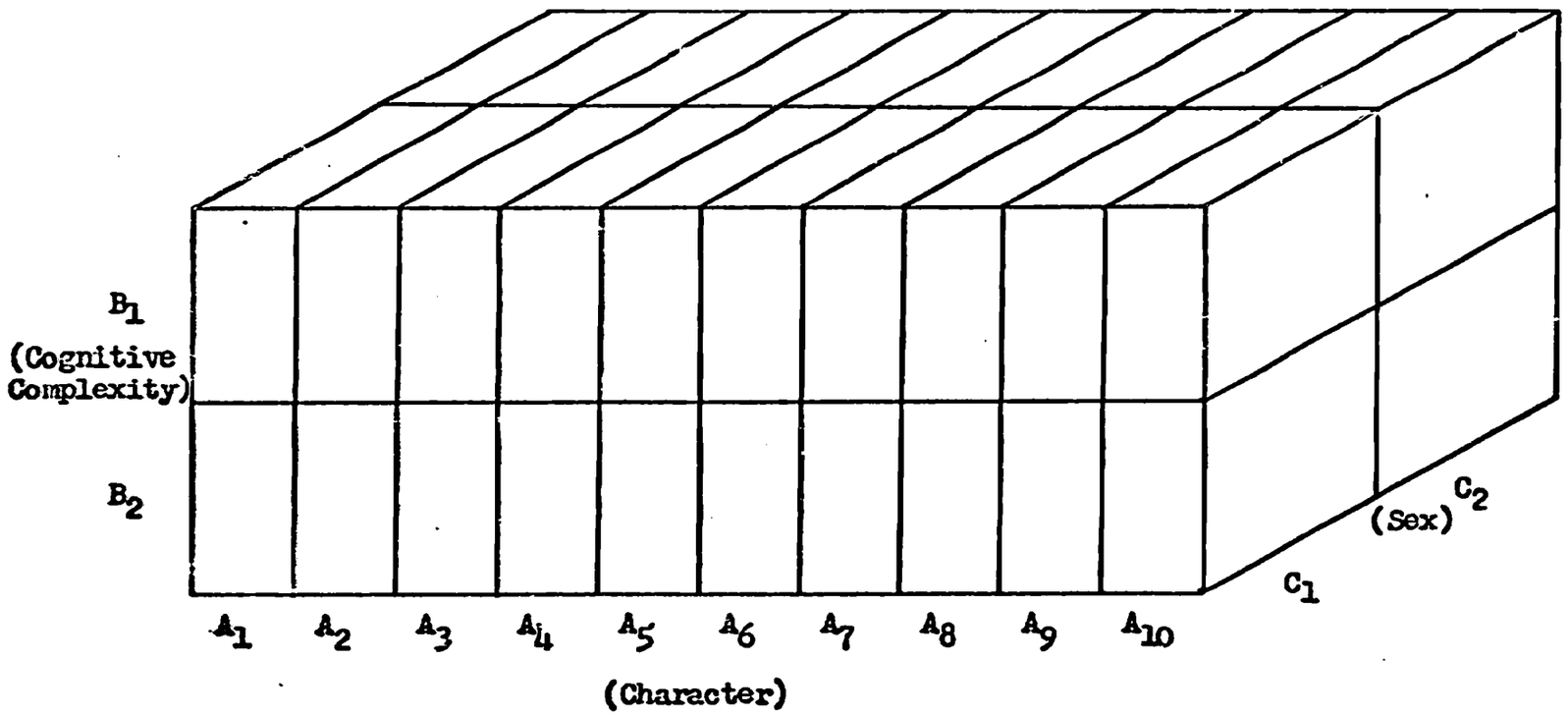
Because this paper reports results from a portion of a more comprehensive experiment, it seems useful to place these results specifically in the context of the entire study's design. The research began with these considerations in mind: Considering that there seem to exist in this culture people who can be seen as cognitively complex and people who can be seen as cognitively simple, it is possible that these two groups may respond differently to plays and to the characters in plays. Further--if it is possible to find plays that can be characterized as complex and simple, it may be that cognitively complex and cognitively simple people will respond differently to such plays. Finally--it may be also that a subject's sex will have some bearing on her or his response in any of the categories of complexity-simplicity already mentioned. A multivariate experiment was designed, then, in three modules. The first module is illustrated in Figure 1. It is a 10 x 2 x 2 factorial module incorporating ten levels of experimental treatment (the ten characters in the two plays), two levels of cognitive complexity (complex/simple), and two levels of sex differentiation (female/male). The purpose of this design was to test for all possible combinations of effects of these three main variables in the 40 cells of the module. The results discussed in the present paper apply only to this module.

The other two modules of the total design dealt with combinations of

FIGURE 1

Design: Module I

(Dependent variables: 8-item semantic differentials on characters)



The characters in the two plays are represented by the ten levels of Factor A:

The Homecoming		Private Lives	
1. Lenny	4. Joey	7. Sibyl	9. Victor
2. Ruth	5. Sam	8. Elyot	10. Amanda
3. Max	6. Teddy		

cognitive complexity, play complexity, and subject sex. For purposes of information only, at this point, it is indicated that The Homecoming and Private Lives were selected as respectively "complex" and "simple" on the basis of results obtained ($p < .01$) when a "Cloze" entropy test was applied to their playscripts.

Dependent measures.

To measure the effects of the system of independent variables, a seven-step semantic differential was used. The SD has been widely used in theatre research, especially since 1961, and the literature is replete with evaluations of its effectiveness (see, for example, Thayer, 1964; Frandsen, et. al., 1965; Clevenger, et. al., 1967; Hansen and Bormann, 1969; Tucker, 1971; Addington, et. al., 1971; etc.). The eight-scale differential used in this study was taken from Smith (1970), and the results of its use in this research were factor-analyzed previous to the application of multivariate analysis of variance. The instrument is reproduced in Figure 2. Each subject was asked to rate each of the ten characters on the same semantic differential.

Procedures.

Subjects were 60 female and 30 male undergraduates in six sections of Speech and English classes at Bowling Green State University. They were required, as a condition of their enrollments in the respective courses, to attend performances of both plays. The Homecoming was produced during the week of April 26, 1972; Private Lives in the week of May 10, 1972. Immediately following each performance, subjects in attendance reported to a previously-designated room in the theatre building, where they occupied themselves for approximately 40 minutes completing the dependent measurement instruments. After all data were collected, subjects were debriefed.

FIGURE 2: SEMANTIC DIFFERENTIAL ON CHARACTERS

LENNY

INTELLIGENT	:....:....:....:....:....:....:.....:	STUPID
FORWARD	:....:....:....:....:....:....:.....:	RESERVED
COOL	:....:....:....:....:....:....:.....:	WARM
KIND	:....:....:....:....:....:....:.....:	CRUEL
WITHDRAWING	:....:....:....:....:....:....:.....:	OUTGOING
SINCERE	:....:....:....:....:....:....:.....:	ARTIFICIAL
HOSTILE	:....:....:....:....:....:....:.....:	FRIENDLY
SOPHISTICATED	:....:....:....:....:....:....:.....:	NAIVE

(The remaining semantic differentials for the other nine characters were identical in form to this one, except that each page was headed with the name of a different character: RUTH, MAX, AMANDA, VICTOR, etc.)

Multivariate data analyses were executed throughout the study. Data from administration of the semantic differentials were first principal-factors analyzed. Minimum strength criterion for acceptance was a factor loading of 0.450; the purity criterion required that a scale's factor loading be at least twice the same scale's loading on any other factor. All eight SD scales emerged as salient, in two factors. The scale and factor array is displayed in the Appendix, Table 1.

The factor-analyzed scales were then subjected to multivariate analysis of variance, following which post-significance examinations were conducted by using discriminant analysis. These results are displayed in the Appendix, Tables 2 and 3. A more detailed explanation of statistical operations is also appended.

Results.

To deal first with results that emerged from analysis of the entire module, but which do not concern us in this report: The entire system of eight SD scales was first analyzed; then separate analyses were executed on each of the two factors composing the system. In all three analyses, significant A main effects were observed. Naturally. All this means is that there were wide differences in subjects' responses to each of the ten characters in the plays. That result was expected, and it is hardly startling. We dismiss it immediately, not only because it is of no interest, but because in two of the three analyses there appeared interaction effects (A x C) which rendered illegitimate any separate consideration of main effects. The sex variable had no effect in any analysis--sex of the subjects seemed not to have affected their responses. Dismiss that one. In no case was there a significant three-way (Character x Sex x Complexity) interaction effect. Dismiss that one. Now we're getting close to the soul of the research.

Analysis of the entire syster produced an interaction effect of Character x Complexity (A x C), significant at the .027 level. That begins to be intriguing. (In that system there was also a significant main effect of Complexity, but its impact was invalidated by the interaction effect.) Keep that interaction effect in mind. In the analysis of the four scales composing Factor I, there was a significant main effect of Complexity, which is interesting, but not of great import. It doesn't tell us very much beyond suggesting that on those four scales, complex subjects reacted differently than did simple subjects with respect to the whole cluster of ten characters. We're looking for a bit more. Moving down to the analysis of the four scales composing Factor II, we find something that may be more fascinating--an interaction effect of Character x Complexity, significant at the .007 level. Recall that in the analysis of all eight scales, the Character x Complexity interaction effect was significant at the .027 level. This Factor II interaction effect, significant at the .007 level, suggests that the four scales composing Factor II were very likely producing that "entire system" A x C interaction effect, and that when Factor II is isolated from the entire system, it is a more powerful indicator of response differences among subjects.

Henceforth, attention will be directed only to the analysis of the scales composing Factor II. Of the eight scales in the entire system, scales 1, 2, 5, and 8 constitute Factor II, as follows:

P_1: + Intelligent-Stupid -
P_2: + Forward-Reserved -
P_5: + Outgoing-Withdrawing -
P_8: + Sophisticated-Naive -

Discriminant analysis of the factor revealed relatively high absolute values for the discriminant function coefficients corresponding to scales P_5 and P_8,

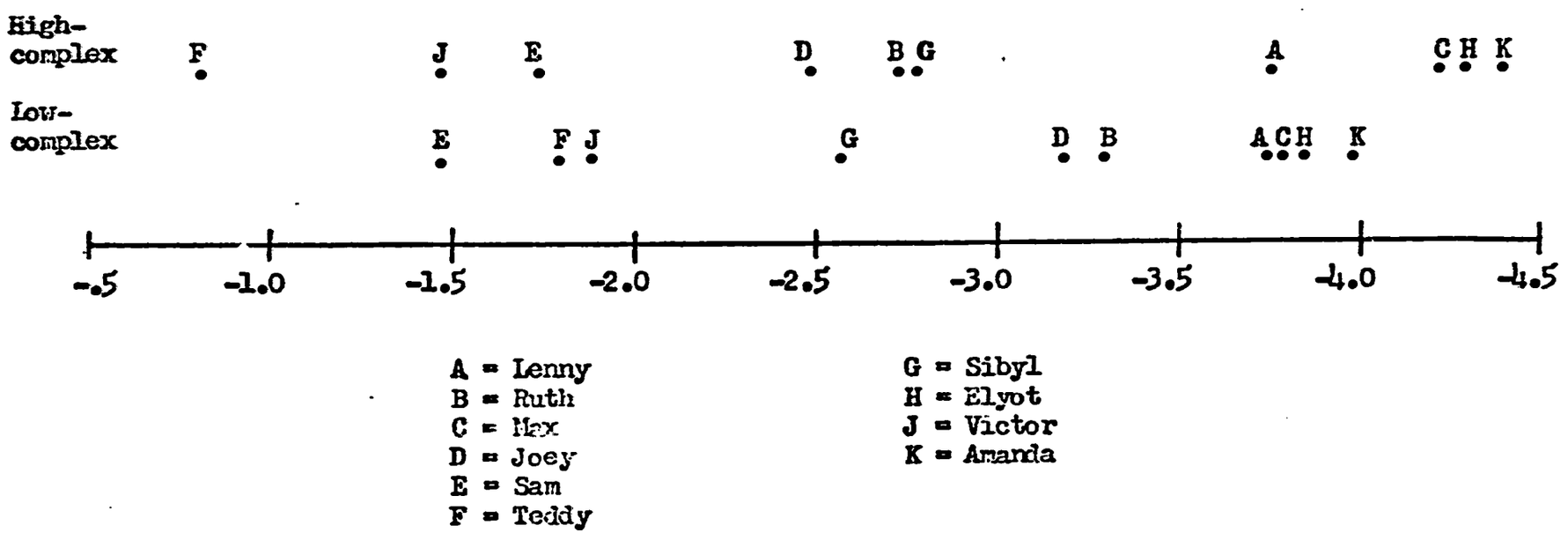
with the dimension being dominated by P_5. (Refer to Appendix, Table 3.) With a negative sign preceding the coefficient for P_5 and a positive sign preceding the coefficient for P_8, it is possible to suggest that the four discriminant function coefficients derived from analysis of the four SD scales in Factor II indicate that with respect to these four scales, the subjects were responding to the ten characters along a dimension of perception characterized by the constructs "Withdrawing" and "Sophisticated," with the construct "Withdrawing" exhibiting the most strength. It seems fair, then, to label this a "dimension of aloofness," insofar as it is reasonable to construe "aloofness" as encompassing both "withdrawing" and "sophisticated."

Cell centroids correspond in this analysis to the cells delineated by the interactions of each of the ten dramatic characters with each of the two levels of subject complexity, and are displayed in graphic form in Figure 3. The scale of from -.5 to -4.5 represents only those values encompassed by the spectrum of centroid values, and was derived through the mathematics of discriminant analysis from the original 7-point semantic differential scales. Points have been plotted along that scale indicative of the perceptions of the subjects in each cell of the ten dramatic characters. The -4.5 end of the scale represents the greatest "degree of perception" or "intensity of belief" of subjects along the "dimension of aloofness."

In Figure 3 visual separation of high-complexes from low-complexes was done only for ease of interpretation--the "dimension of aloofness" is not construed to be operating independently for subjects included by each of the two levels of complexity.

FIGURE 3

Graphic Display of Cell Centroids: Significant Character x Complexity (A x C interaction) Effect, Factor II, "Character" Semantic Differentials. (Refer to Table 3)



A = Lenny
B = Ruth
C = Max
D = Joey
E = Sam
F = Teddy
G = Sibyl
H = Elyot
J = Victor
K = Amanda

(In Module I of the design (Figure 1) levels 1-10 of Factor A correspond to the dramatic characters designated here by letters A-K. High-complex and low-complex subjects are represented in Module I by levels 1 and 2, respectively, of Factor C.)

Discussion.

Because much of the literature in cognitive complexity pertains to people's perceptions of other people and to the degree to which judges differentiate among the people whom they are judging, an effort was made in this study to assess ways in which cognitively complex and cognitively simple subjects might respond to (process information about) other people insofar as the others are characters in plays rather than "real" people within the "real" social environments of the subjects. Results suggest that the two groups do indeed respond differently (and differentially) to such characters. This bears importantly, it seems to me, upon our view of drama as something appreciably more than simply "show biz" or "entertainment" in its relatively mindless sense. If it is fair to assume that worthwhile drama (however "worthwhile" is finally construed) deals in various authentic ways with situations and problems that confront human creatures, it seems fair also to suggest some parallels between the ways in which people respond to "dramatic" characters and the ways in which they respond to "real" characters in non-theatre circumstances (assuming further that there are any "non-theatre" circumstances).

Of particular interest is the Character x Complexity interaction effect derived from Factor II of the semantic differential. Visual examination of the twenty cell centroids arrayed along the "dimension of aloofness" presumed to be differentiating the groups indicates support for one of the principal assumptions underlying the concept of cognitive complexity, which is that complex persons make finer distinctions between and among people in their social environments than do cognitively simple people. In the theatre, such a notion carries provocative implications for audience members who may view

a play as a greater or lesser "problem to be solved" as a function of their information-processing capabilities; for directors whose job it is to interpret a play "successfully" (is a really competent director also a cognitively complex person?); for actors who must "make believable for audiences" the characters whom they portray; for teachers who must grapple with classrooms of students whose information-processing abilities may cover a wide range of competences; for critics whose function ought to be to help others gain insight into performed drama; etc.

The range of responses along this discriminant dimension for high-complex cells is from .8051 to 4.3741, or a range of about 3.6 "points." The corresponding range for the low-complex cells extends from 1.4523 to 3.9722, or a range of about 2.5 "points." The range for the high-complex subjects is nearly one-third greater than the range for the low-complexes, indicating that the former groups made considerably wider distinctions among the dramatic characters that they judged. This observation is supported additionally by the phenomenon of "grouping" of responses to specific characters by the high-complexes and by the low-complexes: it seems reasonable to conclude that high-complexes' judgments of characters resulted in seven groups or clusters of characters:

Teddy Victor Sam Joey Ruth/Sibyl Lenny Max/Elyot/Amanda

while the low-complexes' judgments resulted in only five such "clusters":

Sam Teddy/Victor Sibyl Joey/Ruth Lenny/Max/Elyot/Amanda

Another observation on this same theme is that the greatest distances--therefore, presumably, the greater degrees of differentiation--between clusters of characters occurred in the judgments of high-complex subjects. Specifically, the distances between their ratings of Teddy and Victor, between their ratings

of Sam and Joey, and between their ratings of Sibyl and Lenny surpass in magnitude any of the distances between low-complex subjects' ratings of characters.

Some tentative observations can be made about differences between high-complex and low-complex subjects' perceptions of individual characters. Cell centroids differed in greatest magnitude on the characters Teddy (.8051 and 1.7820, respectively, for high-complexes and low-complexes), Joey (2.4899 vs. 3.1643), and Ruth (2.7286 vs. 3.2757). All three of these characters are from The Homecoming, which was found to be the more entropic (complex) of the two stimulus plays. In each case, the low-complex subjects judged the character to be farther along the "dimension of aloofness" than did the high-complex subjects. These results suggest the possibility that the interaction here between subject complexity and character may also be an interaction between subject complexity and stimulus complexity, and that the high-complex subjects did not feel as distant or as alienated from these (high-complex?) characters as did the low-complex subjects. The apparent results are reminiscent of earlier investigations by Barron in which complex people preferred complex works of art, and the assumption is strengthened by observation of the differences in the two groups' judgments of characters from Private Lives--the more redundant (simpler) of the two plays. Of that play's four characters, three manifest differences in precisely the opposite direction: Sibyl, Elyot, and Amanda were all perceived by the low-complexes as being less far along the "dimension of aloofness" when their responses were compared to those of the high-complexes. This could suggest that the low-complexes felt closer to--or empathized more with--these (low-complex?) characters than did the high-complexes.

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I indicated earlier that the discriminant function dimension was labeled a "dimension of aloofness" as a result of the heavily weighted coefficients associated with the semantic differential constructs "Sophisticated" and "Withdrawing"--the heaviest weight falling on "Withdrawing." A colleague, Allen Kepke, has suggested a somewhat different way of looking at that dimension. In attempts to measure responses by people to dramatic phenomena, we often face the problem of trying to characterize what may finally be a non-verbal or subverbal response in verbal terms or of failing to use precisely the right words to describe the response. If the subjects in an experiment, for example, are responding to a "felt phenomenon," we may encounter some difficulty in reducing that "felt phenomenon" to a set of bipolar adjectives. The constructs "Sophisticated" and "Withdrawing," then, while they seem to have elicited the most significant set of responses from the subjects, may not finally be precisely descriptive, in terms of what we think those specific words "mean," of the "felt phenomenon" of subject's response to characters. It may also be "off the mark" somewhat to label the final discriminant function dimension as a "dimension of aloofness"--that may be close, but not exactly descriptive.

Looking again at the graphic representation of complex and simple subjects' responses to the ten characters (Figure 3), we see that at the right-hand end of the scale are clustered the characters Lenny, Max, Elyot, and Amanda. These characters can be seen, in each of the two plays, as characters who are most engaged in "pushing the action" of the play--"moving the play to its conclusion." By contrast, at the left-hand end of the scale are clustered the characters Teddy, Sam, and Victor--these characters can be seen as those who are "moved along by the play," or perhaps "acted upon" by the other

characters. Within this alignment there are still the differential responses by the two subject groups. At present, this is speculative, but it suggests a mode of interpretation that might be helpful for directors.

At this point in the development of this kind of dimensionalizing technique, however, I am not as much interested in constructing specific rationales for labeling semantic dimensions and trying precisely to interpret those dimensions as I am in looking at the suggestive features of the technique and trying to discover ways to make it more comprehensive. When I see, for example, that the high-complexes placed Teddy at one extreme end of this continuum, reasonably distant both from high-complexes' perceptions of other characters and from low-complexes' perceptions of Teddy, while both subject groups placed Lenny at almost the same point on the continuum, I have to ask such a question as, "Did these two groups of subjects see two substantially different plays while they watched The Homecoming?" The statistics have indicated significant differences in the two groups' responses to the characters; we have to keep asking questions that will enable us to discover with greater precision what those differences really are and what they mean for people who consider themselves directors, actors, pedagogues, and critics. The multivariate statistical operations employed here seem to have provided opportunity to view the information processing mechanisms of theatre audiences as multi-dimensioned phenomena. This paper has dealt with only one "dimension of response"; it is probably possible to envision the isolation of entire sets of such "dimensions of response" susceptible of simultaneous viewing as they operate in a perceptual or information-processing system vis-a-vis a particular group of audience members. Construing the artistic experience in such terms enables us to work toward greater precision than has heretofore been available to us

in describing some of what occurs in the interaction of performance with playgoer, and it enables us to eschew the vagueness and generality of analytic approaches which rely for their descriptions upon unqualified references to "individual differences between people," "dramatic insight," "artistic sophistication," "talent," etc. Once we are able to talk about "aesthetics" and "artistic experiences" in a more precise vocabulary, using a lexicon that incorporates the relative exactitude of scientific method, the way is then open for us to examine what we imagine to be a variety of components of "artistic experience" in increasingly microscopic detail, as well as--we hope--to discover components of that experience which had previously been hidden to our view, thereby increasing the range and capability of our scientific lexicon of theatre phenomena, and so it goes.

REFERENCES

Addington, David W., Allen N. Kepke, Clarence W. Bahs, and R. Wayne Smith. "The Relationship of Semantic Compatibility to Performance Ratings in the Theatre: Five Productions of The Night Thoreau Spent in Jail." Paper presented in the Speech Communication Association convention, San Francisco, December, 1971.

Berkowitz, Leonard. "Leveling Tendencies and the Complexity-Simplicity Dimension," Journal of Personality, Vol. 25 (1957), pp. 743-751.

Bieri, James. "Cognitive Complexity-Simplicity and Predictive Behavior," Journal of Abnormal and Social Psychology, Vol. 51 (1955), pp. 263-268.

Bieri, James, and Edward Blacker. "The Generality of Cognitive Complexity in the Perception of People and Inkblots," Journal of Abnormal and Social Psychology, Vol. 53 (1956), pp. 112-117.

Bieri, James, et. al. Clinical and Social Judgment: The Discrimination of Behavioral Information. New York: John Wiley and Sons, Inc., 1966.

Clevenger, Theodore, Jr., Margaret Leitner Clark, and Gilbert N. Lazier. "Stability of Factor Structure in Smith's Semantic Differential for Theatre Concepts," Quarterly Journal of Speech, Vol. LII, No. 3 (October, 1967), pp. 241-247.

Coward, Noel. Private Lives. In Three Plays by Noel Coward (Introduction by Edward Albee). New York: Dell Publishing Co., Inc. (Delta Books), 1965. (Private Lives, copyright 1930.)

Fiske, Donald W., and Salvatore R. Maddi. Functions of Varied Experience. Homewood, Illinois: The Dorsey Press, Inc., 1961.

Frandsen, Kenneth D., James R. Rockey, and Marion Kleinau. "Changes in the Factorial Composition of a Semantic Differential as a Function of Differences in Readers Theatre Productions," Speech Monographs, Vol. XXXII, No. 2 (June, 1965), pp. 112-118.

Hansen, Brian K., and Ernest G. Bormann. "A New Look at a Semantic Differential for the Theatre," Speech Monographs, Vol. XXXVI, No. 2 (June, 1969), pp. 163-170.

Kelly, George A. A Theory of Personality: The Psychology of Personal Constructs. New York: W. W. Norton and Co., Inc., 1955.

Nidorf, Louis J., and Allan H. Argabrite. "Cognitive Complexity and the Tendency to Make Extreme Judgments," Perceptual and Motor Skills, Vol. 31 (1970), p. 478.

Pinter, Harold. The Homecoming. New York: Grove Press, Inc., 1966.

Schroder, Harold M., and Peter Suedfeld. (eds.) Personality Theory and Information Processing. New York: The Ronald Press Co., 1971.

Smith, R. Wayne. "A Study of the Actor-Character Relationships in Theatre Production." Unpublished Ph.D. dissertation, Bowling Green State University, 1970.

Tatsuoka, Maurice M. Discriminant Analysis: The Study of Group Differences. Number 6 in the series, "Selected Topics in Advanced Statistics--An Elementary Approach." Champaign, Illinois: The Institute for Personality and Ability Testing, 1970.

Thayer, David. "Use of Smith's Semantic Differential for Theatrical Performance Concepts," Speech Monographs, Vol. XXXI, No. 2 (June, 1964), pp. 180-183.

Tucker, Raymond K. "Reliability of Semantic Differential Scales: The Role of Factor Analysis," Western Speech, Vol. XXXV, No. 3 (Summer, 1971), pp. 185-190.

APPENDIX

SUMMARY OF STATISTICAL OPERATIONS

1. Factor Analysis was done to eliminate dependent variables which did not seem to be effective in measuring subjects' responses to the rated concepts, and to achieve groupings of dependent variables--factors--indicative of dimensions of subject response. (Example: Raymond Smith's 4 factors:

"Manner"	(calm-excitable; cold-hot)
"Seriousness"	(light-heavy; humorous-serious; relaxed-tense)
"Ethical Value"	(honest-dishonest; valuable-worthless; true-false)
"Esthetic Value"	(ugly-beautiful; displeasing-pleasing; painful-pleasurable))

2. Multivariate Analysis of Variance was done to ascertain whether statistically significant differences appeared, at the .05 probability level, between and/or among the responses of the subject groups (on each cluster, or factor, of dependent measures). A significant multivariate "F" indicated ONLY that one or more significantly differing responses occurred--it did not reveal where the differences were. In the case of a 2 x 2 design, with 4 cells, the significant "F" indicated only that at least one of those cells was significantly different from the others. Further testing was required, however, to pinpoint the differences.

3. Discriminant Analysis is an additional statistical procedure which, by weighting subjects' raw scores with a mathematical constant, achieves a linear combination of those raw scores such that maximum differentiation among groups is demonstrated. Each such linear combination is called a discriminant function. Factor analysis achieves grouping of variables; discriminant analysis achieves separation of variable scores. Discriminant analysis provides, for each cluster of dependent variables that was variance-analyzed, a set of coefficients equal in number to the number of variables in the cluster--discriminant function coefficients. Just as, in the factor analyses, the factors themselves represented dimensions of subject response, each discriminant function now represents what can be called a dimension of perception, because the values of the individual discriminant function coefficients provide information about the relative strength of subject response to each dependent variable in the cluster.

4. The final step in this sequence is to use the discriminant function coefficients to pinpoint specific differences between and/or among the several cells in the design. To do this, each subject's raw score on each dependent variable in the cluster is multiplied by the corresponding discriminant function coefficient. These products are then summed, resulting in a discriminant function score, for each subject, on the entire cluster of dependent variables. Then, within each cell of the design (4 cells in a 2 x 2; 20 cells in a 20 x 2, etc.), the mean of that cell's subjects' discriminant function scores represents the group's (cell's) discriminant function score, and is called a cell centroid. It is the multivariate analogue to a univariate group mean.

With the cell centroids--one composite score for each cell--we can then observe specific differences between and among the groups of subjects.

FIGURE 4: REP TEST INSTRUCTIONS

YOUR NAME _____ SEX ____ SECTION NO. _____ INSTRUCTOR _____

INSTRUCTIONS

On the attached questionnaire you are asked to rate yourself and nine other persons against a set of scales.

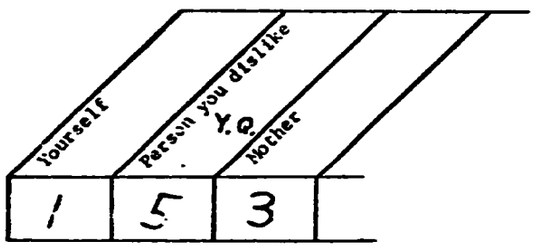
If you will turn the page for a moment, you will see that across the top of the grid, ten persons (including yourself) are identified by their relationships to you. Please write in the name or initisls of a person who fits each category--this is simply for your convenience in remembering who you are rating.

(If, for example, you have a "Friend of same sex" whose name is Gloria Knudsen, write "Gloria" or "GK" in that space; follow the same procedure for the other spaces.)

AS YOU PROCEED, PLEASE THINK OF TEN DIFFERENT PERSONS; EACH COLUMN SHOULD REPRESENT A DIFFERENT PERSON.

To the right of the grid are the ten scales that you will use to rate each person. Each scale is numbered from 1 to 6. Depending upon which end of the scale you're looking at, the numbers 1 and 6 mean "very"; the numbers 2 and 5 mean "moderately"; the numbers 3 and 4 mean "slightly." In each block of the grid, put a number from 1 to 6, depending upon where you think each person belongs on each of the scales.

EXAMPLE:



1 2 3 4 5 6

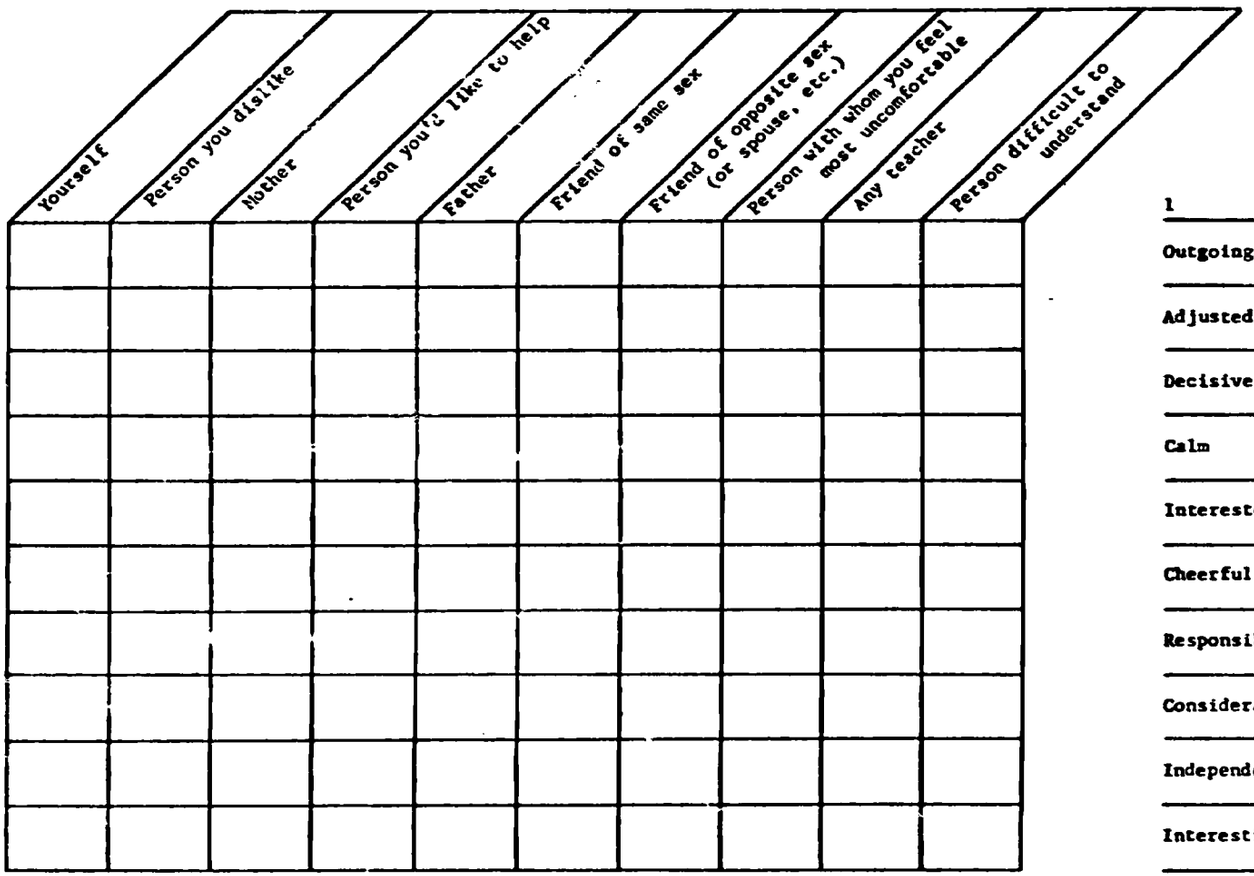
Outgoing Shy

In this example, I have decided that: I am very outgoing (1)
a person whom I dislike (and whose initials are Y.Q.) is moderately shy (5)
my mother is slightly outgoing (3)

Please rate each of the ten persons on each scale in a similar manner, making your own judgments about each person's position on each scale.

(If you do not have a mother, a father, or both, think of a person who most closely approximates the parent's role.)

FIGURE 5: ROLE CONCEPT REPERTORY TEST



1	2	3	4	5	6	
Outgoing						Shy
Adjusted						Maladjusted
Decisive						Indecisive
Calm						Excitable
Interested in others						Self-absorbed
Cheerful						Ill-humored
Responsible						Irresponsible
Considerate						Inconsiderate
Independent						Dependent
Interesting						Dull
1	2	3	4	5	6	

TABLE 1

SALIENT SCALE AND FACTOR ARRAY: FACTOR ANALYSIS OF 8 SEMANTIC DIFFERENTIAL ITEMS MEASURING RESPONSES TO CHARACTERS (TWO FACTORS EXTRACTED; BOTH SALIENT)

Factor	Scale Designation	Rotated Factor Loading	Next Highest Loading	Estimated Communality
I	3. - Cool-Warm +	.662	.156	.463
	4. + Kind-Cruel -	.850	.130	.739
	6. + Sincere-Artificial -	.713	.059	.512
	7. - Hostile-Friendly +	.709	.010	.503
II	1. + Intelligent-Stupid -	.714	.133	.528
	2. + Forward-Reserved -	.739	-.251	.610
	5. - Withdrawing-Outgoing +	.730	-.130	.550
	8. + Sophisticated-Naive -	.693	.000	.480

% of Total Variance: Factor I: 31.9
Factor II: 22.9

TABLE 2

10 x 2 x 2 Multivariate Analysis of Variance: "Character" Semantic Differentials (Character x Sex x Complexity)

Entire System (P = 8)

Source of Variation	d. f.	F-ratio	p less than
A main (Character)	72, 5196.1758	23.9466	0.0001
B main (Sex)	8, 853	0.8316	0.5750 (N.S.)
C main (Complexity)	8, 853	2.2254	0.0238
A x B	72, 5196.1758	1.0014	0.4746 (N.S.)
A x C	72, 5196.1758	1.3481	0.0272
B x C	8, 853	0.7956	0.6066 (N.S.)
A x B x C	72, 5196.1758	0.9666	0.5597 (N.S.)

Factor I (P = 4)

Source of Variation	d. f.	F-ratio	p less than
A main	36, 3213.3132	17.0812	0.0001
B main	4, 857	0.7171	0.5802 (N.S.)
C main	4, 857	3.2921	0.0109
A x B	36, 3213.3132	0.8324	0.6687 (N.S.)
A x C	36, 3213.3132	1.1458	0.2534 (N.S.)
B x C	4, 857	1.1592	0.3273 (N.S.)
A x B x C	36, 3213.3132	0.6813	0.9254 (N.S.)

Factor II (P = 4)

Source of Variation	d. f.	F-ratio	p less than
A main	36, 3213.3132	33.5137	0.0001
B main	4, 857	1.0659	0.3620 (N.S.)
C main	4, 857	0.6629	0.6179 (N.S.)
A x B	36, 3213.3132	1.0529	0.3834 (N.S.)
A x C	36, 3213.3132	1.6804	0.0069
B x C	4, 857	0.3049	0.8748 (N.S.)
A x B x C	36, 3213.3132	1.2324	0.1612 (N.S.)

TABLE 3

Post hoc Discrimination Data for Significant Character x Complexity (A x C interaction) Effect, Factor II, "Character" Semantic Differentials (Refer to MANOVA Table 2)

Cell		Estimated Combined Means Variable			
		P_1	P_2	P_5	P_8
1	1	4.825	5.963	5.171	4.702
1	2	5.106	5.837	5.089	4.565
2	1	5.129	5.201	4.239	5.163
2	2	4.316	5.391	4.657	4.473
3	1	3.436	5.259	4.968	3.052
3	2	3.310	5.363	4.709	3.225
4	1	2.172	3.099	3.401	2.421
4	2	2.849	4.045	3.920	2.710
5	1	3.659	2.408	2.610	2.792
5	2	3.962	2.573	2.602	3.573
6	1	4.582	2.103	2.559	4.526
6	2	4.944	2.789	3.475	4.529
7	1	2.432	3.117	3.611	2.455
7	2	2.576	3.165	3.555	2.920
8	1	5.826	6.066	6.066	5.408
8	2	5.410	5.687	5.658	5.460
9	1	3.678	2.695	2.698	3.659
9	2	3.817	2.988	3.292	3.762
10	1	6.170	6.492	6.308	6.005
10	2	5.690	6.050	5.919	5.787
		Standardized Discriminant Function Coefficients			
		-.0957	-.2332	-.8317*	.4968*

*Maximally discriminating

(Continued next page.)

TABLE 3 (cont.)

Cell Centroids

1	1	(Lenny x High-complex):	-3.7540
1	2	(Lenny x Low-complex):	-3.7427
2	1	(Ruth x High-complex):	-2.7286
2	2	(Ruth x Low-complex):	-3.2757
3	1	(Max x High-complex):	-4.1994
3	2	(Max x Low-complex):	-3.7561
4	1	(Joey x High-complex):	-2.4899
4	2	(Joey x Low-complex):	-3.1643
5	1	(Sam x High-complex):	-1.7431
5	2	(Sam x Low-complex):	-1.4523
6	1	(Teddy x High-complex):	-0.8051
6	2	(Teddy x Low-complex):	-1.7820
7	1	(Sibyl x High-complex):	-2.7658
7	2	(Sibyl x Low-complex):	-2.5522
8	1	(Elyot x High-complex):	-4.2653
8	2	(Elyot x Low-complex):	-3.8161
9	1	(Victor x High-complex):	-1.4750
9	2	(Victor x Low-complex):	-1.8741
10	1	(Amanda x High-complex):	-4.3741
10	2	(Amanda x Low-complex):	-3.9722