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ABSTRACT

The nature of the work on an automated assembly line is the major cause of complaint among workers and labor unions. In trying to solve the problem of alienation among American industrial workers, a simulation model, "Kingscity," patterned after the General Motors plant at Lordstown, Ohio, was utilized in a basic interpersonal communication course at the State University College at Brockport, New York. Results suggested that a simulation model can aid in studying worker alienation with these modifications: (1) the choice sheet should be reduced to a few items or only items dealing with powerlessness; (2) the Zuckerman and Lubin Multiple Affect Adjective Check List could be eliminated or reduced to a shorter form; and, (3) the model should attempt to measure dehumanization feelings based on Kahn's definition. (DS)

Communication Behavior in a Simulated Organizational Setting[1]

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In late 1971 and early 1972, General Motors' Lordstown, Ohio plant began to experience "labor trouble." In a very complex situation, workers were laid off and those still on the job complained of forced speedups and extra jobs. At the same time, this Vega assembly plant began to experience an unusual number of defective cars coming off its most highly automated assembly line.

The labor force and union at the Lordstown plant was the youngest of any G.M. plant with an average age of approximately twenty-five. Gary Bryner, the president of UAW Local 1112, was twenty-nine.

Wages were not an issue; workers earned $4.50 an hour plus $2.50 in fringe benefits. At issue was the nature of the job--the nature of work on an automated assembly line.

The situation received much popular press coverage.[2] On July 25 and 26, 1972, the Subcommittee on Employment, Manpower, and Poverty with Senator Edward M. Kennedy presiding pro tempore conducted hearings on the problem of alienation among American workers.[3] Recent bibliographies on alienation evidence growing concern in this problem.[4] Additionally, the Department of Health, Education, and Welfare commissioned the Upjohn Institute for Employment Research report Work in America published this year.[5]

THEORETICAL BACKGROUND

The concept of worker alienation first suggested by Marx[6] has received considerable attention in recent years, particularly in the sociological literature. As William Faunce points out in a recent work:

> The most persistant indictment of industrial society is that it has resulted in the alienation of industrial man . . . The powerlessness of man within the complex social, economic and political systems he has created are common themes in the social criticism of the industrial way of life.[7]

Generally it may be said that Marxism is the result of Marx's study of the functioning and consequences of the capitalist system. As such, Marx's approach is essentially that of a large social system theorist.[8] This is especially evident in Marx's more complete work Das Kapital. When Marx addresses himself to a specific economic phenomenon, such as capital, he is also implicitly including in his discussion aspects of the relationship between capital and labor. For Marx, "reality" is "social reality." When he suggests that man cannot become himself in his work, he is refering to man's social self. The difficulty of interpretation develops when it is assumed that Marx's conception of alienation deals only with man's natural creativity as it is restricted by the capitalist system. It is instead the organization of social relationships necessary for production in a capitalist system which creates the alienation.[9] As may be imagined then, communicative behavior within such an organization of relationships may concommitantly affect and be affected by feelings of alienation.

This is the general phenomenon which Giffin discusses in his monograph "Social Alienation by Communication Denial."[10] In Giffin's terminology, ". . . social alienation refers to a person who withdraws from or avoids interaction with another person or persons,"[11] or, more specifically, ". . . when a person functionally accepts the conclusion that he cannot communicate with another person or persons--that it is pointless to try further, social alienation has occurred."[12] An important facet of Giffin's conceptualization is the discussion of psychological alienation and its affect on an individual's perception of the social environment. For, as Giffin points out, ". . . the difference between social and psychological alienation may appear to be more of degree than of type; however, the essential difference is that of misperception or distorted perception of reality."[13] [Thus, Giffin includes both a psychological and sociological perspective.]

Melvin Seeman has reviewed several dimensions of alienation as reported in the sociological literature[14] and has attempted to operationalize the most frequent usages, by utilizing the phraseology of J.B. Rotters social learning theory.[15] Seeman sets forth a five fold classification system of alienation:

> Powerlessness--"the expectancy or probability held by the individual that his own behavior cannot determine the occurance of the outcomes, or reinforcements he seeks."[16]
>
> Meaninglessness--"a low expectancy that satisfactory predictions about future outcomes of behavior can be made."[17]
>
> Normlessness--"high expectancy that socially unapproved behaviors are required to achieve given goals."[18]
>
> Isolation--"assigns low reward value to goals or beliefs that are typically highly valued in the given society."[19]
>
> Self-estrangement--"to be something less than one might ideally be if the circumstances in society were otherwise."[20]

In the first three of Seeman's five dimensions, by substituting the term communication behavior for the term behavior, we can develop a conceptual scheme closely allied with that of the sociologist, but still relatively specific to the field of speech communication. Following Giffin's approach, we would assume that feelings of alienation may affect and be affected by communicative behavior. However, in contrast to Giffin, we may speculate that for the industrial worker, the alienation is resultant from repetitive task designs and the division of labor necessitated by mass production technology. Thus the task for the communication theorist is to discover in what way the nature of work and the alienation it causes may affect the communication behavior of the industrial worker.

To restate, then, while mass production technology does play a part in worker alienation and subsequent communicative behavior, the relationship is somewhat more complex. The simplistic repetitive task designs and the division of labor lead to alienation. Marx notes the separation of the

intellectual powers of production from manual labor. Since work is mentally external to the worker, it is not part of his nature and, consequently, the worker does not fulfill himself but denies himself. Essentially, the worker comes to work merely to earn his wages so that he can satisfy other needs outside the occupational environment: "It is the fact that work is a means rather than an end--is an instrumental rather than a consummatory activity that gives it its alien character."[21]

At G.M.'s Lordstown plant workers were required to complete the same task every thirty-six seconds to maintain the production rate of 101.6 Vegas per hour. Working was a means to an end--a way of obtaining other things of satisfaction and utility.[22]

THE SIMULATION MODEL

Alienation occuring in real-life, on-going industrial organizations is not readily subject to external observation as such observation and attempts at quantification may be viewed by management as an illegitimate intrusion. For example, Beaver and Jandt chronicled one attempt by management to subvert a study of alienation and anxiety produced by a rumored industrial plant closing.[23] Thus, such behaviors are most appropriately studied by man-centered simulations.

HumRRO's 1967 annotated bibliography of simulations of organizations[24] lists only thirteen entries concerned with man-centered organizational simulations--five of these reporting Bass' work in the early 1960's. None of the eleven simulations listed in the Zuckerman and Horn category "Business: Total Enterprise, Man Only" seem to include the factors of alienation and dehumanization with the possible exception of Bass and Vaughan's UPPOE (University of Pittsburgh Production Organization Exercise).[25] Similarly, Cohen and Cyerts review of the literature concerning the simulation of organizational behavior deals explicitly with managerial decision-making in computer simulated organizations.[26]

Shubik and Brewer's comments made in 1971 still apply. Free-form organizational simulations have "few good practitioners; it attracts the most publicity; it is very hard to measure the product; and it is extremely difficult to describe whether the art form has improved in the last few years. We suspect that, as it cost a minimal amount initially, a little more money and some careful work in the area would probably be well worth the effort."[27]

The simulation Kingscity is designed with the Lordstown case in mind. Kingscity is designed to focus on the effects of working at repetitive simple tasks and to focus on the control of communication in such situations which may lead to the syndrome of the alienated worker.

A model of the simulation showing communication channels is shown as Figure I on the following page.

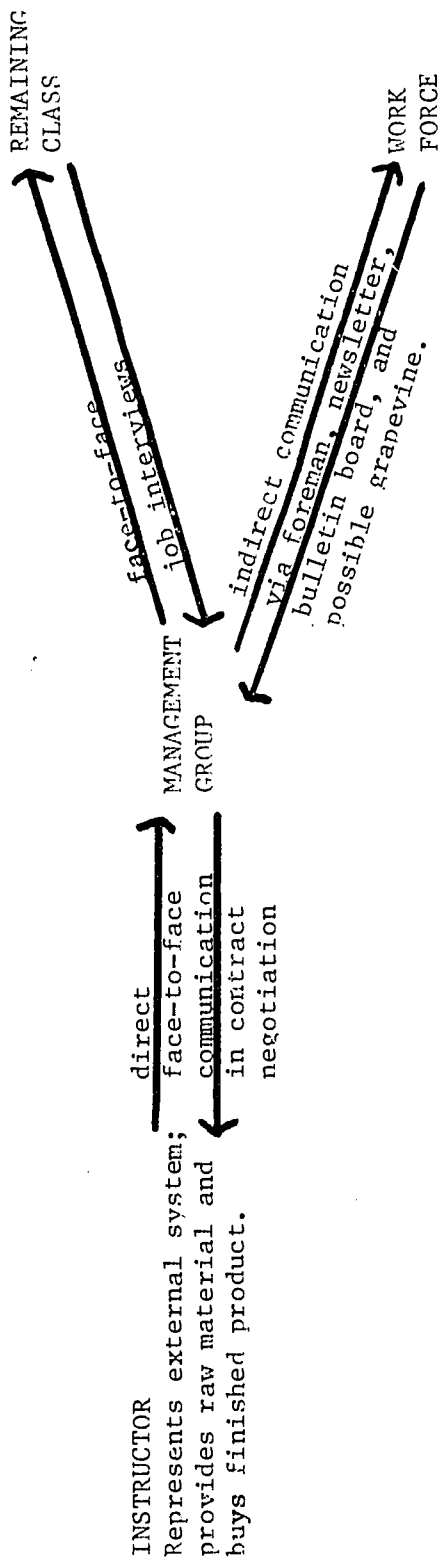
PROCEDURE FOR CONDUCTING THE SIMULATION

A version of Kingscity was utilized in the administration reported here. Students regularly enrolled for the Fall semester in sixteen sections of the basic interpersonal communication course at State University College at Brockport participated in the simulation. The information reported is preliminary in nature; the intent being here to provide information necessary to evaluate the simulation's modeling of worker alienation in organizational settings.

On Day I, after the class members were briefed as to the uses of simulations in the classroom, each member of the class received a handout briefly describing the simulation as being modeled after the Lordstown situation and a second handout titled "General Information Sheet for the Simulation Kingscity" to which was attached three tokens. Then each member of the class completed a choice sheet indicating their preferences for membership in management or workers group and

Figure I.

MODEL OF KINGSCITY INTERACTION



their attitudes to certain statements which they were told would effect their assignment.

After Day I, the choice sheets were evaluated. To compose a management group, those were given preference who chose the management group very strongly. In almost all cases this procedure provided the necessary twenty-five percent of each section.

On Day II, tokens were collected from all class members who desired to remain in class (all did). Then the composition of the management group was announced and these people were given the opportunity to buy into the simulation as management (all did). As the measurement group left the classroom to go to another room they were given the handout "Information Sheet for Members of Management Group" to which was attached three additional tokens. The remaining class waited as the management group organized and prepared to negotiate a contract with the instructor as the supplier of the raw material for their factory and as the purchaser of their finished colored squares. Before the end of Day II, management had interviewed several job applicants and in some instances had hired a few workers for Day III. All members of the class completed a "Daily Report Sheet" before leaving.

On Day III, tokens were again collected from all class members who desired to remain in class. (All did.) Workers who had been hired on Day II paid one token participation fee and received an "Information Sheet fork Workers." Management purchased raw materials and set up its first assembly line. With the first work, an audio tape of factory noise was played until work stopped. Several classes reported considerable labor strife as the remainder of the class in each instance became aware of the consequences of continued unemployment. Again, "Daily Report Sheets" were collected from all class members.

On Day IV, tokens were again collected from all class members who desired to remain in class. (Again, all did.) Workers who had been hired on Day III paid a one token participation fee and received the "Information Sheet for Workers." Management purchased raw materials and set up additional assembly lines. The classroom again became a factory with an appropriate noise level. After management sold its finished product, "Daily Report Sheets" were collected from all class members.

Day V followed much the same pattern as Day IV. However, by this time several students in all sections of the course were beginning to voice their opinions concerning the differences in workers' wages. Apparently, an industry wide (i.e. course-wide) grapevine had been established providing information concerning working conditions and wages in other factories (i.e. sections of the course). The Daily Report Sheets were again collected from the three sections.

Day VI was the last day of the simulation, however this information was withheld from the students to encourage further participation. In answer to questions concerning the termination date for the simulation, it was explained that the course director had not as of yet made the decision to stop production. In twelve of the sixteen sections, walkouts, lock-outs, picket lines and other similar work stoppages were evident. Reasons for the strikes ranged from boredom to unfair treatment by managers. After some ambitious labor-management negotiations, the "Daily Report Sheets" were again collected.

On the following class day students were told that the simulation was ended and the tokens in circulation were collected. Classes then discussed the simulation as a learning experience and attempted to analyze some of their own communicative behaviors in relation to the organizational setting of Kingscity.

SIMULATION INPUT MEASURE

As indicated before, on Day I all class members attending that day completed a choice sheet indicating their preferences for membership in management or workers group and their responses to certain statements. These statements were actually Dean's scales for the measurement of alienation.[28] The mean responses of those assigned to management groups and workers groups in three sample sections singled out for detailed observation is shown in Table I on the following page. It should be noted that differences obtained were not as great as had been obtained in an earlier evaluation study with this simulation.

SIMULATION THROUGHPUT MEASURES

Miller has pointed out the need for observing and measuring the communication transactions occurring during a simulation--the so-called "throughputs of the system."[29] Since the available measures of alienation are either too general or exceedingly specific, it was decided in this evaluation of the simulation to use the Zuckerman and Lubin Multiple Affect Adjective Check List[30] which provides measures of anxiety, depression and hostility. This constituted the "Daily Report Sheet" mentioned earlier. As the data were analyzed, it became increasingly obvious that the MAACL was not appropriate for this evaluation. Sporadic class attendance made it impossible to make any meaningful interpretation from the data. While throughputs could not be quantified, instructors' observations and subjective remarks volunteered by several participants can be taken as evidence that the simulation was modeling, at least to some undetermined extent, what it was intended to model. Indeed, several students had physically isolated themselves from the group, interacting with others only when it was necessary to obtain more materials. It appears, too, that the attendance situation was, in part, a result of the boredom felt by the Kingscity employees.

TABLE I

		POWERLESSNESS	NORMLESSNESS	SOCIAL ISOLATION	TOTAL
GROUP I					
n=5	Managers	15.6	8.0	13.0	36.6
n=25	Workers	15.6	10.8	17.4	43.8
GROUP II					
n=6	Managers	13.5	10.5	17.0	41.0
n=19	Workers	19.2	12.9	20.7	52.8
GROUP III					
n=6	Managers	14.8	9.2	14.8	38.8
n=18	Workers	15.4	10.8	17.3	44.4

SIMULATION OUTPUT MEASURES

One of the course requirements, a paper involving answers to questions based on the simulation, provided output measures. In response to the questions "Discuss the variable of alienation as you observed it in this simulation. What did you learn by participating in this simulation?" students observed that:

"Production seemed more important than the producers."

"Several people seemed completely bored with the daily routine."

"Apathy toward the factory was so extensive that some people didn't even come to class."

"There was a lack of group communication on the assembly line."

"We were busy in our own little corners just doing our work."

These statements were supported by the instructors' own observations. Statements made in response to the question "What did you learn . . ." were equally as relevant:

"I learned how boredom in factories can repress and stifle creativity."

"I can see how useless the workers must view themselves in these jobs."

"I know how it felt to be just one person in a factory."

"Working in a factory at a monotonous task, you begin to feel unimportant."

Again, these represent the more frequent responses, and as such they provide some indication of the learning experience which the simulation may provide.

CONCLUSION

Admittedly, this was only one administration of a simulation designed to model alienation; however, tentatively, it may be said that some degree of success was obtained--enough to justify continuing to refine the model and then use it to learn more about the conditions leading to feelings of worker alienation.

Minor modifications are being considered:

(1) The choice sheet could be reduced to include fewer items or only the items for powerlessness;[31]

(2) The Zuckerman and Lubin Multiple Affect Adjective Check List may be eliminated or u ed in a shorter form; and

(3) An attempt will be made to develop an adequate measure of feelings of dehumanization based upon Kahn's definition.[32]

FOOTNOTES

[1]Much of this paper is based upon Fred E. Jandt, Kingscity: A Simulation for the Study of Communication and Alienation in Industrial Organizations (A Preliminary Report) mimeographed, August, 1973.

[2]For examples see "Sabotage at Lordstown?" Time, 1972, 99(6), 76, and William W. Winpisinger, "Job Satisfaction: A Union Response," The American Federationist, 1973, 80(2), 8-10.

[3]Hearings before the Subcommittee on Employment, Manpower, and Poverty of the Committee on Labor and Public Welfare, United States Senate, Ninety-second Congress, Second Session, July 25 and 26, 1972.

[4]Mary H. Lystad, Social Aspects of Alienation; Alienation: An Annotated Bibliography. A Publication of the National Clearinghouse for Mental Health Information, Public Health Service Publication No. 1978, 1969; Mary H. Lystad, "Social ALienation: A Review of Current Literature," Sociological Quarterly, 1972, 13, 90-113; R. Felix Gever, "Bibliography on Alienation," Catalog of Selected Documents in Psychology, 1972, 2, 113, and R. Felix Gever, Bibliography Alienation 2nd Ed. Amsterdam, Netherlands: SISWO, 1972.

[5]W.E. Upjohn Institute for Employment Research, Work In America. Cambridge: The MIT Press, 1973.

[6]See particularly Karl Marx, "Economic and Philosophical Manuscripts," in Karl Marx Early Writings, T.B. Bottomore, editor and translator. New York: McGraw-Hill, 1964.

[7]William A. Faunce, Problems of an Industrial Society. New York: McGraw-Hill, 1968, p. 84.

[8]Anthony Giddens, Capitalism and Modern Social Theory. London: Cambridge University Press, 1971.

[9]Giddens,p. 15.

[10]K. Giffin, "Social Alienation by Communication Denial," Quarterly Journal of Speech, 1970, 56(4), 347-357.

[11]Giffin, p. 347.

[12]Giffin, p. 348.

[13]Giffin, p. 349.

[14]Melvin Seeman, "On the Meaning of ALienation," American Sociological Review, 1959, 24(6), 783-791. See also Richard Schact, Alienation, New York: Doubleday, 1970, especially Chapter 5, "The Sociological Literature."

[15]J.B. Rotter, Social Learning and Clinical Psychology, New York: Prentice Hall, 1954.

[16]Seeman, p. 784.

[17]Seeman, p. 786.

[18]Seeman, p. 788.

[19]Seeman, p. 789.

[20]Seeman, p. 790.

[21]Faunce, p. 87.

[22]Statement of Gary Brynner, president, UAW Local 1112, Lordstown, Ohio before the Subcommittee on Employment, Manpower, and Poverty, Hearings, pp. 10-19.

[23]Claude D. Beaver and Fred E. Jandt, "A Study of Alienation and Anxiety During a Rumored Industrial Plant Closing," Journal of Applied Communications Research (in press).

[24]Jon E. Roeckelein, Simulation of Organizations: An Annotated Bibliography, HumRRO Technical Report 67-14, December, 1967.

[25]David W. Zuckerman and Robert E. Horn, The Guide to Simulations/Games for Education and Training. Lexington, Massachusetts: Information Resources, Inc., 1973, pp. 25-33.

[26]K.L. Cohen and R.M. Cyert, "Simulation of Organizational Behavior," in Handbook of Organizations, J.C. March, ed., Chicago: Rand McNally & Co., 1965.

[27]Martin Shubik and Garry Brewer, Systems Simulation and Gaming as an Approach to Understanding Organizations. The Rand Corporation Publication No. P-4664, June, 1971.

[28]Dwight Dean, "Alienation: Its Meaning and Measurement," American Sociological Review, 1961, 26, 754.

[29]Gerald R. Miller, "Epilogue in Perspectives on Communication in Social Conflict, Gerald R. Miller and Herbert W. Simons, eds. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., in press.

[30]Marvin Zuckerman and Bernard Lubin, Multiple Affect Adjective Check List, San Diego: Educational and Industrial Testing Service, 1965.

[31]A factor analysis study failed to delineate separate factors for Dean's subscales of social isolation, powerlessness, and normlessness and suggests that Dean's scale is a multidimensional measure of retreatist alienation containing independent dimensions of detachment and despair as well as friendliness and sociability styles. See Richard A. Dodder, "A Factor Analysis of Dean's Alienation Scale," Social Forces, 1969, 48, 252-255.

[32]Robert L. Kahn, "The Work Module: A Proposal for the Humanization of Work," in Hearings, pp. 259-292.