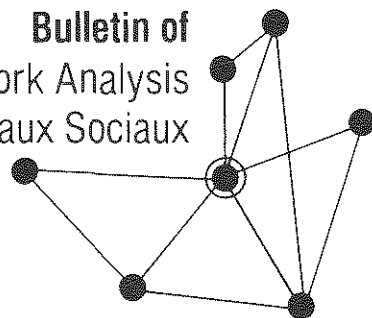
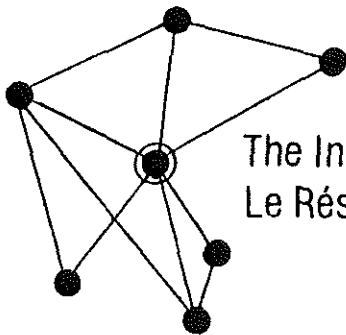


# CONNECTIONS

**Bulletin of**  
The International Network for Social Network Analysis  
Le Réseau International pour l'Analyse des Réseaux Sociaux





The International Network for Social Network Analysis  
Le Réseau International pour l'Analyse des Réseaux Sociaux

CONNECTIONS:

Volume II - Number 2

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# NETWORK NOTEBOOK

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## The Editors' Request...

Now midway through our second year of INSNA, our current membership is at around 300 with less than 100 who failed to renew since last year. These numbers reflect the great interest in network analytic approaches to the analysis of phenomena. Membership applications have come in waves across a wide range of disciplines and from many different parts of the world as members' own networks link up with those of others. Early waves of membership included sociology, information science and geography disciplinary affiliations and were closely followed by anthropology and political science. Half-way through our first year, membership links went out to mass communications, social work, psychiatry and psychology in approximately that order. Libraries are now keeping Connections on their shelves and a number of research projects find our issues a logical source of information for review of the approach.

To sustain and stimulate this interest in network analytic approaches, the Editors' request a continuing flow of submissions, ideas, content, etc., particularly current information on meetings, new books, recent theses, relevant abstracts, and useful computer programs. Papers which review fields or areas of interest are especially of value to members desiring to keep up with this rapidly expanding approach. This Notebook section can also advertise 'help wanted' or 'help available' advertisements: recent items of this nature have called for assistance in reviews of literature or studies in a particular specialty.

A continued flow of contributions ensures that Connections is produced 'on time': that is, one issue per term (Issue number 1 during August-December, number 2 during January-April, number 3 during May-July). The current issue is behind schedule due to the 'friction of distance' between the Editors' offices in Toronto, where Barry Leighton is located, and Wassenaar, The Netherlands, where Barry Wellman is located until the end of July. We produced this issue when we had received an 'appropriate' volume of suitable content. In addition, our network of voluntary assistance for production has been changing the computerized membership over to a more flexible program on our neighbourhood interactive terminal.

## European Editor:

In response to our growing European membership Wolfgang Bick has agreed to act as our European Editor. He has already requested and begun gathering research reports, papers, comments, notes, etc. from his side of the Atlantic. He is anxious to promote special sessions at national and international meetings and invites suggestions, information, etc. accordingly.

Our European Editor's address is: Dr. Wolfgang Bick,  
Institute für Angewandte Sozialforschung,  
Universität zu Köln,  
Greinstrasse 2,  
5 Köln 41,  
WEST GERMANY.

## Next Issue of Connections:

Volume II, Number 3 (Summer) is scheduled for around August, 1979 with a deadline for submissions before the end of August. It will consist largely of a new, revised MEMBERSHIP DIRECTORY which will assist members in contacting others interested in similar fields, and generally to 'oil the linkages'.

## Thanks for the Current Issue:

Editorial thanks go to those contributors who submitted camera-ready copy. However, please note that submissions in other format does not, by any means, preclude their publication. We would rather receive submissions in alternate form than not receive them at all. In fact members could send in photo-copies of abstracts, meetings, etc. with a scribbled note to alert us that they are for Connections. Barry Leighton, our Associate Editor who has produced this and the past couple of issues thanks for their assistance: Cathy Morrissey for typing and membership list updating and Colleen Leighton, Christina Marmoreo and Liviana Mostacci-Calzavara for proof-reading.

## Information Flows

Ronald Burt is Visiting Associate Professor of Sociology at S.U.N.Y. - Albany.  
Charles Kadushin has moved to the Center for Social Research, Graduate Center, City University of New York.

ditions of stagflationary crisis of contemporary capitalism); Michael Jager "A Study on the Study of Urban Social Movements"; Len Eastop "On Participation in an Urban Renewal Scheme"; Michael Berry "Housing as an Element in the Reproduction of Labour Power"; Jim Kemeny "Homeownership and Privatisation in Capitalist Societies: A Cross-Cultural Perspective"; Bettina Cass "A Critical Evaluation of the Concept of Consumption in Urban Sociology"; S.B. Aungles "The Social Consequences of Industrial Development and Industrial Decline Whyalla: A Case Study"; E.A. Cleland and R.J. Stimson "Equity and Services in Cities: The Example of Metropolitan Adelaide"; Terry Burke and Kath Hulse "Residential Caravans: A New Housing Class"; Leslie Kilmartin and David C. Thorns "The Heart Possessed: Ownership of Central Business Areas in Australasia. A Research Proposal"

These papers are available, at A\$3.75 (payable to "ISA Urban Group") including surface postage, from; Patrick Mullins, Department of Anthropology and Sociology, University of Queensland, St. Lucia, Queensland 4067, Australia.

#### For Neighbourhood Urbanists

Urban Affairs Quarterly will have a special issue on "The Revitalization of Inner City Neighbourhoods." Among the topics the editors have in mind are: empirical studies on inner city revitalization; theoretical explanations of the changing patterns of urban neighborhoods; life-style differences between urban and suburban areas; the political economy of inner city revitalization; differences between areas that have been altered by governmental policies and those that have been "spontaneously" rehabilitated; documentation of the extent of social organizational changes in inner cities; the impact of population changes on the commercial and retail life of the inner city; intra-city migration patterns by class and status; analyses of the displacement process and of displaced populations. Other topics would be considered. Interested authors should send a brief outline of the proposed contribution to Bruce London, Department of Sociology, Mary Washington College, Fredricksburg, Virginia 22401, U.S.A. Three copies of prospective papers should be submitted by 1 June 1979.

#### World Directory of Anthropologists and Ethnologists

A computer-based directory of 5000+ anthropologists and ethnologists has been developed. It can print both lists and labels, retrieving by name and address, in conjunction with country of location, languages used, geographical or tribal areas of interest, and subject-matter interest. All enquires should be addressed to Jacqueline Rouah, Current Anthropology, University of British Columbia, Vancouver, B.C., Canada V6Y 1W5.

#### Letter from Nottingham

The January, 1979 "Urban Change and Conflict" conference (150 and attendees) was the third in a significant series. The first in 1975 has become retrospectively famous in England as it was the occasion when a number of French and Italian Marxian urbanists (perhaps Manuel Castells is the best known) gave English speaking urbanists the message that their own work had seriously ignored the ways in which class structure and conflict determined urban form and process.

Four years later that message seems to have been accepted, consolidated and frequently watered down in a mixture of British pragmatic empiricism. Most of the formal papers at the conference were couched in some sort of Marxian structural language; the informal discussions even more so. Most papers stuck much more closely to empirical case study than to abstract generalization. Most tended to use a network cum structuralist framework to organize and analyze the relationships involved.

There were a number of good papers, particularly noteworthy for CONNECTIONS readers are those by Roberts, Saunders, Elliott and McCrone, Newby, and Piven and Cloward. A list of selected papers (see meeting calendar) summaries (see Abstracts section) follows. Please note that the summaries have been excerpted by CONNECTIONS' editors in all but Abrams' case. The absence of a summary implies no editorial judgement other than the difficulty of properly excerpting. The conference was sponsored by the Centre for Environmental Studies, London.

#### Mental Health and Social Networks: A Request for Information and Advice

Christopher Smith (Geography, Oklahoma) writes:

"Beginning January 1, 1979, I am working as a National Science Foundation Resident with the Mental Health Association in Oklahoma County. This Residency is a part of NSF's Science for Society Program, and I shall be on leave from my job at the University of Oklahoma for 12 months. During that time, I shall be looking into the situation of mental patients who are discharged from the major mental hospital in central Oklahoma and who returned to live in the Oklahoma City area.

The topics I shall be considering are as follows: (1) The individual search for help and services within the city. I am interested in who they go to for help both formally and informally, and what their

- Michael Pearlman. 1977a. "Great Britain, 1828-1834: Historiography and Selected Bibliography". CRSO Working Paper 159.
- \_\_\_\_\_. 1977b. "Some Political Issues in Nineteenth-Century Britain. Part One: The Government and Workers' Associations, the Rural Rebellions of 1830, Parish Government, Catholic Emancipation". CRSO Working Paper 160.
- \_\_\_\_\_. 1977c. "Some Political Issues in Nineteenth-Century Britain, Part Two: The Rights of Collective Association and Assembly; Parliamentary Reform: Industrial Conflict" CRSO Working Paper 165.
- Charles Tilly. 1978a. "Studying Social Movements/Studying Collective Action". CRSO Working Paper 168.
- \_\_\_\_\_. 1978d. "The Web of Collective Action in Eighteenth Century Cities". CRSO Working Paper 174.
- Charles Tilly and R.A. Schweitzer. 1977. "Contentious Gatherings in Great Britain, 1828-1833: Provisional Plans for Enumeration and Coding". revised version. CRSO Working Paper 163.
- Oliver Zunz. 1977a. "Detroit's Ethnic Neighborhoods at the End of the Nineteenth Century", CRSO Working Paper 161.

Dissertations (write to authors directly):

- Ronald Aminzade. 1978. "Class Struggles and Social Change: Toulouse, France, 1830-1870 unpublished doctoral dissertation in sociology, University of Michigan.
- Frank Munger. 1977. "Popular Protest and its Suppression in Early Nineteenth Century Lancashire, England: A Study of Theories of Protest and Repression", unpublished doctoral dissertation in sociology, University of Michigan.

*Topics for a Course on "The Analysis of Social Networks" (submitted by Paul Muller, Koln)*

Social Networks--a New Paradigm?  
The Network Structure of Informal Relations  
Primary Environments: Egocentric Networks  
Network Density and Conjugal Roles  
Community as a Network of Networks  
Mediating Everyday Life and Societal Institutions  
The Search for Specialized Persons  
Reachability of Local Elites  
Networks of Collective Actors  
Structure of Local Elite Networks  
Decisions within Networks: Patterns of Conflict and Coalition  
Structure of the Network of Formal Organizations  
Societal Interlocks: Positions and Collective Actors  
Formal and Informal Relations between Corporations  
National Elites: Monolithic or Polycentric?

Any suggestions for readings on these topics?

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RENEW NOW: CONNECTIONS Vol. III (1979-1980)  
SOCIAL NETWORKS Vol. II (1979-1980)

RENEWAL FORM AT THE BACK OF THIS ISSUE.

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MIGRATION AND SETTLEMENT. (Short Course.) International Institute for Applied Systems Analysis. September 3-14. Laxenburg, Austria.

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THE DYNAMICS OF MODERN INDUSTRIAL CITIES: COMPARATIVE PERSPECTIVES ON ORDER AND DISORDER. University of Connecticut Department of History and U.S. Department of Housing and Urban Development. September 28-29. Storrs, Connecticut, U.S.A.

Four areas: role of family neighborhood; class tension and mechanisms of social control; economy of cities; survival of industrial cities.

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## PAST MEETINGS

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MATHEMATISCHE ANSATZE ZUR ANALYSE SOZIALER MACHT. March 9-11, 1978. Bad Homburg, West Germany.

Organized by Hans J. Hummell (Sociology, Duisberg, West Germany).

Viktor Vanberg "Bilateral Exchange and Markets: - Combining Resources and Corporate Bodies"

Gudmund Hernes "The Open Input-Output Model, Collective Decisions and Policy Analysis"

James Coleman and Anthony Babinec "The Corporate Structure of the Economy and Contributions to Income Inequality"

Edward O. Laumann and Peter V. Marsden "The Analysis of Oppositional Structures in Political Elites: Identifying Collective Actors"

S.D. Berkowitz, Y. Kotowitz, L. Waverman and P. Carrington "Economic Structure and Market Power in Canada"

Robert J. Mokken and Frans N. Stokman "The 1972 Intercompany Network in the Netherlands"

Robert J. Mokken and Frans N. Stokman "Corporate-Governmental Networks in the Netherlands"

Rolf Ziegler "Some Reflections on the Study of Interlocking Directorates"

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WORKSHOP ON INTERORGANIZATIONAL NETWORKS BETWEEN LARGE CORPORATIONS AND GOVERNMENT. (European Consortium for Political Research) Brussels, Belgium; April 17-21, 1979.

Directed by Robert Mokken (Netherlands Central Bureau of Statistics) and Frans Stokman (Political Science, Groningen).

Raimo Lintonen (Political Science, Helsinki) "Conditions and Consequences of Interorganizational Relations"  
Barry Wellman (Sociology, Toronto and NIAS) "Network Analysis: Notes on its Development, Explanatory Goals and Some Key Formulations."

Werner D. von der Ohe (Sociology, München) Paper on innovation and corporate-government networks.

Gerrit Jan Zijlstra (Steinmetzarchives) "The Organization of Organizations: Interlocking Directorates and their Analysis."

Gerhard Reissner (München) "Implications of Legal Regulations for the Study of Interlocking Directorates and Financial Participations"

Michael P. Allen (Centre de Sociologie de L'Innovation, Paris). "Recent Research on Corporate Networks in the United States and Canada: Unresolved Methodological Problems and New Theoretical Issues."

Meindert Fennema (Political Science, Amsterdam), et al. "Interlocking Directorates and the International Level, 1970-1976."

Michel Vessiere (Louvain-la-Neuve) "The Network of Public Financial Institutions in Belgium"

Peter Rusterholz (Zurich) "Power-Structures in the Swiss Economical System"

Antonio M. Chiesi (Sociology, Calabria) "Interlocking Directorates in Italy in 1961 and 1973"

Ilkka Heiskanen, Erkki Johanson (City Hall, Espoo, Finland), et al. "The Impact of Institutional Economic Structure on the Realization of Public Policy"

Huibert Schijf (Sociology, Amsterdam) "Networks of Interlocking Directorates and Business Elites at the Turn of the 20th Century of the Netherlands"

Robert J. Mokken and Frans Stokman "Information and Cooptation: A Comparative Analysis of 2 Incomplete Networks in the Netherlands"

Onno Boonstra (Sociology, Groningen) "From Credit to Control: Interlocking Directorates as a Way of Regulating the Relations between Financial Institutions and Corporations"

Ludo Cuyvers and Wim Meeusen (Antwerp) "A Time Series Analysis of Concentration in Belgian Banking and Holding Companies Using the Structure of Interlocking Directorates, 1938-1976"

Willy van Poucke (Sociology, Gent) "The Interorganizational Structure of the Belgian-Luxemburg Steel Sector: Longitudinal Network Analysis of the System of Interlocking Directorates"

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# PAPERS

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## RUDIMENTARY NETWORKS AMONG URBAN ORGANIZATIONS: NEW MODELINGS OF SOME CLASSIC IDEAS

Herman Turk (*Sociology, University of Southern California*) and  
Mitsuyo Hanada (*Institute of Business Administration and Management, Tokyo*)

*ABSTRACT.* The study of interorganizational relations has provided an arena in which the occurrence of network surrogates can be predicted using modern versions of order, numbers, ingroup-outgroup, and environmental-historical approaches. Predictive equations are provided, by way of illustration, for 104 of the largest cities in the United States. Isomorphism required departures from ubiquitous monotonic, linear and additive specification-- a warning against premature commitment to "content-free" methodologies.

The "star" (Moreno, 1936: *passim*) or "wheel" (Bavelas, 1950) is a rudimentary network that falls just short of a limit of no connections at all. Its importance to interorganizational theory, however, has been emphasized by the concept of organization-set, which refers to a focal organization and those other organizations with which it interacts (Evan 1966, 1976). In keeping with community research but departing from those network inquiries that assume the focal organization as given, our pilot analyses explored the conditions under which one kind of focal organization emerges within undefined, but presumably complex, multi-organizational settings. To do so, we draw upon classic formulations of social structure and point to forms of specification other than ones in vogue.

### The Substantive Problem

To the extent that the organizations within a common environment affect one another's fates, either through conflict or exchange, there is a tendency for them to come to terms with one another (Latham, 1959; Litwak and Hylton, 1962; Emery and Trist, 1965; Terreberry, 1968; Pfeffer and Salancik, 1978: 143-187). We explore this neo-Hobbesian account of accord arising out of chaos by seeking conditions under which cities have certain kinds of voluntary associations that focus on shared interests among the organizations in the area -- associations that might well be considered network foci.

To do this, however, requires identifying not only the mutual needs for predictability and survival that encourage the existence of this kind of focal organization but also the deterrents to its occurrence. Here too we look to modern versions of classic social thought. First, although a complex multiorganizational setting generates the need for these common interest associations, its very complexity affects their ability to function. The sheer number of organizations generates need to articulate shared interests but at the same time impedes both the sharing and its discovery (Simmel, 1908: 55-57, 473, 628-629). These mutually opposing effects have been, respectively, conceived as well as shown to produce an inverted "U" in the case of statistical association between number of organizations and the occurrence of interorganizational linkage (Litwak and Hylton, 1962; Pfeffer and Salancik, 1978: 156-157, 166). We predicted this nonmonotonic relationship in the case of our city-wide associations.

The second deterrent to the occurrence of such associations is rooted in the inverse relationship that has been claimed -- on the basis of models of ingroup-outgroup relations, of system-subsystem conflict, and of mass society (reviewed by Turk, 1977:65-66) -- between linkage or accord among the elements of a social unit and how externally linked these elements are with elements outside the unit. Thus we predicted that the variety and number of a city's external links would have a negative effect on the occurrence of city-wide associations.

But still another classic problem is to establish conditions under which the properties of a social unit (here the large city) affect one another directly, compared to their being more weakly coupled effects of common environmental or historical causes. Parsons' adaptations of cybernetic approaches (1977: *passim*) as well as contemporary works on social constructions and on political economy raise this question quite generally. But it has also been raised in the special areas of small groups (Turk, 1961; Turk and Turk, 1962; Cloyd, 1965), formal organizations (Aldrich and Pfeffer, 1976; Hannan and Freeman, 1977; Meyer and Brown, 1977; Meyer and Rowan, 1977); and -- most pertinently for our purposes -- in the area of relationships between locality and nation (Warren, Rose, and Bergunder, 1974, Turk, 1977; *passim*; Turk and Hanada, 1978).

In the instance at hand we are interested in the conditions under which certain aspects of the large

provided the following improved specification:

$$\text{CityWAss} = -.28\text{DNoOrg} \times \text{NO} - .28\text{MDNoOrg} \times \text{Ext} \times \text{NO}$$

Both standardized partial regression coefficients are in the expected direction and significant at the .005 level. The explained variation has increased by one-third to 15 percent. Clearly, both impurities in the indicators (three described the city, for example, and one the SMSA) and necessarily arbitrary assumptions about measurement in at least one case (the mean as reference point) affected the unexplained variation. It is also true, however, that we have not included all of the relevant variables; such was not our intention. Further, our subsequent work will attempt to separate the level of need, which the number of organizations estimates, from the level of incapacity measured by that same indicator.

But what of main effects or lower order statistical interaction? This question is frequently asked as a matter of routine, because of the close association likely between interactive terms and their constituents. But the question, "What of higher order interaction?" could be posed for this very same reason at other times when only simpler effects have been reported. The last is less routinely asked -- because of the methodological customs, we believe, to which we have already referred. Bowing to custom, however, where observance might impeach our finding, we did allow our two effects of theoretical interest to compete with all lower order effects in a stepwise regression procedure. The hypothesized equation resulted. All other variables save one failed to meet the probability of .50 required for entry; this one, which failed to reach the .30 level, served to increase the hypothesized effects.

### Conclusions

It is possible to predict a surrogate measure of rudimentary networks that consist of focal and other organizations within urban settings. Though the area of application is new, the conceptual models are not -- making use as they did of the Hobbesian solution to social order, of Simmel's discussion of the effect of numbers of organized elements on supraorganization, and of sociology's long concern with societal-environmental constraints placed on free interplay among sub-societal events.

Using these conceptual guides, it has proven possible to identify some multiplicative and nonmonotonic correlates of associations that represent the shared interests of a city's other organizations. By their very nature these associations suggest the presence of interorganizational networks that approximate stars (wheels). If the city is not very old, the correlates are (1) the extent to which the number of organizations makes city-wide associations necessary but not impossible and (2) the extent to which external links are few, provided that the number of organizations is such as to signify either marginal need or marginal incapacity.

There is danger, as we have suggested, in undue preoccupation with method without substance. It would be sad if network analysis were to be held captive by modern techniques -- however exciting and superior to our own crude network measure some of these are. That sociology has unduly emphasized monotonicity, linearity, and additivity for so long should provide a pointed lesson. Authors' note: Levine and Mullins have made a related point in this journal last summer (pp. 16-23), with respect to uncritical use of blockmodeling. Unfortunately we discovered this after our own work was too far along to benefit by their insights.

### References:

- Aldrich, Howard E. and Jeffrey Pfeffer, 1976. "Environments of Organizations." Annual Review of Sociology 2:79-105.
- Cloyd, Jerry S., 1965. "The Small Group as Social Institution." American Sociological Review 30:394-402.
- Emery, F.E. and E.L. Trist, 1965. "The Causal Texture of Organizational Environment." Human Relations 18:21-32.
- Evan, William M., 1966. "The Organization - Set: Toward a Theory of Interorganizational Relations." pp. 175-191 in James D. Thompson (ed.), Approaches to Organizational Design. Pittsburg: University of Pittsburg Press.
- Evan, William M., 1976. "An Organization-Set Model of Interorganizational Relations." pp. 78-90 in William M. Evan (ed.), Interorganizational Relations. Middlesex: Penguin Books.
- Hannan, Michael T. and John H. Freeman, 1977. "The Population Ecology of Organizations." American Journal of Sociology 82:929-964.
- Latham, Earl, 1952. The Group Basis of Politics. Ithaca, New York: Cornell University Press.
- Litwak, Eugene and Lydia F. Hylton, 1962. "Interorganizational Analysis: A Hypothesis on Coordinating Agencies." Administrative Science Quarterly 6:395-420.
- Meyer, John W. and Brian Rowan, 1977. "Institutionalized Organizations: Formal Structure as Myth and Ceremony." American Journal of Sociology 83:340-363.
- Meyer, Marshall W. and M. Craig Brown, 1977. "The Process of Bureaucratization." American Journal of Sociology 83:364-385.
- Parsons, Talcott, 1977. Social Systems and the Evolution of Action Theory. New York: Free Press.



analysis and differentiates him from other classical thinkers.<sup>3</sup> By itself, this methodological principle restricts the object of analysis to the individual, as the only entity which can think or act. The verstehen approach presupposes that organized social life derives from the cumulated social actions of individuals. While the larger consequences may not be predicted or even understood by the set of social actors, their individual actions must be subjectively meaningful and thus subject to the interpretive understanding of the analyst. In this way, as Wrong (1970: 22) puts it, the concept of verstehen, is the link between Weber's methodological reflections on the social sciences and his general sociological concepts.

But it is precisely these larger social consequences of cumulated social actions which are of interest to sociology. The central methodological problem, then, is how to derive the organizational outcomes of a set of individual social actions in a consistent way. Weber argues for two related strategies. First, in order to isolate subjective meanings which are important analytically, the analyst must adopt a nominalist stance; he chooses a point of view from which to select and order relevant observations and constructs ideal-typical social actions from the probabilities that actors will attach a given meaning to a given behavior. Second, and more problematically, he attempts to find a way to aggregate these social actions in such a way that he can explain organization. In analyzing Weber's methodological arguments, I will focus on: (1) the element of probabilistic reasoning in his concepts of "verstehen" and "ideal-type" and (2) the derivation of different organizational units out of typical social actions.

Verstehen, Weber's fundamental methodological concept, is probably best translated as "interpretative understanding" (Freund, 1968: 93). In contrast to historical explanation, a truly sociological approach attempts to interpret the meaning of mass<sup>4</sup> or aggregated, social actions (Weber, 1968: 4-9). For Weber, the interpretation of mass phenomena of this kind requires an abstraction from complex ideas and motivations of those elements which are interpreted as central from the point of view the analyst chooses to adopt. The resulting "analytical construct" is an "ideal type"; i.e., the typical meaning which the analyst uses to define a set of actors (Weber, 1949: 90).

The epistemology which underlies Weber's concept of the ideal type posits an infinite number of "facts", which are ordered by analytic constructs. This nominalism implies only a relative correspondence between any given construct and historical reality. For this reason, understanding that seeks to go beyond the typical individual, even to the simplest relationships, must be verified in terms of probabilities (Freund, 1969: 50).

Weber consistently defines his relational concepts in this way. Thus, the "probability that there will be a meaningful course of social action" is the basis of his definition of "social relationship" (Weber, 1968: 27). Similarly, characteristics of larger social "orders" derive from probabilities of individual actions. Thus, the "validity" of an "order" is the probability that action will be governed by "the belief in the existence of a legitimate order", and specific relations of power, command, and obedience depend on the probabilities of types of reciprocal action (Weber, 1968: 31).

Given the construction of ideal typical social action through a determination of the probability of its occurrence, Weber's task is to derive its organizational consequences and to characterize these as ideal types. His aggregate strategy, however, is general, not specific to social actors. Thus, when he speaks of "arranging...concrete individual phenomena" (1949: 90), he is referring not only to individual social actors, but to "individual" organizational units, and to whole societies as well. He is generalizing his units of aggregation, thus making the requirements of his verstehen approach problematic.

The use of the term "individual" which fits most consistently with his concept of verstehen is that of the ideal-typical historical actor. However, Weber also uses other examples in discussing the ideal type: the "city economy", and "capitalist culture", (1949: 91). While the term "individual" is used, by both Weber and his English translators, in each case, the term in fact implies different units of analysis. "Individual historical occurrences" (e.g., modern capitalism), "individual concepts" (e.g., Calvinist theology), and individual "constituent elements of social occurrences" (e.g., types of domination) (Parsons, 1949: 604-505; Abel, 1969: 155), are not equivalent to "individuals" as real historical people, however typified. Thus, although these different analytic units involve no methodological inconsistency per se, it is only the last which can be analyzed through "interpretive understanding". Weber insisted that only people, actual or typical, engage in action based on subjective meaning.

#### Problems of Aggregation: Integration of Levels of Analysis

Here it becomes possible to distinguish three levels of analysis, which may be called individual, institutional, and societal. Weber is not interested in the individual per se, either as a concrete historical person, or as a typical actor. Rather he is interested in determining how probabilistic social actions result in social organization:

- (a) The analytical movement from typical individuals to institutional structures is based on the logical consequences of "specific action-patterns of separate individuals" (Abel, 1969: 121). An example of this is his general treatment of domination, specifically bureaucracy based on legal-rational action.
- (b) The relationship between institutional structures and organization at the societal level is analyzed

normally been intentionally established"; obedience to a person in authority, who is subject to the same impersonal order as the person who obeys authority; and the restriction of actions of command and obedience to "the sphere of the rationally delimited jurisdiction" (Weber, 1968: 217-218). In sum, the "meaning" of legal-rational social action is belief in the validity of a particular set of procedures for both the making and the administration of rules and policy. Given such a shared belief, it is logically consistent but not necessary that the ideal-typical structure of bureaucracy should emerge. In fact, Weber sees several different structures as depending on legal-rational action, bureaucracy being the one which is "most unambiguously a structure of domination" (1968: 219).<sup>5</sup>

Weber reaches the high point of his methodological consistency in the construction of such intermediate levels of organization from types of social action. This consistency primarily rests upon the logically derived and formally described structures which correspond to types of social action. There is no clear direction of cause here, but an assertion of expected correlation between legal-rational action and bureaucracy, comparable to the correlation between religious and economic action mentioned above. Thus, "collegial bodies," just as bureaucracies, rest on legal-rational action. So, for that matter, does the market.

What, then, is the relationship among these structures? It seems fair to say that Weber intends to characterize whole societies in terms of the types of social action in which their members engage. This is evident in the example of legal-rational social action, at least to the extent that the formal analysis of bureaucratic structure implies the existence of control from the top, and a *clinetete* at the bottom. Given a perfectly hierarchical flow of commands, the method of recruitment to the top of the structure becomes crucial theoretically (1968: 987). Further, even given legal-rational action throughout a society, not simply in a single bureaucracy, there are numerous alternative rational procedures for determining the person at the top of the hierarchy. In addition, bureaucracy, as opposed to other forms of organized legal-rational action, assumes a *clinetete*; i.e., something is administered for, or to, other actors. These actors, as well as the officials in the bureaucracy, must at least passively accept the legitimacy of legal-rational domination.

Weber sees the ideal-typical bureaucracy as a central institution of modern society. It is "fully developed in political and ecclesiastical communities only in the modern state, and in the private economy only in the most advanced institutions of capitalism" (1968: 956). More generally, "bureaucracy is the means of transforming social action into rationally organized action" (1968: 987). Bureaucracy is related to the formation of collegial bodies, especially in the legal profession and parliament, which are also based on legal-rational action. Bureaucratization, as the most rational example of modern social action, is related to the leveling of social differences in the interests of technical efficiency and universal administration. Finally, all of this is related to the emergence of modern capitalism (1968: 296).

Thus, legal-rational social action results in several different, but related, ideal-typical forms: the market, bureaucracy, and collegial bodies. These forms, in turn, are composed of various factors, some or all of which have appeared independently or in various combinations in other historical circumstances. Furthermore, legal-rational social action is only one of at least three ideal-typical social actions. Any of these can occur in principle in different combinations; for example, feudalism is based simultaneously on both traditional domination (personal fealty) and legal-rational domination (free contract) (Weber, 1968: 255-256). Weber (1949: 72-73) makes this combination of factors an explicit methodological statement:

The type of social science in which we are interested is an empirical science of concrete reality. Our aim is the understanding of the characteristic uniqueness of the reality in which we move. We wish to understand on the one hand the relationships and the cultural significance of individual events in their contemporary manifestations and on the other the causes of their being historically so and not otherwise... [It] concerns itself with the question of the individual consequences which the working of these laws (universally valid causal relationships) in a unique configuration produces, since it is these individual configurations which are significant for us.

These "configurations" are derived from an examination of all combinations of all "objective possibilities", which in turn are intermediate levels of organization based on types of social action. Weber (1949: 181-182) asserts that "the judgment of 'objective' possibility admits graduations of degree and one can form an idea of the logical relationship which is involved by looking for help in principles which are applied in the analysis of the 'calculus of probability'" He develops this logic of analysis still further as a model. Just as the bias of a loaded die is established through frequent repetition, comparable, if less reliable, methods can be used in social science:

[W]e can ... very well render generally valid judgments which assert that as a result of certain situations, the occurrence of a type of reaction, identical in certain respects, on the part of those persons who confront these situations, is "favored" to a more or less high degree ... And we can ... estimate the degree to which a certain effect is "favored" by certain "conditions" --- although we cannot do it in a way which will be perfectly unambiguous or even in accordance with the procedures of the calculus of probability. We can, however, well enough estimate the relative "degree" to which the outcome is "favored" by the general rule by a comparison

classes" which are "in between" "positively and negatively privileged property classes" (1986: 303-304).

Thus far, these categories of "class situation" appear to be purely nominalist. This interpretation is supported by Weber's (1968: 928-29) assertion that in order to avoid ambiguity, "class interest" ("interest" being the operator defining "class") is understood to be "the factual direction of interests following with a certain probability from the class situation for a certain average of those people subjected to the class situation." These interests are shared individual properties which may result in either "mas behavior" or "amorphous social action." It seems clear that the creation, choice, and combination of categories would be the sole basis for the construction of ideal-typical interests among various sectors of the population.

However, stratification, for Weber, takes on an implicitly independent reality in his discussion of the formation of intermediate organizations, or associations, for the purpose of organized social action on the basis of class interest. His discussion of this is remarkably similar to Marx's theory of class structure and consciousness, in which an analysis of the objective structure provides a vantage point from which to study the adequacy of meaning (approximation to a correct understanding) for the actor:

[H]owever different life chances may be, this fact in itself, according to all experience, by no means gives birth to "class action" ... For that, the real conditions and the results of the class situation must be distinctly recognizable. For only then the contrast of life chances can be felt not as an absolutely given fact to be accepted, but as a resultant from either (1) the given distribution of property or (2) the structure of the concrete economic order (Weber, 1968: 929).

The reasons for Weber's shift here seems to lie in his own recognition of the limitations of simple aggregation in determining structure at the societal level. If individuals in a particular society are indeed differentiable through a potentially infinite series of combinations of cross-cutting variables, it is difficult to posit stable sets of categories without being extremely arbitrary. He never actually confronts this problem in his substantive studies, however, because he never attempts to use this aggregative methodology to analyze an entire society. He does use it, however, to contrast two basically different types of stratification which may characterize ideal-typical societies: "class society" or "status society" (1968: 306, 937). In order to do this, he employs the concept of status and "status group" which may be interpreted both as an additional variable and as an intermediate level of structure.

Weber defines "status" as "an effective claim to social esteem in terms of positive or negative privileges; it is typically founded on (a) style of life, hence (b) formal education ... or ... (c) hereditary or occupational prestige" (1968: 305-306). Thus, status as much as class is an individual attribute. Weber goes on to say, however, that "in practice, status expresses itself through (a) connubium, (b) commensality, possibly (c) monopolistic appropriation of privileged modes of acquisition or the abhorrence of certain kinds of acquisition, (d) status conventions (traditions) of other kinds" (1968: 306). These are relational, or group, rather than individual characteristics.

Weber is contrasting types of societies here in terms of the appropriateness, however, determined, of classifying individuals as individuals, or as actors organized into intermediate structures. The definition of class situation as "ultimately market situation" (1968: 928) contrasts with the definition of status groups as at least to some extent self-defining (1968: 306). This contrast is sometimes evolutionary, the market ("commercial classes") being based on instrumentally rational social action, and status groups being based on traditional social action (1968: 306). At other times, there is a more explicit notion of process: Since status groups involve consumption at a level to maintain a specifically defined style of life, given a "relatively stable" (1968: 938) distribution of goods, property classes may "create" status groups (1968: 307).

In his analysis of class and status, Weber confronts the difficulty of analyzing process in distributional terms. Weber attempts to resolve the difficulty of analyzing societies as combined distribution of individual characteristics through constructing intermediate levels of structure --- class associations and status groups. In order to do this, he abandons his explicit methodology in describing the processes of group formation. Specifically, since he recognizes that similar social action does not imply organization, he posits, albeit implicitly, the existence of large-scale social organization which does not derive from social action, but which provides an "objective" framework within which subjective meanings develop.

#### Conclusions: Notes on a Structural Approach

Weber's great historical studies rest on the assumption that collective entities, or structures, exist in their own right. His social action methodology, however, has led to the logically consistent conclusion that "to see them (collective entities) as possessing a supra-individual reality of their own is to reify them", and consequently that "a society is essentially a set of broadly warranted predictions made by its members about one another's behavior. In this sense, it exists only in people's minds," even if it results from observable interaction (Wrong, 1970: 22, 25). While this interpretation is extreme, the major thrust of Weber's methodology asserts that social structures which exist in their own right can be derived from the cumulation of social actions. Therefore, the study of social structure cannot be limited to the causes

charisma. As a consequence, the predominant explanation of change in the field has had to rely on dynamics separate from the formal organization itself -- either "outside", in a vaguely defined "external situation", (Parsons, 1962), or "inside", in a relatively less structured "informal organization" (Blau, 1963). Both take on meaning only as contrast conceptions to "formal organization". They are nonetheless the focus for studies of dynamics within stable bureaucracies (Blau, 1963), or are seen as the source of changes in the formal structure itself (Blau and Meyer, 1971: 138-146).

Weber's methodology does not provide the basis for resolution of the problems involved in developing models which simultaneously analyze structure and change. These are beginning to develop in the field of organizations (e.g., Crozier, 1965). It is hoped that a critical use of Weber's substantive work in conjunction with creative structural approaches will be the basis for new directions. For instance, it should be possible to reinterpret the empirical findings and theoretical insights in the field so that they form an integral base for further analysis. Instead of three related problems --- formal bureaucratic structure, informal organization, and the relations of organizations to the larger society --- a structural approach would define a consistent over-all theoretical perspective for posing research questions. Important types of relations among roles should be treated simultaneously over time, and the patterns of relationships which emerge should define the theoretical unit as the formal organization, within which and outside of which different, if related, sets of events occur. Thus, ties across the boundaries of formal organizations as currently conceived could be treated simultaneously with intra-organizational ties, "formal" and "informal". Such an approach would broaden the range of important questions within the field, and provide a theoretical framework for integrating and building on the findings of each of these areas. Furthermore, this approach should return to Weber's emphasis on historical analysis.<sup>6</sup> It is through tracing changing types and patterns of relationships over long periods of time that sociologists gain insight into important structural dynamics.<sup>7</sup>

Two conclusions emerge from this analysis of Weberian methodology. First, those areas of sociological inquiry which rely on Weber's verstehen approach and the aggregative, distributional logic which he so clearly laid out, should be re-evaluated in the light of its methodological and theoretical implications. Thus, the utility of empirical studies which assume that distributions of variables measured on individual units are synonymous with social structure increases with a clear theoretical understanding of what they are and are not measuring, and of what conclusions about social organization can be drawn from them. Similarly, the common conceptual origins of supposedly "objective" empiricism and areas such as phenomenology, which emphasize the interpretive methodology fundamental to Weber's approach, point to new interpretations of these fields. Weber's subjective methodology does not imply subjective results (Zeitlin, 1968: 117). Neither, I have argued, does empirical measurement of individual attributes imply objective results. Fundamentally, whatever their differences, both can be contrasted to a structural approach.

Second, sociologists seeking to develop a structural method of analyzing social organization should build on those aspects of Weber's work in which he departs from his explicit methodology. Certain of his ideal types, such as bureaucracy, are formal models which provide one basis for this development. But to analyze structural dynamics, we will need more closely and explicitly to integrate theoretical and empirical work. It will no longer suffice to develop new concepts, such as "informal organization", to account for empirically observed discrepancies from the ideal type. Instead, we can build on what is best in the work of the classical theorists by explicitly adopting and developing structural strategies of analysis, which analyze changing patterns of relations among individuals, organizations, groups, classes, and nations. To take the concept of social structure seriously, we must take as our analytic units the actual ties among individuals or organizations. The patterns of these ties over time is social structure.

#### Footnotes

1. This use of the term structuralism is different from and more limited than its uses by, for instance, the schools following Talcott Parsons and Claude Levi-Strauss. Both of these schools are seeking universal social laws, the former through the functional integration of differentiated subsystems defined a priori, and the latter through the human mental processes underlying social organization. It is closer to Etzioni's description of structuralism (1964: 41-49).
2. Primarily through the work of Alfred Schutz (Wagner, ed., 1970: 5-11). Compare also Weber's discussion of motives in Economy and Society (1968: 8-13) with C. Wright Mills' "Situated Action and the Vocabulary of Motives" (1963).
3. Weber developed his methodological approach in dialogue with other classical sociologists. Weber saw the utility of functional analysis for "provisional orientation", but attempted to avert the dangers of "reification" inherent in organic analogies. (Weber 1968: 15). While accepting the formalist distinction between "form" and "content", Weber was primarily concerned with the "content" or "meaning" of social action. (Weber 1968: 86). This focus is the reverse of Simmel's, who advocated the exclusive investigation of "forms of sociation". (1971: 124-125). Weber recognized the utility of Marxian "laws and developmental constructs" if used as ideal types (Weber 1949: 103), but his focus on "subjectively meaningful social action" did not allow him to confront directly the problem of "objective reality". For instance, Weber's definition of "an economy" rests upon the subjective views of actors (1968: 63). In contrast, Marx

URBAN SOCIOLOGY IN BRITAIN AND THE STUDY OF SOCIAL NETWORKS

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The third biennial Centre for Environmental Studies conference entitled 'Urban Change and Conflict' was held at Nottingham University in January 1979. It provided an opportunity to assess trends in British urban sociology in the last five years.

In brief, it can be said that during this period a new paradigm has become accepted in the field.

The first conference, at York in 1975, had the implicit function of introducing a Marxist perspective, current at that time mainly in French, German and Italian writing, to British urban sociology. The atmosphere was one of confrontation. Ray Pahl, the senior urban sociologist present and promoter of the "urban managerialist" perspective (see Whose City) acted as 'lightning conductor' for the criticism unleashed against the 'old guard'. This perspective had focussed attention on the actions of local authority officials (e.g. town planners, housing managers) and private sector actors (e.g. building society managers, landlords) as determinants of people's life chances. It was criticized as cutting short the chain of explanation prematurely, by failing to ask about the forces constraining local authorities, and the private sector - i.e. of failing to relate 'urban' phenomena to the functioning of British capitalism and the role of the state within it. This criticism was ambiguous: some critics implied that 'urban managers' or 'gatekeepers' should not be objects of study within a radicalized urban sociology, whereas others saw no reason why they shouldn't provided the wider forces within which they acted were brought into the analysis.

At the 1975 conference the debate about the new perspective probably seemed cliquish to many participants. This was probably inevitable given the fact that access to the statements of the new perspective was restricted to those who could read them in the original or to members of various networks through which English translations passed. The publication in 1976 of my collection Urban Sociology: Critical Essays and in 1977 of Harloe's collection Captive Cities and Castells's The Urban Question put an end to this phase. (The Proceedings of the two Conferences on Urban Change and Conflict, which include both papers and discussion, are also very well worth reading.)

The result was that by the time of the 1977 conference, and *a fortiori* by January 1979, the questions at issue in the debate were generally understood and it appeared that the new perspective had won the day. In fact, at the 1979 conference there was a disturbing complacency about the proceedings as though people felt that theoretical debates (Marx v. Weber) were a thing of the past and that the point was to get on with the work of 'normal science'.

However this account needs to be amplified. First, no intellectual debate proceeds independent of its social surroundings. The crisis phase of capitalism and its reflection in Britain in the selective cutting of government social expenditures revealed the fragility of a welfare state that people had previously been able to view as an untouchable part of the modern state. The revelation of the dependence of the welfare state on the state of the economy and of government responses to preserve the conditions of capital accumulation at all costs, greatly facilitated acceptance of a perspective which placed capital accumulation and the role of the state at its centre. At the same time, the widespread rise in social protest provided fertile ground for a perspective which emphasised class struggle in the broadest sense.

Second, it is not the case that the British intellectual scene was a tabula rasa on which this new perspective was inscribed. One of the most interesting developments has in fact been what can be called the "British response" to the "French School" - though such labels inevitably turn the issue into a replay of the Battle of Hastings. While it is true that British Marxist urban sociology was absent as an important current, Marxist-inspired writing in the fields of history and general sociology was not. The result is that there has been a widespread rejection of 'structuralist' elements of French writers such as Castells and Poulantzas, deriving from Althusser. (n.b. These elements were not to be found in the writings of Lojkine, Preteceille and other 'urban' proponents of the 'state monopoly capitalism' thesis - against which, however, other criticisms developed.)

Given the ubiquity of the term 'structure' and its necessity - in my view - to any social science analysis, it should be made clear that the objection was to the abstract level at which the structures were located and to the absence of analysis of the processes by which they operated and changed. It was the classic criticism directed against static analysis in economics, and some versions of functionalism in sociology, that the way in which major change came about and the role of political forces in bringing it about had become excluded. Either the underlying 'structures' had a formal and timeless character and reality was ignored or seen as a mechanical 'playing out' of the structural contradictions they contained or else arbitrary connexions were made between current events and structural contradictions. And as Ranciere (1974) argued such arbitrary relations led to political impotence and a retreat to the ivory tower.

This critique of "structuralist" Marxism and its disdain for analysing political process was made both in France and Britain. In each country it had specific origins. In France the rise in strength of the

Footnotes

1. Michael Harloe (Centre for Environmental Studies, London, editor. Available from Journals Subscriptions Department, Edward Arnold (Publishers) Ltd., Woodlands Park Avenue, Woodlands Park, Maidenhead, Berks, ENGLAND.

2. I do not subscribe to the view that they are purely mental constructs. While it is true that they refer to an abstract concept, i.e. social networks do not walk around, it is equally true that they are abstractions from an objective reality, i.e. President Carter is not part of the primary zone of my network.

References

- Bell, Colin 1968: Middle Class Families. London: Routledge and Kegan Paul.  
Castells, Manuel 1977: The Urban Question. London: Arnold; and Cambridge, Mass: MIT Press.  
Harloe, Michael (ed.) 1977: Captive Cities. London and New York: Wiley.  
Pahl, Ray E. 1975: Whose City. Harmondsworth: Penguin.  
Pickvance, Christopher G. (ed.) 1976: Urban Sociology: Critical Essays. London: Tavistock, and New York: St. Martins Press.  
Proceedings of the Conference on Urban Change and Conflict 1975 and 1977 (2 vols.). London: Centre for Environmental Studies.  
Ranci re, J. 1974: La le on d'Althusser. Paris: Gallimard.
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COMMENT ON PICKVANCE

Barry Wellman (*Sociology, U. Toronto*)

I also was at the 1975 and 1979 conferences, and I agree with the general thrust of Chris Pickvance's description. These conferences have been most important in moving British urban studies away from aggregative, psychological, interest-less analyses. More recently, with the shift in editorial emphasis of Comparative Urban Research and the foundation of the International Journal of Urban and Regional Research, North American scholarship has started moving in the same direction.

Pickvance's comments, though, reflect a prevalent English misconception of current network analytic approaches. I repeatedly heard in England that network analysis was inherently limited to studying equal-status relations between individual persons; hence it was not useful for macrostructural, conflict and dependency approaches. This is a gratuitously unnecessary restriction of network analysis which ignores the past decade of network analyses studying (a) asymmetrical relations of power and dependency and (b) links between larger units (corporations, blocks, interest groups, network clusters, etc.).

My comments are not only a request for attention to be paid to these approaches but also to note that the avoidance of a network-informed approach has done the macrostructuralists-Marxian, Marxist, or not--a lot of harm. It has caused too many otherwise promising macrostructural accounts to end up either as only ideological polemics or, at best, plausible accounts backed up by selected anecdotal examples. While these are often morally and aesthetically satisfying, they cannot be intellectually compelling.

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*Continued from page 71.*

- Pfeffer, Jeffrey and Gerald R. Salancik, 1978. The External Control of Organizations: A Resource Dependence Perspective. New York: Harper and Row.  
Simmel, Georg, 1908, Soziologie, Untersuchungen ueber die Formen der Vergesellschaftung. Leipzig: Duncker and Humblot.  
Terreberry, Shirley, 1968. "The Evolution of Organizational Environments." Administrative Science Quarterly 12:590-613.  
Turk, Herman, 1961. "Instrumental Values and the Popularity of Instrumental Leaders." Social Forces 39:252-360.  
Turk, Herman, 1977. Organizations in Modern Life: Cities and Other Large Networks. San Francisco: Jossey-Bass.  
Turk, Herman and Mitsuyo Hanada, 1978. "The Role of Typology in Macrosocial Theory: The Case of Metropolis and Nation." Paper presented at the Ninth World Congress of Sociology, Uppsala, Sweden.  
Turk, Theresa G. and Herman Turk, 1962. "Group Interaction in a Formal Setting: The Case of the Triad." Sociometry 25:48-55.  
Warren, Roland L., Stephen M. Rose, and Ann F. Bergunder, 1974. The Structure of Urban Reform: Community Decision Organizations in Stability and Change. Lexington, Mass: D.C. Heath.
-

help make sense of interlocking through disaggregation, and because they attempt to operationalize the categories (see especially Allen 1974). They attempt to understand the conditions which lead to the several types of interlocking. Size, type of organization, need for a given resource, are examples of independent variables employed in these studies. Most of the independent variables used are standard ones in the organizational literature.

A third type of literature attempts to discover interest groupings in the economy by analyzing interlock connections among major corporations. These studies take some universe of companies and enumerate the interlocks among the companies. These researches claim a common ancestry in Sweezy's report on interest groups for the National Resources Committee (1939). Interlocks in these studies are conceptualized as sociometric links within a network of corporations, somewhat like friendship choices in a neighborhood. The network is the key agent in these studies. The observation unit is the interlock. Researchers analyze their data on interlocks in their universes of corporations using graph theoretical techniques (Sonquist and Koenig 1975; McLaughlin 1975; Levine 1972) or factor analysis (Allen 1978), or manipulations of measures of centrality (Bonacich 1972; Bearden, et al. 1975; Mariolis 1977). These studies attempt to find whether the networks delineated fit models of the structure of the corporate economy. However, the statistical techniques used in these studies do not lend themselves to hypothesis-testing as straightforwardly as do standard techniques such as regression analysis. That might be why it is sometimes difficult for readers to discern the connection between the theoretical introductions of these works and their analysis of data.

Differentiation studies: A fourth approach uses interlocking directorate data for empirical study of the internal differentiation of the capitalist class (or "corporate elite"). Historical studies and theoretical discussions have occasionally singled out groups, which are claimed to be "core groups," the cutting edge of the class in political and economic matters.<sup>2</sup> "Differentiation" studies consider interlocking directorate data as convenient material for developing indices for empirical confirmation of the economic and political power of these core groups in the class (Zeitlin, et al. 1974b; Johnson 1976; Soref 1976, forthcoming; Useem 1978; Allen forthcoming). These studies are not concerned with the corporation, nor even very much with interlocking. If they include a conceptualization of interlocking, it is usually as a means of collusion, but the conceptualization is usually incidental to the studies' principal concern. The key agent of these studies is the subgroup (the "inner group," the "upper class," the "finance-capitalists," etc.) of the class. Directors are the observation units. Data analysis involves aggregation of the positionholding of directors, so that the positionholding of subgroups are compared.

Other references: Some of the citations in this bibliography are included because they supply useful background material for the researcher. They provide background on boards of directors, sources, and on some of the approaches outlined above. The works in this last category have been cited in the discussion of the four types of approaches to interlocking directorate data. Mace (1971), Zald (1969), and Gordon (1945, pp. 116-47) describe boards of directors. There are many other books on boards of directors not included. NACLA (1970) and Community Press Features (1974) list sources of information on boards of directors and related topics.

Finally, a few caveats/apologies are in order. This bibliography is ethnocentric. Only two citations deal with interlocking outside the U.S. (Clement 1975; Zeitlin, et al. 1974). Law journals occasionally publish essays on interlocking directorates, but I have neglected that literature. This bibliography probably missed much of the work which has been presented or published in 1978.

#### Footnotes:

1. See also Black and Goff (1969), Finger, et al. (1974) and Chevalier (1970, p. 172) for interesting mappings depicting patterns of potentially collusive interlocks.
2. See, for example, Weinstein (1968); Zeitlin (1974); Sweezy (1970a). For reviews and theoretical discussions, see Zeitlin, et al. (1976, pp. 1006-1010); Zeitlin (1974, esp. pp. 1097-1106); Poulantzas (1975, pp. 91-188); Useem (1978, pp. 225-28). For other material on finance capital and bank control, see Hilferding (1970); Fitch and Oppenheim (1970). See Sweezy (1970b; pp. 258-69) for an exposition of Hilferding.

#### References

- Allen, Michael. 1974. "The Structure of Interorganizational Elite Cooptation: Interlocking Corporate Directorates." American Sociological Review 39 (June): 393-406.
- \_\_\_\_\_. 1978 "Economic Interest Groups and the Corporate Elite Structure." Social Science Quarterly 58 (March): 597-615.
- \_\_\_\_\_. forthcoming. "Continuity and Change Within the Core Corporate Elite." Sociological Quarterly.
- Bearden, James, William Atwood, Peter Freitag, Carol Hendricks, Beth Mintz and Michael Schwartz. 1975. "The Nature and Extent of Bank Centrality in Corporate Networks." Paper presented at the annual meeting of the American Sociological Association, San Francisco, August.
- Bonacich, Phillip. 1972. "Technique for Analyzing Overlapping Memberships." Pp. 176-85 in Herbert Costner (ed.), Sociological Methodology. San Francisco: Jossey-Bass.
- Bunting, David, and J. Barbour. 1971. "Interlocking Directors in Large American Corporations, 1896-1964." Business History Review 45 (Autumn): 317-35.

*SOCIAL NETWORKS AND PSYCHOLOGY*

*David M. Todd (U. of Massachusetts - Amherst)*

For this first round-up I will attempt to broadly characterize the use of the social network concept in psychology. Delineating this topic is, quite appropriately, difficult. The areas of social network research in which psychologists are involved are thoroughly interdisciplinary. Moreover, some work done by psychologists does not involve variables that are particularly psychological in nature, and some work which does have a distinct psychological focus (e.g. avowed happiness, cf. Brim, 1974) is not done by psychologists. I will simply celebrate this condition, and not worry too much about the boundaries!

Based on my own knowledge of the discipline and the stated interests of psychologists who belong to INSNA, I believe the greatest psychological use of the social network concept is in the study of social support, mental health (or more broadly, psychosocial adaptation), and the development of both professional and "natural" support systems. (This may be an egocentric view; it is the work in which I am personally involved). Much of this literature is included in the excellent bibliography by William Ratcliffe in the Summer, 1978, issue of Connections. This work includes theory and research on social network correlates of social support and psychosocial adaptation (e.g. Brennan, 1977; Hirsch, 1977; Toisdorf, 1976; Walker, MacBride and Vachon, 1977), a topic which is receiving much attention in a variety of disciplines. Among the most recent contributions is a major study of help-seeking published as a special issue of the American Journal of Community Psychology (Lieberman and Glidewell, 1978). This study includes psychological measures of adaptation and the effectiveness of support (Lieberman and Mullan, 1978) and explores the interaction of psychological and social structural (including network) factors in relation to help-seeking (Brown, 1978). I stress this because such measures and interactions have not been widely studied (Kahn, 1975); I believe they are essential for the adequate study of social psychological processes (Gottlieb and Todd, in press); and they represent a level of analysis to which psychologists should make a significant contribution.

A closely related area of work which psychologists share with other human service professions is network intervention. This includes direct network therapy (Attneave, 1969; Speck and Attneave, 1973), as well as more limited forms of remedial intervention with networks (Curtis, 1974), support during transitional crises (Gelinias, 1975; Walker et al., 1977), and attempts to strengthen "natural" support networks as a preventative measure (Gottlieb and Todd, in press). In addition to therapeutic and preventive work with personal networks, there also seems to be considerable interest in human service and resource networks (Curtis, 1973; Sarason et al., 1977) and the relationship between professional and naturally occurring support systems (Gottlieb, 1975). Much of the literature on these topics is included in the Ratcliffe bibliography; Diane Pancoast's round-up of social work literature in Vol. 1, No. 2; and the course outline by David Trimble in Vol. 2, No. 1. In my view the support network intervention literatures represent an important infusion of structural thinking into professional work, and there is a welcome development of techniques and applications. I am less clear that this work is contributing to our formal knowledge about the structure and dynamics of social networks, and their interaction with psychological processes. The potential for such action/research seems excellent. A very notable example is reported by Walker, MacBride and Vachon (1977).

I am less familiar with work in other areas of psychology. For the past decade or more, I believe that the use of social structural concepts in psychology has been pretty well limited to organizational psychology and the new field of community psychology. It is in this latter field that the social network concept seems to have taken firmest hold. However, there have recently been strong arguments for psychologists to incorporate collective and social structural concepts into their research in such areas as social (Steiner, 1974) and developmental (Bronfenbrenner, 1977) psychology. It is my impression that psychologists in these areas are increasingly using the social network concept to address issues of social structure and to broaden their scope from more limited contexts of family (Berger and Wuescher, 1975), formal organization, small group, and dyad. I do not know to what extent earlier structural inquiries in psychology, such as sociometrics and communication networks in small groups, are being enlivened and extended within social network conceptualization. "Small world problem" research is clearly one such effort in which psychologists are working (e.g. Travers and Milgram, 1969; Killworth and Bernard, 1978). I invite others who are familiar with these areas to address this question.

Up to this point I have focused, implicitly at least, on the impact of network structure on psychological and social psychological phenomena. I would also like to draw attention to the impact of individuals on social networks. I believe it is most productive to think of individual-network relationships as interactive, even dialectical, social processes in which persons affect the social structures which in turn shape their lives. This suggests a need for longitudinal studies which examine processes of developing, changing or leaving personal networks. I believe some work of this sort is going on (for example, by Richard Leavy at St. Mary's College), and I hope that more will be.



EXPECTATIONS IN A SOCIAL NETWORK: THE SMALL WORLD OF BOCHNER, BUKER, AND MCLEOD REVISITED

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ABSTRACT. Some of the data from a "small world" study by Rochner, Buker and McLeod (1976) are reanalyzed to illustrate one of the difficulties in the statistical treatment of such social networks data. A conclusion reported in the original article is found to be incorrect and a new result is recorded.

The purpose of this note is to explore one of the special problems in the statistical analysis of data generated in the study of social networks: the calculation of expected frequencies. This will be done in the context of a reexamination of the data from Table 4 of a recent study by Bochner, Buker and McLeod (1976) hereafter referred to as BB&M.

The BB&M Study

The article by BB&M provides an excellent illustration of one of the special problems of statistical analysis of social network data. It describes an inherently interesting problem and includes an imaginative design for the collection of data. BB&M were concerned with the problem of evaluating the effectiveness of an international educational and living center in fostering friendships among people from vastly different backgrounds. Do experiences in such a center, they asked, generate warm and intimate connections between the people involved?

BB&M designed a variation of Milgram's (1967) small world experiment in which they had persons in a sample of students in an international living center each pass a packet to another whom they considered to be a friend. Persons chosen this way were requested to continue passing the packet. Thus, the data generated were a set of 18 chains, varying in length from 0 to 15 steps, each representing the history of the passage of a packet. Various kinds of personal attribute data on each subject were also recorded.

The problem, as defined by BB&M, was to assess the impact of individual attributes--like nationality, sex, program of instruction in the center and location of residence--on choice of friends. Thus, their independent variables were attributes of persons and their dependent variable was the dyadic relation of friendship choice. Their research goal was to determine the degree to which any friendship choice is biased by the characteristics of the chooser and his or her potential targets. They were not concerned with choice biases determined by the structure of the relations between points established earlier in the chain.<sup>2</sup>

BB&M define a transaction as "the handing on of a booklet by one person to another." In reporting their data BB&M have decomposed the chains into their pairwise components (thereby eliminating the possibility of studying sequential effects). They concentrate instead on studying biases in the generation of from-to pairs.

BB&M reported a significant tendency for persons to pass messages to targets of the same nationality, gender and program of study. Their analysis of data on housing propinquity, however, led them to the conclusion that proximity effects were small.

Reanalysis of the Propinquity Data

TABLE 1  
PROPINQUITY DATA

Distance between rooms of initiator and receiver	Number of transactions
Roommate	7
Same Unit	20
Same Floor	18
Same Building	35
Different Building	6

(Source: BB&M, Table 4)

Table 1 shows the "propinquity data" as reported in BB&M's Table 4, BB&M in referring to this table reported that, "The model transaction occurred between two persons who occupied the same building but lived on different floors, indicating that physical proximity played only a minor role in determining the pattern of responses." They went on to argue that, "the absence of a strong proximity effect," in contrast to the findings of other studies, was fortunate because it left the main determinants of response patterns unmarred "by internal inconsistency."

among these students. Whether this is due to biases in room assignments or to the effects of propinquity in breaking down interpersonal distance is unknown and unknowable without further data.

The basic problem in the BB&M analysis stems from their reliance on an intuitive judgment about expectations in the study of social networks. Safety, it would seem, requires that actual expectations be calculated before conclusions can be drawn.

Footnotes:

1. The author wishes to express his gratitude to Peter Killworth for his detailed and helpful review of an earlier draft of this paper.
2. A chooser, for example, would be unlikely to return a packet to the person who chose him or her although such a symmetrical choice is not prohibited by the rules of the experiment.
3. Since we know something about room assignments by gender, it is possible to compute expected male-male and female-female choices, given the observed tendency to choose friends according to residential propinquity. Under this propinquity assumption, Peter Killworth has computed the expected proportion of female-female choices to be .823 and male-male choices to be .848. In both cases the observed proportion is .86. Their standard errors are .058 and .054 respectively, yielding normal deviates of .64 and .18. Neither is significant, which suggests that the observed tendency for same gender choices may be seen as a simple function of housing propinquity.

References:

Bochner, S., E.A. Buker and B.M. McLeod. 1976 "Communication Patterns in an International Student Dormitory: A Modification of the 'Small World' Method." Journal of Applied Social Psychology 6: 275-290.

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*Continued from page 86.*

- Sweezy, Paul M. 1939. "Interest Groupings in the American Economy." Appendix 13 of US Department of the Interior, National Resources Committee, The Structure of the American Economy, Part I. Washington: US Government Printing Office (reprinted in Paul M. Sweezy, ed., The Present as History. New York: Monthly Review).
- \_\_\_\_\_. (1951) 1970a. "The American Ruling Class." Pp. 356-371 in American Society, Inc. edited by Maurice Zeitlin. Chicago: Markham.
- \_\_\_\_\_. (1942) 1970b. The Theory of Capitalist Development. New York: Monthly Review.
- Thompson, James. 1967. Organizations in Action. New York: McGraw-Hill.
- United States, Federal Trade Commission. 1951. Report of the Federal Trade Commission on Interlocking Directorates. Washington: US Government Printing Office.
- United States, House of Representatives, Committee on the Judiciary. 1965. Interlocks in Corporate Management. Washington: US Government Printing Office.
- United States Senate Committee on Governmental Affairs. 1978. Interlocking Directorates Among the Major US Corporations. Washington: US Government Printing Office.
- Useem, Michael. 1978. "The Inner Group of the American Capitalist Class." Social Problems 25 (February): 225-40.
- Warner, Lloyd, and Darab Unwalla. 1967. "The System of Interlocking Directorates." Pp. 121-157 in Warner, Unwalla, and John Trimm, The Emergent American Society, Vol. 1: Large Scale Organizations. New Haven, Conn.: Yale.
- Weinstein, James. 1971. The Corporate Ideal in the Liberal State. Boston: Beacon.
- Zald, Meyer. 1969. "The Power and Function of Boards of Directors: a Theoretical Synthesis." American Journal of Sociology 75 (July): 97-111.
- Zeitlin, Maurice. 1974. "Corporate Ownership and Control: the Large Corporation and the Capitalist Class." American Journal of Sociology 79 (March): 1073-1119.
- Zeitlin, Maurice, Richard Ratcliff, and Lynda Ewen. 1974. "The 'Inner Group': Interlocking Directorates and the Internal Differentiation of the Capitalist Class in Chile." Paper presented at the annual meetings of the American Sociological Association, Montreal, August.
- Zeitlin, Maurice, W. Lawrence Neuman, and Richard Ratcliff. 1976. "Class Segments: Agrarian Property and Political Leadership in the Capitalist Class of Chile." American Sociological Review 41 (December): 1006-1029.
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### Causal criteria of social (preference) structure

On the sixth day we asked every person to tell us how his preference structures are. These structures were described by three indicators for each of the three criteria groups. Situational - communication; - goodness, frequency, continuance. Emotional - sympathy, understanding, anxiety. Cognitive - share of success, helping behavior concerning working problems, helping behavior concerning personal problems. And two indicators for the general subjective preference structure - how close do you feel towards...?, how much time will you spend for...?

### Availability of these data

This data pool of about 2 x 40,000 information units will be coded in a form that is available to those who wish to work with it. We would be glad if some scientists were interested in getting these data to show the usefulness of network methods for such kinds of problems and such kinds of data. Therefore we want to give these data to a "data service station" like the Zentralinstitut für empirische Sozialforschung in Cologne (Germany) which exchanged information with other institutions in Europe and the U.S.A. More information (a detailed description of the data set is now prepared in German only) is available from our group (see also "Analysis of Social Networks" Connections I # 2:15-17).

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### *REPORT ON RURAL EDUCATIONAL RADIO PROJECT IN EASTERN NICARAGUA*

*Bonnie Brownlee and Gary Garriot.*

#### 1. Context/Background

The Regional Educational Radio (RER) Project in eastern Nicaragua intends to reach the rural population within a 100 mile radius of Puerto Cabezas ("Port"), a coastal city in the northeast corner of Zelaya province. While recent reliable population data are non-existent, approximately 50,000 people live in this region bordering the Atlantic Ocean. The majority form an indigenous group, the Miskito, who are said to descend from a west coast population displaced from the Pacific lowlands prior to the Spanish conquest. Over the past two centuries, the Miskito have intermarried with black emigrations from the Caribbean islands as well as smaller numbers of Chinese, Arabs, Europeans and, more recently, Spaniard-Nicaraguans. As many as fifty percent of the Miskito have Negroid physical characteristics.

In the past, the Miskito have experienced relative social and political isolation from national concerns, including the civil strife in 1978. Economically, the Miskito have not engaged in significant commerce or trade within Nicaragua, but have rather been subject to boom- and-bust cycles of foreign exploitation (chronologically--rubber, mahogany, gold-silver, bananas, pine, and green sea turtles). Still, a strong subsistence economy survives based on slash-and-burn agriculture and fishing (including shrimp, turtles, and lobsters).

The term "purchase society" has been used to describe the Miskito desire to enter the wage labor market to buy foreign manufactured goods, while maintaining political autonomy and a stable social organization. This can be contrasted to the term "peasantry," which implies total dependence on external social, political, and economic forces. Of late, the Nicaragua government has attempted greater integration of the Miskito into political and economic life through greater dependence on national institutions and capital inflows with the distinct possibility of stimulating a broad shift from the "purchase society" to a "peasantry" classification.

Within this context, the "Regional Educational Radio" concept was created. The project was first proposed by the Wisconsin-Nicaragua Partners, a non-governmental organization (NGO; headquarters: Madison, Wisconsin, U.S.A.) operating in the rural areas surrounding Puerto Cabezas for about five years with programs of nutrition and health education and the establishment of a number of health clinics along the community health leader/health committee model. Port serves as a center for the health and nutrition effort. (The Partners' operation in Port is known as CENDER--the Center for Regional Development.) From CENDER medicines are distributed and daily contact with the clinics is maintained by short wave radio (single sideband). Periodic instructional courses are held in Puerto Cabezas and selected Miskito villages for the leaders. Visits are sometimes made to the rural areas by CENDER medical and nutritional personnel, at this time primarily American Peace Corps Volunteers and medical students.

At the outset, RER will attempt to utilize the health-nutrition leader network in its operation by (1) employing the leaders as sources of information for the radio themselves, and (2) encouraging the leaders to supplement their and others' instructional programming by local reinforcement through discussion groups and informal chats.

However, RER also includes a more non-traditional component in its operating philosophy. Instead of only delivering information predetermined as important by outsiders, all villagers--not only the health and nutrition leaders--will be given the opportunity to participate in determining the kinds of information they wish to hear. This will be accomplished by making regular visits to the rural communities by RER

## 6. Hypotheses

Among anticipated results: a) we expect sheer volume of communication about nutrition and health matters to increase from Time I to Time II. b) we expect those villagers who become regular voices on the radio to increase their "connectedness" in village communication networks. c) we expect "radio" to be mentioned as an information source more frequently at Time II than at Time I. d) we expect an increase in agreement of perceptions of organizations' goals between villagers and organization employees from Time I to Time II.

## 7. Schedule

Because of unforeseen-but not untypical--delays, RER broadcasting will begin in mid-April 1979. Budget and other grant specifications require Time II interviews to be conducted in July, allowing but two-and-a-half months of participatory programming. The researchers hope to be able to conduct a follow-up survey at a later date.

## 8. Requests of readers

The researchers/project coordinators are interested in hearing from readers who have worked in similar communication projects and/or have dealt with network analysis in non-urban communities. Specifically, we're interested in the mechanics and cost of programming two corresponding (Time I and Time II) sets of network data. (Sample size for the three villages is 117 subjects.) We'd also like to hear from others who have ideas for enhancing the participation package described above.

Readers may contact: Bonnie Brownlee and Gary Garriott, coordinators  
Proyecto RER, Puerto Cabezas  
Depto. de Zelaya  
Nicaragua, Centro America

Ned Wallace  
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610 North Walnut Street  
Madison, WI 53706

or

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## *MOTHERS' NETWORK STUDY*

*Lois Steinberg (National Opinion Research Center, Chicago)*

The Mothers' Network Study is focused on understanding how mothers develop contacts within and beyond the community to influence local public school decisions. We are especially interested in networks which support programs or policies that would improve educational services for children whose interests are not represented, or are overlooked, by local educational authorities. The study is sponsored by the National Institute of Education.

By informal network we mean a group of mothers who got to know each other through shared activities or mutual friends and who use these contacts, rather than membership in a formal organization (such as the PTA) to influence the school program.

The networks included in the study are located in two communities, a northeast suburb and a midwest city. We will interview members of seven networks, other citizens active in school affairs, and school administrators affected by the networks. We will also tour neighborhoods and observe school activities to see how community and school factors affect mothers' opportunities to form informal networks. The findings will be applied to a comparative analysis of similar community-school factors in five different communities in a third city.

Some of the questions we will try to answer are: How did the mothers develop the networks? Under what circumstances can a network operate effectively? Are networks affected by neighborhood characteristics?

Data will be collected by network members and community residents who will also serve as consultants to the project. A summary of the findings will be prepared especially for these participants.

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Abstracts from SOCIAL NETWORKS I (No. 4), (Mar. 1979)

*Fennema, Meindert (Political Science, U. Amsterdam) and Schijf, Huibert (Sociological Institute, U. Amsterdam) "Analysing Interlocking Directorates: Theory and Methods"*

In this review article an overview is given of research on interlocking directorates. The emphasis is on methodological problems and innovations. The start of research on interlocking directorates in Germany and the U.S.A. at the beginning of this century is described. Studies on financial groups are then discussed, followed by the sociological approach and longitudinal studies. Finally, more recent research is discussed, starting with a short introduction to the research on networks of interlocking directorates. In the last section five topics are discussed in more detail: component analysis, groups in the network, different types of interlocking directorates, the stability of interlocking directorates and the relation between different corporate interlocks.

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*Mokken, Robert J. (Political Science, U. Amsterdam) and Stokman, Frans N. (Sociology, U. Groningen) "Corporate-Governmental Networks in the Netherlands"*

Corporate networks studies have been restricted mainly to the private or business sectors. Network analyses involving both corporations and state or government agencies have been extremely rare. In this paper, the intercorporate network of interlocking directorates in the Netherlands, based on 86 large corporations and financial institutions, is studied in terms of a bipartite corporate-governmental network which arises from the interlocking memberships linking these corporations with major committees, agencies and similar centers of decision in the public sector or central state mechanisms in the Netherlands. The corporations, representing 27 industrial sectors, have been related to government and state agencies in 28 policy sectors. In this exploratory analysis the two heavy industries, metal/shipbuilding and chemicals/oil stand out clearly. With respect to the 17 central firms the results demonstrate consistent correspondence between their central position in the Dutch corporate network and the degree of their interlocks with policy sectors in the state. The results also show that the interlocks are overwhelmingly linked with the two policy sectors "economic affairs" and "education and sciences". Hence a more detailed analysis of the interlocks with these two policy sectors is reported.

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*Zijlstra, Gerrit J. (Political Science, U. Amsterdam) "Networks in Public Policy: Nuclear Energy in the Netherlands"*

The article analyses the network of interlocking directorates as a part of public policy analysis of nuclear energy policy in the Netherlands. This network represents an interorganizational communication structure on the policy decision level. An organization's position in this structure reflects its position in policy formulation and implementation. Semi-governmental bodies function as important mediators between central government and private actors, of which the engineering and electricity companies have been the most influential.

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*Berkowitz, Stephen D.; Carrington, Paul J.; Kotowitz, Yehuda; and Lenard Waxman (Sociology, Economics, U. Toronto) "The Determination of Enterprise Groupings through Combined Ownership and Directorship Ties"*

Recent work on economic structure has tended to focus around discovering general or global mappings to represent complex patterns of binary or multiplex ties. By contrast, this paper seeks to define an intermediate level of structure—the "enterprise"—and to measure it concretely using a combination of ownership and director/officership or executive board membership ties.

In the first section, we outline the theoretical and substantive basis of the concept of "enterprises" as it is used in the literature. Difficulties in the operationalization of this concept are then surveyed and some tentative solutions suggested. In the second section, we describe in detail the methods used to implement our definition of enterprises for a set which includes the 5306 firms which most directly shape the Canadian economy. The third section outlines the impact of the use of four slightly different versions of this definition on arrays of enterprise memberships. Finally, the larger implications of our findings—both for the measurement of intermediate levels of structure and for the study of cross-national economic connections — are discussed.

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*Burt, Ronald S. (Sociology, U. California-Berkeley) "A Structural Theory of Interlocking Corporate Directorates"*

A theory is proposed that explains where interlocking corporate directorates should appear between sectors of an economy, where they should not appear, and the profitability of efficient corporate interlocking. Taking the sector of an economy as the unit of analysis, interlocking directorates are cast as strategically created constraints on those sectors of the economy most "problematic" for obtaining pro-

*Burt, Ronald S. (Sociology, U. of California-Berkeley) "Cohesion versus Structural Equivalence as a Basis for Network Subgroups."*

Two basic approaches to network analysis are compared in terms of the network subgroups each produces. The relational approach, developing from traditional sociometry, focuses on relations between actors (individuals, groups, or corporations) and aggregates actors connected by cohesive bonds into "cliques." The positional approach focuses on the pattern of relations in which an actor is involved and aggregates actors with similar patterns, i.e., "structurally equivalent" actors, into jointly occupied positions. There are several questions that can be posed for a specific project that might lead an individual to analyze subgroups in terms of cohesion versus structural equivalence. Here, considering a series of such questions, I conclude that subgroups based on structural equivalence are to be preferred to those based on cohesion. Cliques can be analyzed as a special type of jointly occupied network position. Illustration is provided by data on the elite experts in methodological and mathematical sociology circa 1975.

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*Breiger, Ronald L. (Sociology, Harvard U.) and Philippa E. Pattison(U. Melbourne) "The Joint Role Structure of Two Communities' Elites"*

Blockmodel analysis offers a perspective for developing operational theories of role interlock across multiple networks. We identify precisely those features of role interlock that are shared by the elites of two small cities. This joint role structure is then interpreted with the aid of an algebraic model that we formulate on the basis of Granovetter's (1973) "strength of weak ties" argument. Our discussion illustrates the operationalization of substantive and theoretical concepts in the form of idealized role structures, and their application via blockmodel analysis to observed network data.

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*Holland, Paul W. (Educational Testing Service) and Samuel Leinhardt (SUPA, Carnegie-Mellon) "An Omnibus Test for Social Structure Using Triads."*

A general or omnibus test of structure in social network data is proposed. The test exploits all of the information contained in the triad census. Analogous to the classical F-test for contrasts among means, the proposed test involves finding a weighting vector which maximizes a test statistic,  $\tau^2$  (max), in the context of an empirical data matrix and then determining whether this quantity is statistically significant by reference to a table of the chi-square distribution. An insignificant value of  $\tau^2$  (max) implies that the structure of the network data matrix is random, and, therefore, that the search for recognizable or substantively meaningful pattern in the data may be subject to artifactual discoveries. Empirical results are presented which indicate that, of the networks commonly studied by social researchers, some have random structure, others have nonrandom structure and exhibit strong indications of transitivity and still others, with strong indications of nonrandom structure, do not exhibit strong indications of transitivity.

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The problem is not so much with the measurement of homogeneity of sets of friends as with its interpretation. It is important in making an interpretation to first understand and recognize how both ethnicity and occupational stratification intersect and how both are linked to differential access to power and resources. Second, Cameroon is a state in the process of transformation and interpersonal relationships reflect this. Patronage still intersects with these interpersonal relationships that informants label as friendship. This is most clearly seen in the friendship sets of those who are involved with small scale businesses and artisan establishments where interpersonal relationships of clientage and apprenticeships are crucial. This has to be seen in relationship to the nature and scale of the economy and the size and control of resources of the state bureaucracy.

In conclusion, these data corroborated a theory of transformation of interpersonal relationships which sees the reduction of face-to-face contact between those of different social classes as a society becomes absorbed into an economic structure based on industrial capitalism.

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*PYRAMIDS OF POWER AND COMMUNION: THE STRUCTURAL PROPERTIES OF CHARISMATIC COMMUNES*

*Raymond T. Bradley (Ph.D. Thesis, 1979, Sociology, Columbia U., New York)*

This research is concerned with two important sociological ideas: the concept of charisma and the concept of social structure. In linking the two the primary objective has been to contribute to a greater sociological understanding of charisma. Data from the first wave of a larger three year panel study of 57 urban communes, sampled from 6 American cities and conducted in 1974 through 1976, have been used to identify the distinctive relational characteristics of charismatic situations. As small, bounded, all but total institutions of voluntary membership, communes are a natural strategic research site accessible for the systematic study of whole social entities. Consequently, in this study it has been possible, for the first time, to undertake systematic, empirical research aimed at identifying the structural features of charismatic situations as global totalities.

Previous research has viewed charisma primarily as an attribute of an individual: psychologically, as an unusual set of personality attributes; and sociologically as a special category of social identity that may also involve a relationship of authority. But the approach pursued in this study starts with the premise that charisma is a property of the group: authority based on a set of shared beliefs, held by a collectivity, about the extraordinary powers of a supernatural origin that a particular individual or social position is believed to possess. When such beliefs become the basis upon which the social relationships among group members are organized, the relationships have a meaning and set of implications that stand above the individual members. Thus, the major purpose of this research is to empirically assess the utility of a social-structural conception of charisma as a distinctive pattern of social relationships that, while it is emergent from the individuals involved, it also has a reality, logic, and significance that is independent of their characteristics and behavior.

A review of the epistemological foundations of the concept of social structure resulted in the identification of four requirements for the construction of substantive theories of social structure that are both powerful and verifiable. These requirements involve specifying (with the rationale): the kinds of social positions and social relationships involved; the expected structural properties that emerge from the interrelation of the positions and the relations; the contextual conditions for the structure's existence; and the structure's propensity for stability or change.

After Weber's theory of the "principal characteristics" of charismatic leadership was questioned on theoretical and empirical grounds, these criteria were used to guide the construction of an alternative theory. This theory postulated that the relational structures of charismatic situations have two distinguishing characteristics. The first is a pattern of highly interlocking bonds of intense, positive, emotional affinity connecting all members. Acting on the strong feelings of common identity and mutual affection, the charismatic leader is a catalyst facilitating a highly volatile communion that mobilizes and energizes the group. By itself the production of such collective behavior is a threat to group stability and survival. But the second characteristic, a clearly defined, transitively ordered power hierarchy, under the control of the charismatic leader, maintains collective stability by monitoring the group and regulating each individual's participation. Power is also involved in the organization of collective effort to meet the everyday sustenance needs of the members.

Within the framework of a multi-methods research design, an extensive body of qualitative and quantitative data were systematically collected and analyzed at the individual, relational, and global levels of analysis. Of the 57 communes, 28 were classified as charismatic and 29 as noncharismatic after ethnographic materials indicated that leadership was based on shared beliefs about the extraordinary abilities, of a supernatural origin, that an individual or position was believed to possess. At the individual level, analysis revealed little difference in the backgrounds and social characteristics of the charismatic and noncharismatic members. But stronger differences were found when global aspects of the communes were compared: the charismatic groups tended to be larger in size, be affiliated with a larger "parent" organization, have a greater degree of ideological consensus, and have more formalized patterns of social organization.

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# NEW BOOKS

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Bryan Roberts, 1978. *Cities of Peasants: The Political Economy of Urbanisation in the Third World*. London: Edward Arnold.

My aim is to show how the form of economic expansion that occurred in Europe from the sixteenth century onwards has shaped the patterns of growth in under-developed areas of the world. My focus is urbanization since it is the increasing concentration of population in urban centres and in non-agricultural employment that is often seen as a necessary condition of economic development. Thus, in the first chapter, I will examine different ways in which we can conceive the link between urban growth and economic development. I will suggest that the most convincing framework for our analysis is that of the economic interdependency of nations and of regions within nations.

Interdependency implies that the economic and social institutions of any one area are shaped by the relationships which this area maintains with others. There is, thus, no single model of economic growth or social change which all countries must emulate if they are to achieve development. The potential of any one area, such as its urban or industrial growth, is formed by that area's position within a wider world economic system. In this system, some areas acquire a predominant place and others a subordinate one. Wealth and poverty, modernity and traditionalism are, in this way, the reverse sides of the same coin of economic growth.

To deepen this argument, I will look at the contrasting cases of Britain and the United States which, in different ways, became the powers that from the nineteenth century onwards most deeply affected the area of the underdeveloped world that is our focus - Latin America. Despite the importance of external factors in limiting economic development, we will see that the major force for change within underdeveloped countries is their internal economic growth. This growth takes on different forms in different countries, bringing new social and political forces into play. These forces affect the development of political institutions and of class organization and, in turn, institutions and class conflict determine the character of economic growth. It is this type of analysis which helps us understand why there is a diversity of responses to the common situation of underdevelopment.

The second and third chapters are organized historically, covering the colonial period, the nineteenth century and the twentieth century until the contemporary period. The aim of these historical chapters is to examine the changes in the pattern of urbanization in underdeveloped countries resulting from the increasingly close economic relationship between underdeveloped countries and the advanced capitalist countries. I will contrast the type of urbanization present in colonial Latin America with that which took shape when the subcontinent was more closely integrated into the European and North American economies in the nineteenth and twentieth centuries, noting the radical effects of industrialization on the agrarian structure and on producing an increasing concentration of economic activities in a few metropolitan centres. By comparing four countries (Argentina, Brazil, Peru and Mexico) with different patterns of economic development, we see how the systems of production dominant in underdeveloped countries shape class organization and the development of the state. Recent political developments such as populism are, however, the result of a convergent economic process, that of industrialization.

It is the dominant pattern of contemporary economic growth, based on industrialization, and not traditionalism or inertia that prevents a more even and rapid agrarian development. The characteristics of present-day urban migration are thus viewed in terms of the economic activism of the rural population as well as in terms of the greater economic opportunities present in the cities. The issue that best helps us understand why cities can continue to attract population is that of urban economic dualism. Economic growth concentrates in the large-scale sector of the urban economy which offers the best profits, salaries and wages. Yet, a small-scale sector of the urban economy continues to thrive, though on low wages and low profits through the interdependence of the two sectors. The large-scale sector makes use of the small-scale sector as a reserve of unskilled and casual labour, as a means of putting-out work and as a means of providing cheaply services, such as transport, commerce and repairs, which facilitate the expansion of the large-scale sector. The small-scale sector absorbs labour, using the income opportunities provided by the large-scale sector. We will see that part of the explanation for the persistence of this dualistic structure is the growing importance of the state in the economy. The state acts to foster rapid economic growth, but at the expense of investment in social infrastructure.

The nature of the dualistic urban economy affects social relationships, housing, local-level politics and even religious practices, producing a situation in which the poor are active but unincorporated members of the urban populations of underdeveloped countries. The poor are, however, fragmented ideologically and by their short-term economic interests. Since no class or class fraction has sufficient strength and appeal to form the basis of stable government, there is a permanent crisis in government which makes it difficult to obtain the consensus needed to resolve the problems of an increasing technological and



Barbara Hookey Kaplan, ed. 1978. Social Change in the Capitalist World Economy, Beverly Hills, Calif.: Sage.

Contents

Fred Block, "Marxist Theories of the State in World System Analysis"  
Richard Rubinson "Political Transformation in Germany and the United States"  
Walter Goldfrank "Fascism and World Economy"  
Theda Skocpol and Ellen Kay Trimberge "Revolutions and the World-Historical Development of Capitalism"  
Samih K. Farsoun and Walter F. Carroll "State Capitalism and Counterrevolution in the Middle East"  
Christopher Case-Dunn "Core-Periphery Relations: The Effects of Core Competition"  
Douglas Dowd "Continuity, Change and Tension in Global Capitalism"  
Terence Hopkins "World Systems Analysis: Methodological Issues"  
Immanuel Wallerstein "World-System Analysis: Theoretical and Interpretative Issues"

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Seymour B. Sarason and Elizabeth Lorentz. 1979. The Challenge of the Resource Exchange Network: From Concept To Action, San Francisco: Jossey-Bass.

Where can we turn when available funding proves insufficient for our human services needs? As the funds that once seemed unlimited dry up, we must look within ourselves and learn to make the best possible use of our vast human resource potential. This new book explores one promising way to do just that - the resource exchange network - an informal association of representatives from various organizations (schools, colleges, welfare agencies, hospitals, counseling agencies, businesses and so on) who voluntarily join together to exchange knowledge, services, products, personnel, and other resources in order to accomplish some common goal. These exchanges are made barter-style, trading available resources for needed resources - without relying primarily on outside funding or agency support - for the mutual benefit and growth of all network members.

In their earlier work, *Human Services and Resource Networks* (Jossey-Bass, 1977), the authors followed the development of one such resource exchange network (the Essex network). This book goes beyond that volume by offering step-by-step guidelines for overcoming the obstacles to network development and operation, as well as numerous case examples of such networks in action. The authors explain what a resource exchange network is and how it emerges; examine the crucial role of the network coordinator and identify his or her essential leadership characteristics; and point out opportunities for network growth. They suggest ways to stop the wasting of human resource potential caused by professionalism and job specialization. They investigate self-defeating competition for federal money among human services agencies and show how resource exchange might instead help such agencies achieve service coordination. And they outline a way to introduce the resource exchange rationale into governmental organizations.

Contents

1. Resource Exchange: Problems and Issues; 2. The Significance of Limited Resources; 3. Network Concepts in Action: Case Studies; 4. Professionalism as an Obstacle to Network Development; 5. Issues of Leadership and Coordination; 6. Defining a Resource Exchange Network; 7. Coordination and Resource Exchange Among Formal Organizations; 8. An Emerging Consensus on Networks; 9. The Ombudsman: A Key to Resource Exchange.

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Seymour B. Sarason, Charles F. Carroll, Kenneth Maton, Saul Cohen, and Elizabeth Lorentz. 1977. Human Services and Resource Networks: Rationale, Possibilities, and Public Policy, San Francisco: Jossey-Bass.

Contents

1. Human Resources and Social Networks; 2. Rationale of Social Networks; 3. The Work of Social Networks; 4. The Emergence of a Network; 5. Significant Meetings and Network Growth; 6. The Functions of the General Meeting; 7. Funding and the Dilemmas of Growth; 8. Leadership and the Character of Networks; 9. Under-staffed Settings, Values, and Resources; 10. Meaning and Distinctiveness of Networks; 11. Network Conceptualization and Change; 12. Settings, Networks, and Resources.

Summary

*Human Services and Resource Networks* describes the formation and development of a network of individuals created for two major purposes: to exchange services and resources for the benefit and growth of all members and to foster a needed psychological sense of community. The book discusses in detail the rationale behind the network; its conception, implementation, problems of leadership and growth; and its accomplishments. A truly innovative contribution to the theory and practice of resource networks, this volume will be particularly revealing to those who see money as the only way to acquire needed resources - a current view that pits agency against agency in a competitive, self-defeating struggle. The book's extensive review of the growing literature makes it clear how the network has become a central concept in fields such as sociology, psychology, psychiatry, geography, anthropology, and education.

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# COMPUTER PROGRAMS

## THE CATIJ TECHNIQUE

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### Introduction

This note describes the CATIJ technique for finding subgroups in ranked sociometric data. The technique works on affective or effective data, generated by questions such as "Who do you like?" and "Who do you talk to?" respectively. However, we have never been able to grasp, intuitively, what a network of affective relations means, so we rarely use the CATIJ for this kind of analysis (see Bernard and Killworth, 1975 for a comparison of affective and effective networks over time, using the CATIJ technique). We believed at one time (Bernard and Killworth, 1973, Killworth and Bernard 1974a) that the dispersal of a piece of information by word of mouth might follow the lines mapped by CATIJ. And, in fact, the number of possible paths between any two persons in a good-sized group is so great, that this might still be the case, but trivially so. In view of our recent findings (Killworth and Bernard, 1976, 1978; Bernard and Killworth 1977; Bernard, Killworth and Sailer, 1978) on the inaccuracy of the instrument "Who do you talk to?" we advise users of CATIJ to proceed with caution. We have concluded (Killworth and Bernard, 1978) that behavioral reality has structure. However, asking people to report that reality is an unreliable proxy for it, and we are now in a quandary. The results of CATIJ are invariably powerful; people in management positions find the results useful for decision making, for example. Invariably, the results of CATIJ appeal to the intuition of a group's members about how their group is "structured." (By "structured," we mean "who is connected to whom, and through whom;" nothing more, and nothing less.) Since the people in a group give us (individually) the input to CATIJ to begin with, it is not surprising that the collective output should have intuitive appeal. That's just what a good, subtle technique ought to do. The quandary comes from the fact that the output from CATIJ (and other sociometric/network clique finders) does not conform to a behavioral reality. So we don't know what to make of such data any longer. Things used to be simpler.

### How CATIJ works

The original data for the method is supplied by as many informants in the group as possible. All members should supply data; however, if conditions do not permit this, then we assume that a) 80% of the group will supply data; b) efforts are made to omit only random members of the group.

Each informant is asked to rank his or her communications with the other members of the group. This may be done by giving the informant a deck of cards and giving some form of the instruction: "Arrange these cards in rank order, according to the amount you communicate with the people named on the cards." As it turns out, in groups of order 60, only 25 cards must be ranked. A similar proportion may be used for other size groups. We have determined the number required for ranking empirically, over the course of testing more than 100 groups. Details of data collection are given in the manual for using the KBPAK, the package which does the computer work for CATIJ (Killworth and Bernard, 1975).

After collecting the data, we create a matrix of "distances" from one member of the group to another. For N members of a group, we define a "distance"  $d_{ij}$  from the *i*th informant to the *j*th member of the group. In general, this matrix will be  $M \times N$  where  $M < N$ , corresponding to possible missing data.

The distance from an informant to the member of the group ranked *p*th on his list is defined to be *p*. Hence, each row of the distance matrix *d* consists of the integers 1, 2, ..., *N*-1, with a zero in the diagonal. (This applies if a full ranking is performed by each informant. If not, undefined distances are set to (*N*-1) by default.) This distance, as defined, is not commutative, and does not necessarily obey the triangle in equality, i.e., in general  $d_{ij} = d_{ji}$  and  $(d_{ij} + d_{jk})$  are unrelated.

We consider the matrix *d* in the light of the Baltimore traffic problem (see Acton, 1970) which consists of finding the shortest route between two points in a busy city, given the time taken to traverse any block in any given direction. Applied to *d*, this procedure attempts, by using intermediaries, to reduce the stated distance between two people. In other words, we try to find informants  $k_q$ ,  $q = 1, 2, \dots, r < j$  such that

$$\min = d_{iK_1} + \dots + d_{K_q K_{q+1}} + \dots + d_{K_{r-1} K_r} + d_{K_r j} \quad d_{ij}$$

We have compared the connectivity of entire populations (sociometric "universes") using both CATIJ and limited choice sociograms. By the time we got to seven unreciprocated choices, the links in the sociogram approached the complexity of our own diagrams produced by CATIJ. In fact, in one test there were more links in the unreciprocated 7-choice sociogram than in the CATIJ row 1 matrix. 16% of the CATIJ row 1 links were missed, however, by the sociogram. These links were the ones which formed vital between-group links (Killworth and Bernard, 1974b). (See Granovetter, 1973 for a discussion of the importance of weak ties in the structuring of groups.)

#### Software for CATIJ

The KBPAK is available from the authors. It is written in FORTRAN IV, and runs nicely on IBM equipment. There are four programs. ZERO checks for "illegal" entries, repeated entries, and, when 100% of a group has given data, that everyone has been mentioned by each informant once and only once. Errors are printed out so the data may be cleaned.

Program ONE produces the CATIJ matrix, and prints  $d_{ij}$ ,  $min_{ij}$ , and  $cat_{ij}$ , mutual connections (i.e., those persons who have mutual CATIJ row 1 connections), all row 1 connections, and the number of CATIJ entries produced by  $d_{ij}$  entries. This last bit of data is peculiar. It specifies how many  $d_{ij}$  rankings were required in order to produce the complete CATIJ matrix. We continue to produce this table because we have no formula to determine the minimal number of rankings required to produce a CATIJ on a given size data set. Users are requested to send us this bit of data. Program ONE also punches a CATIJ deck. In tape version, a CATIJ deck pops out automatically, but may be suppressed.

Program FIVE uses the CATIJ deck and produces general statistics on the CATIJ matrix. It shows how many row 1 connections people have to and from others, and computes the mean, etc.

Program TEN computes and prints the correlation matrix of CATIJ. The matrix is factored by rows, rather than by the usual columns (see Killworth and Bernard, 1974a for reasons for this procedure). Program TEN prints out the correlation matrix, the eigenvalues and factor matrix, the suggested subgroups (using the stingy 0.6 criterion), and a variety of other data concerning between-group-links, and so forth. Details of the output are in our users' manual (Killworth and Bernard, 1975) for CATIJ. A bank of more than 100 data sets, collected for analysis by the CATIJ technique is also available (see Bernard, Killworth, and Kuznicki, 1975).

#### References

- Acton, Forman, 1970. Numerical Methods that Work. New York: Harper and Row.
- Bernard, H. Russell, and Peter D. Killworth. 1973. "On the Social Structure of an Ocean Going Vessel and Other Important Things" Social Science Research 2(2):145-84.
- Bernard, H. Russell, and Peter D. Killworth. 1975. "On the Structure of Affective and Effective Sociometric Relations in a Closed Group Over Time." Technical Report #BK-107-75. Office of Naval Research, Code 452, Arlington, Virginia.
- Bernard, H. Russell, and Peter D. Killworth. 1977. "Informant Accuracy in Social Network Data II." Human Communication Research. 4(1): 3-18.
- Bernard, H. Russell, Peter D. Killworth, and Richard Kuznicki. 1975. "KBDATA: A Bank of Effective Sociometric Data Sets." Technical Report #BK-109-75. Office of Naval Research, Code 452, Arlington, Virginia.
- Bernard, H. Russell, Peter D. Killworth, and Lee Sailer. 1978. "Informant Accuracy in Social Network Data IV." Technical Report #BK-116-78. Office of Naval Research, Code 452, Arlington, Virginia.
- Granovetter, M.S. 1973. "The Strength of Weak Ties." American Journal of Sociology 79:1360-80.
- Killworth, Peter D., and H. Russell Bernard. 1974a. "CATIJ: A New Sociometric and Its Application to a Prison Living Unit: Human Organization 33(4):335-50.
- Killworth, Peter D., and H. Russell Bernard. 1974b "The CATIJ Technique: Some Descriptive Tests of Its Adequacy." Technical Report #BK-104-74. Office of Naval Research, Code 452, Arlington, Virginia.
- Killworth, Peter D., and H. Russell Bernard. 1975 "How to Use the KBPAK." Technical Report #BK-106-75. Office of Naval Research, Code 452, Arlington, Virginia.
- Killworth, Peter D., and H. Russell Bernard. 1976 "Informant Accuracy in Social Network Data." Human Organization 35(3):269-86.
- Killworth, Peter D., and H. Russell Bernard, 1978 "Informant Accuracy in Social Network Data III." Journal of Social Networks, in press.
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ANU-MARKOV. AN INTERACTIVE PROGRAM FOR USING MARKOV STATISTICS TO ANALYZE NETWORK DATA.

L.D. Thong and A.S. Klodahl (Sociology, Arts, Australian National U.)

Markov methods provide the means to answer important questions about networks (and other social phenomena). But, although these methods have previously been used to make inferences about networks (e.g. White, 1959; Beshers and Laumann, 1967; Klodahl, 1976), to date there has been little systematic effort to develop the programs (or packages) that would make Markov methods more readily accessible for network analysis.

ANU-MARKOV is an attempt to facilitate the use of Markov statistics for analyzing network data. This program computes maximum likelihood estimates of transition probabilities from raw data, and then allows five relevant statistical tests to be carried out. More specifically, data believed to result from a Markov process can be tested (a) for the specific values of the transition probabilities, (b) for stationarity, (c) for order and (d) for homogeneity (i.e. to ascertain whether or not data from multiple samples were generated by the same process). In addition, there is a test for the possible relationship between two sets of different states. These tests were developed by Anderson and Goodman (1957). Finally, the appropriate corrections for (finite) sample size are also calculated (Sharp, 1975).

The limits of the program depend on the particular test involved. At present, chains of up to 11 states may be analyzed, the maximum order that can be tested is 3, and up to 50 transitions may be processed (in the stationarity test).

The program is written in FORTRAN V.

References:

- Anderson, T.W. and L.A. Goodman. Statistical inference about markov chains. ANNALS OF MATHEMATICAL STATISTICS, 1957, 28, 89-110.
- Klodahl, A.S. Networks in society: The random walk strategy. Working paper. Department of Sociology, Faculty of Arts, The Australian National University, Canberra, 1976.
- Sharp, S.A. Corrections to likelihood ratio tests of hypotheses concerning the parameters of Markov chains. BIOMETRIKA, 1975, 62(3), 595-598.
- White, H.C. Search parameters for the small world problem. SOCIAL FORCES, 1970, 49, 259-264.

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SNAP - SOCIAL NETWORKS ANALYSIS PACKAGE

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Greg Heil provided a useful review of the final specification for SNAP in Connections Vol II - No. 1 but we would like to point out that there appears to be a slight misunderstanding. As yet the package has not been implemented. The specification represents the results of only the first stage of the project and we can only proceed to the second stage of full implementation if we can demonstrate to our sponsors that there is sufficient demand for the package. Accordingly readers of Connections are cordially invited to send for a copy of the final specification. We would be most grateful to receive indications of support for the further work on the package. Furthermore, this way of proceeding with package development gives potential users the opportunity to suggest extensions and improvements to be incorporated in the final version of the package.

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specialization within urban bureaucracies this translation almost always implies the reduction of private contingencies into causal models underlying the decision programs of formal organizations. This reduction process leads to a highly selective and biased representation of everyday life. Everyday life is not just neutrally translated but transformed into administrative categories.

In the paper we first analyze the application forms for compiling person-related data which are used in the local setting of Cologne. The guiding research questions are: How selectively, how fragmentarily are the characteristics of the clients entered into the records of formal organizations? To what extent are the social environments (e.g. family, household, friends) of the clients represented?

Section 2 deals with the analysis of the interorganizational network of information exchange in an urban setting. We applied network analysis to show how urban bureaucracies exchange information through direct communication or other forms of interorganizational linkages.

In section 3 we analyse whether the selectivity of representation within single offices can be overcome by interlocking bookkeeping systems. Perceiving administration as a system we identify the holes within administrative bookkeeping that are consequences of blocking out certain aspects of everyday life.

The last part describes our observation of the interaction between clients and bureaucracies. We consider the extent to which personal connotations are brought into the process of "skeletonizing" peoples' problems. Thus we attempt to demonstrate the differences between administrative view points implicit in their problem solving processes, on the one hand, and peoples' ways of thinking about their own situation, on the other. Furtheron we asked the clients how they evaluated the information collection process. To what extent can people accept the skeletonizing process within administration data collection?

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*BICK, Wolfgang and Paul J. MULLER (Koln). "Stable Patterns Within a Network of Urban Bureaucracies: Domains or Positions?" Paper prepared for the annual meeting of the American Sociological Association, San Francisco, Sept. 1978.*

The paper focusses on the kind of problem-solving possible within a network of urban bureaucracies as provided for within work related patterns of cooperation and integration.

Based on the communication between all 64 municipal offices in the city of Nuremberg, the regularized pattern of work related daily interactions among municipal offices is described as the persistent pattern of interorganizational cooperation in a mandated setting. The underlying dimensions of structural differentiation - integration and sectoral differentiation - are identified by means of multi-dimensional scaling. Sectoral differentiation however does not explain the existence of zones of dense interaction, i.e. domains of municipal authorities. The conditions under which sectoral differentiation correspond to a complementarity of functions are analyzed using social network analysis.

Finally - in a positional analysis - the interaction between structural differentiation and functional specialization is investigated. The positional analysis concludes that offices in an administrative domain occupy unique positions in the overall network which do not interact. Separated and self-contained fields of problem-solving within the persistent pattern of work related cooperation can therefore be ascertained. Two fields - the "people processing" and the "object processing" domains - are comprised out of a number of interacting agencies, other problems are solved by single offices alone. As these different fields of problem-solving do not interact, the administrative system, being confronted with a problem that does not fit into the established framework of problem-solving, must handle this problem either by defining it as a non-problem or by dividing it into parts which are then solved separately: Problems are therefore defined by their solutions.

These structural properties of administrative problem-solving are also described in terms of their interrelationships in a multilevel community network.

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*BODEMANN, Y.M. (Toronto) Familismo y patronazgo como sistemas de poder local en Cerdeña. Papers: Revista de Sociologia 11 (April 1979), Barcelona*

What the sociology and anthropology of Mediterranean hinterlands often depicts as varieties of patronage systems of individualised power brokers is viewed here as the local elite. With the establishment of a capitalist state in Italy, a local elite appears in Central Sardinia with these basic characteristics:

1. It is a cluster of affinal and cognatic kin and is tied to the local community by kinship.
2. Some of its members are personally linked to such state institutions as the judiciary or the Church and as such personify the state in the community.
3. The local elite monopolises access to all important state institutions.

Both the old local elite which arose in the last quarter of the 19th century and survived into fascism and the new local elite which emerges in the mid-sixties function as important agents of the economic transformations characteristic of their historical period. The old elite operates in a system of regional notables; the new elite are petit-bourgeois, "junior members" of the capitalist class.

context of the colonial reducción. But Ambaba gradually split up into various social strata in the course of the XIXth century. This is also the case of Yucay, which is illustrative of those societies that become increasingly divided into social classes with the adoption of a merchant economy. All the same, its rituals recall the period when it was organized as a reducción.

The simultaneous existence of these three examples should bring to light some aspects of the evolution of Andean societies.

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CAZENAVE, Noel A. (Temple U.) and Murray A. STRAUS (U. of New Hampshire) "Race, Class, Network Embeddedness and Family Violence: A Search for Potent Support Systems." To be published in Journal of Comparative Family Studies.

An attempt was made to identify locality and family-kin networks which reduce the level of family violence attitudes and behavior. A sub-sample of 147 Black and 427 white respondents from a nationally representative sample of 2,143 families were analyzed. Overall Black respondents were more likely to approve of family violence and to have engaged in spousal violence, but less likely to report having slapped or spanked a child within the last year and to have engaged in sibling violence and violence directed against parents. There were no major differences in Black-white rates of child abuse. However, when income was controlled, Black respondents were less likely to have engaged in spousal violence at all income levels, except the \$6,000-\$11,999 range. Embeddedness in locality and family-kin networks appear to have had an ameliorative effect on family violence. The number of years in the neighborhood and the total number of children were both associated with lower levels of family violence and worked most effectively for Black respondents. While the number of non-nuclear family adults living in the respondent's household was associated with higher levels of spousal violence for whites, it was associated with lower levels for Black respondents. It was concluded that although social network embeddedness may act as a violence control system for respondents of all races and classes, these variables do play a decisive role in determining their intensity, direction, and effectiveness in reducing family violence.

There is a growing body of literature which suggests that social isolation is a crucial factor associated with severe forms of family violence. In fact, Garbarino (1977) concludes that social isolation is the most important necessary condition for child maltreatment to occur.

Most of these assertions, however, are based on case studies of abusing families. Professionals who work with severe cases of family violence report that many such families are isolated from social contacts who can provide advice and assistance in child rearing and dealing with marital problems, and who can intervene when things get out of hand. However, that is also true of a great many other American families. Although there is much speculation one does not know from the research published to date if families in which child and spousal abuse occur are any more isolated from a network of a socially supportive community and kin than are other families. The data to be reported in this paper should make an important contribution towards answering that question.

At a more practical level we are concerned with the identification of social networks which reduce the level of family violence. If the involvement of a family in potent "support systems" (Caplan, 1974) does reduce family violence, this has important implications for social workers and social policy makers alike.

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GODELIER, Maurice. "Infrastructures, Societies, and History." Current Anthropology 19 (Dec. 1978): 763-68.

The paper deals with the so-called problem of the dominance of superstructures-kinship, religion, politics-and supports the view that kinship or religion dominates social organization and the thought of social actors when it functions as relations of production and as a framework for material action upon nature. Consequently, it becomes impossible to oppose the dominance of kinship, religion, or politics to the hypothesis that everything is ultimately determined by economic relationships. But this is only true if one can see in the distinction between infrastructures and superstructures a distinction of functions and not of institutions as most Marxists and non-Marxists usually do. A society has no top and no bottom, no levels, and the distinction between infrastructure, superstructures, and ideology has nothing to do with the various layers of a cake. Furthermore, "productive forces" include both the intellectual and the material capacities of men to act upon nature and therefore include an idéal and ideological component.

The paper deals with ideology and its role in forming and maintaining dominance relationships (between sexes, castes, classes, etc.). When defining those representations which could be classified as ideological, one cannot content oneself with formal criteria alone, with the opposition between "true" and "false" ideas. Nor can one rely only on functional criteria, which classify as ideological the representations which serve to "legitimize" the dominance and exploitation of man by man. In every social relationship there are idéal elements, which are not reflexions after the fact, but an integral part of the relationship and a reason for its existence.

Finally, every theory of ideology presupposes a theory of the formation of dominance relationships-of one sex over the other, of one caste or class over the others. The task remains of analyzing the role of violence and consent in this formative process. The consent of the dominated to their own domination rests

"The key concept that we propose for studying the process of aging and other life-span changes is the convoy. By choosing this metaphorical term we imply that each person can be thought of as moving through the life cycle surrounded by a set of significant other people to whom that person is related by the giving or receiving of social support. An individual's convoy at any point in time thus consists of the set of persons on whom he or she relies for support and those who rely on him or her for support. These two subsets may overlap, of course; there are relationships in which one both gives and receives support, although all relationships are not symmetrical in this sense.

"The implications of this conceptual approach can be summarized in terms of three general propositions, each of which identifies a category of more specific hypotheses: (1) The adequacy of social support is a determinant of individual well-being, of performance in the major social roles, and of success in managing life-changes and transitions. (2) The formal properties of a person's convoy determine the adequacy of the social support that person receives and has the opportunity to give. (3) Demographic and situational variables -- age, sex, race, residence, and the like -- in turn determine the formal properties of a person's convoy.

"In combination, these three hypotheses define a straightforward causal sequence - from demographic characteristics to the structure of the convoy, from convoy structure to the qualitative and quantitative adequacy of social support, and from the adequacy of social support to individual well-being or lack of it. A fourth hypothesis involves the buffering effect of social support". (adapted from paper).

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KANDEL, Denise B. (N.Y. State Psychiatric Inst). "Homophily, Selection, and Socialization in Adolescent Friendships." *American Journal of Sociology* 84 (Sept. 1978): 427-36.

Longitudinal sociometric data on adolescent friendship pairs, friends-to-be, and former friends are examined to assess levels of homophily on four attributes (frequency of current marijuana use, level of educational aspirations, political orientation, and participation in minor delinquency) at various stages of friendship formation and dissolution. In addition, estimates are developed of the extent to which observed homophily in friendship dyads results from a process of selection (assortative pairing), in which similarity precedes association and the extent to which it results from a process of socialization in which association leads to similarity. The implications of the results for interpreting estimates of peer influence derived from cross-sectional data are discussed.

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LEE, Richard B. (U. Toronto). "Politics, Sexual and Non-Sexual in an Egalitarian Society." *Social Science Information* 17 (6) (1978): 871-95.

The modest purpose of this paper is to examine male-female relations and the problem of equality and inequality in general in hunter-gatherer societies, by using data on the !Kung San as an illustrative starting point. Three groups of problems are addressed: 1) By what kinds of criteria - economic, social, ideological - can we evaluate the equality of the sexes or lack of it among the !Kung, so that the results can be cross-culturally applicable? How representative are the !Kung of other hunter-gatherers? 2) What forms of leadership exists in !Kung society, and how do the people handle the apparent paradox of leadership-followership in an egalitarian society? 3) How does the equality in the political sphere correspond to the relations of production in the economic sphere and what are the key contradictions between and within these spheres that give to !Kung society a dynamic quality? In answering these questions the area of male-female relations is addressed first, followed by an ethnography of !Kung leadership in the foraging and sedentary contexts and finally the questions of relations of production and their contradictions are considered. (excerpt from paper).

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LONG, J. Scott (Washington State U.). "Productivity and Academic Position in the Scientific Career." *American Sociological Review* 43 (Dec. 1978): 889-908.

This paper examines the interrelationship between scientific productivity and academic position, two key dimensions of the scientific career. Contrary to the results of most earlier studies, the effect of departmental location on productivity is found to be strong, whereas the effect of productivity on the allocation of positions is found to be weak. Productivity, as indicated by measures of publications and citations, is shown to have an insignificant effect on both the prestige of a scientist's initial academic appointment and on the outcome of institution changes later in the career. Although the relationship between productivity and the prestige of an academic appointment is insignificant at the time a position is obtained, the effect of departmental prestige on productivity increases steadily with time. For those scientists who change institutions, the prestige of the new department significantly affects changes in a scientist's productivity after the move. It is argued that past studies have obtained spurious results due to their failure to employ a longitudinal design. Not only do cross-sectional designs provide misleading results regarding the interrelationship between departmental location and productivity, but they also systematically alter the findings regarding the effects of sponsorship and doctoral training on productivity.

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The suggestion is, then, that the development of collective services is not only a means of ensuring the reproduction of collective services and of providing the infrastructural needs of large firms in face of the increasing spatial and technological complexity of the modern capitalist economy. The significance of collective services also lies in the specific problems of labour management posed by different types of industrial economy. I argue that the geographical mobility of labour, influences the private and public provision of collective services in the industrial economy. This issue is partly that of analysing the individual characteristics of migrants and their likely demand for collective services. This demand is likely to depend, for example, on access to alternative sources of security and material support, such as kinship networks, ethnic or religious identity. More basically, I explore the relationship between the system of labour mobility, the problem of labour management it entails and the type of collective services that prevail in the city.

I will organise the subsequent argument by using the Manchester case as a means to understanding the political and social implications of an industrial economy that is based on stabilised labour. In contrast, Barcelona is a city whose economy has, for over a hundred years, been based on continuous migration flows. In both cases, the state did not intervene directly in the development of the industrial economy until the contemporary period. The Latin American type of industrial economy that I will discuss is similar in some respects to that of Barcelona, but I will focus on areas in which the rural hinterland and rural-urban interrelationships are of greater relevance to the development of the industrial economy than is the case in contemporary Catalonia.

The situations that are explored serve to illustrate tendencies in the pattern of urbanisation. The important point is that issues such as the organisation of production, labour mobility and the provision of collective services should not be treated in isolation either from each other or from the overall organisation of an area's economy. This economy will change over time, through the specific outcome of class struggles leading to new differences in labour mobility and collective provision. Thus, within the same general and apparently convergent process - that of industrialisation - there are important variations in the way in which the industrial economy is organised. These variations affect class struggles and the level of collective provision, but they are also explained, in part, by the prior history of agrarian transformation and state policy. It is not, then, the general characteristics of industrial capitalism that are important for understanding the provision of collective services; it is rather the political economy of industrialisation in a specific society.

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SAIGNES, Thierry. "De la Filiation a la Residence: Les Ethnies dans les Vallees de Larecaja." *Annales* 33 (Sept. -Dec. 1978): 1160-81.

Under the Iberic domination, the Indian peasants who immigrated to Larecaja (mitimaes) were obliged to chose their allegiance: they could either remain under the jurisdiction of their caciques from the uplands or take up residence definitively in the valleys. The present article seeks, on the basis of a consideration of the interests of the colonial power (access to manpower), to explain these choices by analyzing the modes of control exercised on the eastern slope: ethnic settlers, who were delegated by groups dwelling on the banks of Lake Titicaca and who were subject to the state authority (they were placed by the Inca) made up the population of newcomers who descended into the valleys during the disorders following the conquest.

While certain mitimaes succeeded in harmonizing their vertical loyalty with their new horizontal allegiances, the majority had to give up their double residence. They gradually become mixed with the mass of foreigners and Indian workers who flocked to Larecaja in order to move into the reducciones and haciendas.

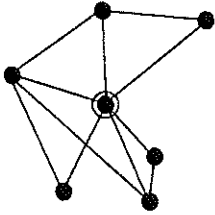
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SHAPIRO, Dan (Lancaster) "Industrial Relations in the Wilderness: Working for North Sea Oil." Paper presented at a conference on "Urban Change and Conflict", Nottingham, England, Jan 1979.

I have tried to show that there is some value in approaching the industrial relations of oil in the North of Scotland via the notion of 'dependency'; that doing so highlights specific features which they have in common and which are related to their particular environment and peripheral status. However, I think I have also shown that - in this context at least - there is no such thing as 'dependent industrial relations'. This is certainly the case if the notion of dependency is promoted as a rival dimension of dominance and subordination. For the elements out of which this dependency in industrial relations is composed are not analytically distinct from those of industrial relations elsewhere. These structural and ideological elements of ascriptively based power and non-market coercion occur - with greater or lesser effect - in all work situations. So, for example, the position of garment workers, particularly women and especially immigrant women, is not very different from that of workers offshore. The position of workers in inner cities may be much the same as that of oil and construction workers at Kishorn, Scotland - a point nicely illustrated by the fact that the Kishorn employer, John Howard Construction, had used the identical tactic of remanning to break a strike in Liverpool a few years previously. And the ideological pressures from state and union no doubt feel much the same to workers at Nigg and engine tuners at Cowley.

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