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POWER-DEPENDENCE RELATIONS

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A simple theory of power relations is developed in an effort to resolve some of the ambiguities surrounding "power," "authority," "legitimacy," and power "structures," through bringing them together in a coherent scheme. After defining a reciprocal power-dependence relation, attention is focused upon properties of balance and "balancing operations" in such relations. The theory dictates exactly four generic types of balancing process, and discussion of these leads directly into processes of group formation, including the emergence of group norms, role structure and status hierarchy, all presented as the outcome of balancing tendencies in power relations. Within the framework of this theory, authority appears quite naturally to be legitimized power, vested in roles, and "legitimation" is seen as a special case of the coalition process through which norms and role-prescriptions are formed. Finally, through treating both persons and groups as actors in a power-network (two or more connected power-dependence relations) the door is opened for meaningful analysis of complex power structures. Brief reference is made to findings from two experiments pertaining to hypotheses advanced in this theory.

JUDGING from the frequent occurrence of such words as *power, influence, dominance* and *submission, status and authority*, the importance of power is widely recognized, yet considerable confusion exists concerning these concepts.¹ There is an extensive literature pertaining to power, on both theoretical and empirical levels, and in small group² as well as large community contexts.³ Unfortunately, this already large and rapidly growing body of research has not achieved the cumulative character desired. Our *integrated* knowledge of power does not significantly surpass the conceptions left by Max Weber.⁴

This suggests that there is a place at this moment for a systematic treatment of social

¹ See the Communications by Jay Butler and Paul Harrison on "On Power and Authority: An Exchange on Concepts," *American Sociological Review*, 25 (October, 1960), pp. 731-732. That both men can be essentially correct in the points they make yet fail to reconcile these points, strongly suggests the need for conceptual development in the domain of power relations.

² Among many studies, see Ronald Lippitt, Norman Polansky, Fritz Redl and Sidney Rosen, "The Dynamics of Power," *Human Relations*, 5 (February, 1952), pp. 37-64.

³ Floyd Hunter, *Community Power Structure*, Chapel Hill: University of North Carolina Press, 1953.

⁴ Max Weber, in *The Theory of Social and Economic Organization*, New York: Oxford University Press, 1947, presents what is still a classic formulation of power, authority and legitimacy. However, it is characteristic of Weber that he constructs a typology rather than an organized theory of power.

power. The underdeveloped state of this area is further suggested by what appears, to this author, to be a recurrent flaw in common conceptions of social power; a flaw which helps to block adequate theoretical development as well as meaningful research. That flaw is the implicit treatment of power as though it were an attribute of a person or group ("X is an influential person." "Y is a powerful group," etc.). Given this conception, the natural research question becomes "Who in community X are the power holders?" The project then proceeds to rank-order persons by some criterion of power, and this ordering is called the *power-structure*. This is a highly questionable representation of a "structure," based upon a questionable assumption of *generalized power*.⁵

It is commonly observed that some person X dominates Y, while being subservient in relations with Z. Furthermore, these power relations are frequently intransitive! Hence,

⁵ See Raymond E. Wolfinger, "Reputation and Reality in the Study of 'Community Power,'" *American Sociological Review*, 25 (October, 1960), pp. 636-644, for a well taken critical review of Floyd Hunter's work on these very points. The notion of "generalized power" which is not restricted to specific social relations, if taken literally, is probably meaningless. Power may indeed be generalized across a finite set of relations in a power network, but this notion, too, requires very careful analysis. Are you dealing with some kind of halo effect (reputations if you wish), or are the range and boundary of generalized power anchored in the power structure itself? These are questions which must be asked and answered.

to say that "X has power" is vacant, unless we specify "over whom." In making these necessary qualifications we force ourselves to face up to the obvious: power is a property of the social relation; it is not an attribute of the actor.⁶

In this paper an attempt is made to construct a simple theory of the power aspects of social relations. Attention is focused upon characteristics of the relationship as such, with little or no regard for particular features of the persons or groups engaged in such relations. Personal traits, skills or possessions (such as wealth) which might be relevant to power in one relation are infinitely variable across the set of possible relations, and hence have no place in a general theory.

THE POWER-DEPENDENCE RELATION

While the theory presented here is anchored most intimately in small group research, it is meant to apply to more complex community relations as well. In an effort to make these conceptions potentially as broadly applicable as possible, we shall speak of relations among *actors*, where an actor can be either a person or a group. Unless otherwise indicated, any relation discussed might be a person-person, group-person or group-group relation.

Social relations commonly entail *ties of mutual dependence* between the parties. A *depends* upon B if he aspires to goals or gratifications whose achievement is facilitated by appropriate actions on B's part. By virtue of mutual dependency, it is more or less imperative to each party that he be able to control or influence the other's conduct. At the same time, these ties of mutual dependence imply that each party is in a position, to some degree, to grant or deny, facilitate or hinder, the other's gratification. Thus, it would appear that the power to control or influence the other resides in control over the things he values, which may range

⁶ Just as power is often treated as though it were a property of the person, so leadership, conformity, etc., are frequently referred to the personal traits of "leaders," "conformers" and so on, as if they were distinguishable types of people. In a sociological perspective such behavior should be explicitly treated as an attribute of a relation rather than a person.

all the way from oil resources to ego-support, depending upon the relation in question. In short, *power resides implicitly in the other's dependency*. When this is recognized, the analysis will of necessity revolve largely around the concept of dependence.⁷

Two variables appear to function jointly in fixing the dependence of one actor upon another. Since the precise nature of this joint function is an empirical question, our proposition can do no more than specify the directional relationships involved:

Dependence (Dab). The dependence of actor A upon actor B is (1) directly proportional to A's *motivational investment* in goals mediated by B, and (2) inversely proportional to the *availability* of those goals to A outside of the A-B relation.

In this proposition "goal" is used in the broadest possible sense to refer to gratifications consciously sought as well as rewards unconsciously obtained through the relationship. The "availability" of such goals outside of the relation refers to alternative avenues of goal-achievement, most notably other social relations. The costs associated with such alternatives must be included in any assessment of dependency.⁸

If the dependence of one party provides the basis for the power of the other, that power must be defined as a potential influence:

Power (Pab). The power of actor A over actor B is the amount of resistance on the part of B which can be potentially overcome by A.

Two points must be made clear about this definition. First, the power defined here will not be, of necessity, observable in every interactive episode between A and B, yet we suggest that it exists nonetheless as a potential, to be explored, tested, and occasionally employed by the participants. Pab will be

⁷ The relation between power and dependence is given similar emphasis in the systematic treatment by J. Thibaut and H. H. Kelley, *The Social Psychology of Groups*, New York: John Wiley and Sons, 1959.

⁸ The notion of "opportunity costs" in economics is a similar idea. If an employee has alternative employment opportunities, and if these opportunities have low associated cost (travel, etc.), the employee's dependence upon his current employer is reduced.

empirically manifest only *if* A makes some demand, and only *if* this demand runs counter to B's desires (resistance to be overcome). Any operational definition must make reference to *change* in the conduct of B attributable to demands made by A.

Second, we define power as the "resistance" which can be overcome, without restricting it to any one domain of action. Thus, if A is dependent upon B for love and respect, B might then draw A into criminal activity which he would normally resist. The reader might object to this formulation, arguing that social power is in fact restricted to certain channels. If so, the reader is apparently concerned with "legitimized power" embedded in a social structure. Rather than begin at this more evolved level, we hope to derive legitimized power in the theory itself.

The premise we began with can now be stated as $P_{ab}=D_{ba}$; the power of A over B is equal to, and based upon, the dependence of B upon A.⁹ Recognizing the reciprocity of social relations, we can represent a power-dependence relation as a pair of equations:

$$\begin{aligned} P_{ab} &= D_{ba} \\ P_{ba} &= D_{ab} \end{aligned}$$

Before proceeding further we should emphasize that these formulations have been so worded in the hope that they will apply across a wide range of social life. At a glance our conception of dependence contains two variables remarkably like supply and demand ("availability" and "motivational investment," respectively).¹⁰ We pre-

⁹ In asserting that power is based upon the dependency of the other, it might appear that we are dealing with *one* of the bases of power ("reward power") listed by John R. P. French, Jr. and Bertram Raven, "The Bases of Social Power," *Studies in Social Power*, D. Cartwright, editor, Ann Arbor, Michigan: Institute for Social Research, 1959. However, careful attention to our highly generalized conception of dependence will show that it covers most if not all of the forms of power listed in that study.

¹⁰ Professor Alfred Kuhn, Department of Economics, University of Cincinnati, has been working on a theory for power analysis soon to be published. The scheme he develops, though very similar to the one presented here, is put together in a different way. It is anchored more tightly to economic concepts, and hence its implications lead off in different directions from those presented below.

fer the term *dependency* over these economic terms because it facilitates broader application, for all we need to do to shift these ideas from one area of application to another is change the motivational basis of dependency. We can speak of the economic dependence of a home builder upon a loan agency as varying directly with his desire for the home, and hence capital, and inversely with the "availability" of capital from other agencies. Similarly, a child may be dependent upon another child based upon motivation toward the pleasures of collective play, the availability of alternative playmates, etc. The same generic power-dependence relation is involved in each case. The dependency side of the equation may show itself in "friendship" among playmates, in "filial love" between parent and child, in "respect for treaties" among nations. On the other side of the equation, I am sure no one doubts that mothers, lovers, children, and nations enjoy the power to influence their respective partners, within the limit set by the partner's dependence upon them.

Finally, because these concepts are meant to apply across a wide variety of social situations, operational definitions cannot be appropriately presented here. Operational definitions provide the necessary bridge between generalizing concepts on the one hand, and the concrete features of a specific research situation on the other hand. Hence, there is no *one* proper operational definition for a theoretical concept.¹¹

BALANCE AND IMBALANCE

The notion of reciprocity in power-dependence relations raises the question of equality or inequality of power in the relation. If the power of A over B (P_{ab}) is confronted by equal opposing power of B over A, is power then neutralized or cancelled out? We suggest that in such a balanced con-

¹¹ Many different operational definitions can serve one theoretical concept, and there is no reason to require that they produce intercorrelated results when applied in the same research situation. While the controversies surrounding "operationalism" have now been largely resolved, there remains some confusion on this point. See, for example, Bernice Eisman, "Some Operational Measures of Cohesiveness and Their Interrelations," *Human Relations*, 12 (May, 1959), pp. 183-189.

dition, power is in no way removed from the relationship. A pattern of "dominance" might not emerge in the interaction among these actors, but that does not imply that power is inoperative in either or both directions. A *balanced* relation and an *unbalanced* relation are represented respectively as follows:

$$\begin{array}{cc} \text{Pab}=\text{Dba} & \text{Pab}=\text{Dba} \\ || \quad || & \vee \quad \vee \\ \text{Pba}=\text{Dab} & \text{Pba}=\text{Dab} \end{array}$$

Consider two social relations, both of which are balanced, but at *different levels* of dependence (say Loeb and Leopold, as compared with two casual friends). A moment's thought will reveal the utility of the argument that balance does not neutralize power, for each party may continue to exert profound control over the other. It might even be meaningful to talk about the parties being controlled by the relation itself.

Rather than cancelling out considerations of power, reciprocal power provides the basis for studying three more features of power-relations: first, a power advantage can be defined as Pab minus Pba, which can be either positive or negative (a power disadvantage);¹² second, the *cohesion* of a relationship can be defined as the average of Dab and Dba, though this definition can be refined;¹³ and finally, it opens the door to the study of *balancing operations* as structural changes in power-dependence relations which tend to reduce power advantage.

Discussion of balancing tendencies should begin with a concrete illustration. In the unbalanced relation represented symbolically above, A is the more powerful party because B is the more dependent of the two. Let actor B be a rather "unpopular" girl, with puritanical upbringing, who wants desperately to date; and let A be a young man who occasionally takes her out, while dating other girls as well. (The reader can satisfy himself about A's power advantage in this illustra-

tion by referring to the formulations above.) Assume further that A "discovers" this power advantage, and, in exploring for the limits of his power, makes sexual advances. In this simplified illustration, these advances should encounter resistance in B's puritanical values. Thus, when a power advantage is *used*, the weaker member will achieve one value at the expense of other values.

In this illustration the tensions involved in an unbalanced relation need not be long endured. They can be reduced in either of two ways: (1) the girl might reduce the psychic costs involved in continuing the relation by redefining her moral values, with appropriate rationalizations and shifts in reference group attachments; or (2) she might renounce the value of dating, develop career aspirations, etc., thus reducing A's power. Notice that the first solution does *not* of necessity alter the unbalanced relation. The weaker member has sidestepped one painful demand but she is still vulnerable to new demands. By contrast, the second solution alters the power relation itself. In general, it appears that an unbalanced relation is unstable for it encourages the use of power which in turn sets in motion processes which we will call (a) cost reduction and (b) balancing operations.¹⁴

COST REDUCTION

The "cost" referred to here amounts to the "resistance" to be overcome in our definition of power—the cost involved for one party in meeting the demands made by the other. The process of cost reduction in power-dependence relations shows itself in many varied forms. In the courting relation above it took the form of alteration in moral attitudes on the part of a girl who wanted to be popular; in industry it is commonly seen as the impetus for improved plant efficiency and technology in reducing the cost of production. What we call the "mark of oppression" in the character structure of members

¹² J. Thibaut and H. H. Kelley, *op. cit.*, pp. 107-108.

¹³ This definition of cohesion, based upon dependency, seems to have one advantage over the definition offered by Leon Festinger, *et al.*, *Theory and Experiment in Social Communication*, Ann Arbor: Research Center for Group Dynamics, University of Michigan Press, 1950. The Festinger definition takes into account only one of the two variables involved in dependency.

¹⁴ The "tensions of imbalance," which are assumed to make an unbalanced relation unstable, are closely related to the idea of "distributive justice" discussed by George C. Homans, *Social Behavior: Its Elementary Forms*, New York: Harcourt, Brace and World, Inc., 1961. All of what Homans has to say around this idea could be fruitfully drawn into the present formulation.

of low social castes (the submissive and "painless" loss of freedom) might well involve the same power processes, as does the "internalization of parental codes" in the socialization process. In fact, the oedipal conflict might be interpreted as a special case of the tensions of imbalance in a power-dependence relation, and cost reduction takes the form of identification and internalization as classically described. "Identification with the aggressor" in any context would appear to be explainable in terms of cost reduction.

In general, *cost reduction* is a process involving change in values (personal, social, economic) which reduces the pains incurred in meeting the demands of a powerful other. It must be emphasized, however, that these adjustments do not necessarily alter the balance or imbalance of the relation, and, as a result, they must be distinguished from the more fundamental *balancing operations* described below. It must be recognized that cost reducing tendencies will take place even under conditions of balance, and while this is obvious in economic transactions, it is equally true of other social relations, where the "costs" involved are anchored in modifiable attitudes and values. The intense cohesion of a lasting social relation like the Loeb-Leopold relation mentioned above can be attributed in part to the cost reduction processes involved in the progressive formation of their respective personalities, taking place in the interest of preserving the valued relation. We suggest that cost reducing tendencies generally will function to deepen and stabilize social relations over and above the condition of balance.

BALANCING OPERATIONS

The remainder of this paper will deal with balancing processes which operate through changes in the variables which define the structure of the power-dependence relation as such. The formal notation adopted here suggests *exactly four generic types* of balancing operation. In the unbalanced relation $P_{ab}=D_{ba}$
 $\quad \vee \quad \vee$, balance can be restored either by $P_{ba}=D_{ab}$
 $\quad \vee \quad \vee$, balance can be restored either by an increase in D_{ab} or by a decrease in D_{ba} . If we recall that *dependence* is a joint function of two variables, the following altera-

tions will move the relation toward a state of balance:

1. If B reduces motivational investment in goals mediated by A;
2. If B cultivates alternative sources for gratification of those goals;
3. If A increases motivational investment in goals mediated by B;
4. If A is denied alternative sources for achieving those goals.

While these four types of balancing operation are dictated by the logic of the scheme, we suggest that each corresponds to well known social processes. The first operation yields balance through motivational withdrawal by B, the weaker member. The second involves the cultivation of alternative social relations by B. The third is based upon "giving status" to A, and the fourth involves coalition and group formation.

In some of these processes the role of power is well known, while in others it seems to have escaped notice. In discussing any one of these balancing operations it must be remembered that a prediction of which one (or what combination) of the four will take place must rest upon analysis of conditions involved in the concrete case at hand.

In the interest of simplicity and clarity, we will illustrate each of the four generic types of balancing operation in relations among children in the context of play. Consider two children equally motivated toward the pleasures of collective play and equally capable of contributing to such play. These children, A and B, form a balanced relation if we assume further that each has the other as his only playmate, and the give-and-take of their interactions might well be imagined, involving the emergence of such equalitarian rules as "taking turns," etc. Suppose now that a third child, C, moves into the neighborhood and makes the acquaintance of A, but *not* B. The A-B relation will be thrown out of balance by virtue of A's decreased dependence upon B. The reader should convince himself of this fact by referring back to the proposition on dependence. Without any of these parties necessarily "understanding" what is going on, we would predict that A would slowly come to dominate B in the pattern of their interactions. On more frequent occasions B will find himself deprived of the pleasures A can offer, thus slowly

coming to sense his own dependency more acutely. By the same token A will more frequently find B saying "yes" instead of "no" to his proposals, and he will gain increased awareness of his power over B. The growing self-images of these children will surely reflect and perpetuate this pattern.

OPERATION NUMBER ONE: WITHDRAWAL

We now have the powerful A making demands of the dependent B. One of the processes through which the tensions in the unbalanced A-B relation can be reduced is *motivational withdrawal* on the part of B, for this will reduce Dba and Pab. In this illustration, child B might lose some of his interest in collective play under the impact of frustrations and demands imposed by A. Such a withdrawal from the play relation would presumably come about if the other three balancing operations were blocked by the circumstances peculiar to the situation. The same operation was illustrated above in the case of the girl who might renounce the value of dating. It would seem to be involved in the dampened level of aspiration associated with the "mark of oppression" referred to above.

In general, the denial of dependency involved in this balancing operation will have the effect of moving actors away from relations which are unbalanced to their disadvantage. The actor's motivational orientations and commitments toward different areas of activity will intimately reflect this process.

OPERATION NUMBER TWO: EXTENSION OF POWER NETWORK

Withdrawal as a balancing operation entails subjective alterations in the weaker actor. The second operation takes place through alterations in a structure we shall call a *power network*, defined as two or more *connected* power-dependence relations. As we have seen in our illustration, when the C-A relation is connected through A with the A-B relation, forming a simple linear network C-A-B, the properties of A-B are altered. In this example, a previously balanced A-B relation is thrown out of balance, giving A a power advantage. This points up the

general fact that while each relation in a network will involve interactions which appear to be independent of other relations in the network (e.g., A and B are seen to play together in the absence of C; C and A in the absence of B), the internal features of one relation are nonetheless a function of the entire network. Any adequate conception of a "power structure" must be based upon this fact.

In this illustration the form of the network throws both relations within it out of balance, thus stimulating one or several of the balancing operations under discussion. If balancing operation number two takes place, *the network* will be extended by the formation of new relationships. The tensions of imbalance in the A-B and A-C relations will make B and C "ready" to form new friendships (1) with additional children D and E, thus lengthening a linear network, or (2) with each other, thus "closing" the network. It is important to notice that the lengthened network balances some relations, but not the network as a whole, while the closed network is completely balanced under the limiting assumptions of this illustration. Thus, we might offer as a corollary to operation number two: Power networks tend to achieve closure.¹⁵

If the reader is dissatisfied with this illustration in children's play relations, let A be the loan agent mentioned earlier, and B, C, . . . N be home builders or others dependent upon A for capital. This is the familiar monopoly situation with the imbalance commonly attributed to it. As a network, it is a set of relations connected only at A. Just as the children were "ready" to accept new friends, so the community of actors B, C, . . . N is ready to receive new loan agencies.

¹⁵ The notion of closed versus open networks as discussed here can be directly related to research dealing with communication networks, such as that reported by Harold J. Leavitt, "Some Effects of Communication Patterns on Group Performance," *Journal of Abnormal and Social Psychology*, 46 (January, 1951), pp. 38-50, in which the limiting assumptions involved in this discussion are fully met by experimental controls. In discussing those experiments in terms of the concepts in this theory we would consider each actor's dependence upon other actors for *information*. A formal treatment of such networks is suggested by A. Bavelas, "A Mathematical Model For Group Structure," *Applied Anthropology*, 7 (Summer, 1948), pp. 16-30.

Balancing operation number 2 involves in all cases the *diffusion* of dependency into new relations in a network. A final illustration of this principle can be found in institutionalized form in some kinship systems involving the extended family. In the case of the Hopi, for example, Dorothy Eggan has described at length the diffusion of child dependency among many "mothers," thus draining off much of the force of oedipal conflicts in that society.¹⁶ We have already suggested that oedipal conflict may be taken as a special case of the tension of imbalance, which in this case appears to be institutionally handled in a manner resembling operation number two. This is not to be taken, however, as an assertion that the institution evolved as a balancing process, though this is clearly open for consideration.

It is convenient at this juncture to take up balancing operation number 4, leaving number 3 to the last.

OPERATION NUMBER FOUR: COALITION FORMATION

Let us continue with the same illustration. When the B-C relation forms, closing the C-A-B network in the process of balancing, we have what appears to be a coalition of the two weaker against the one stronger. This, however, is not technically the case, for A is not involved in the B-C interactions; he simply exists as an alternative playmate for both B and C.

The proper representation of coalitions in a triad would be (AB)-C, (AC)-B, or (BC)-A. That is, a triadic network reduces to a coalition only if two members unite as a single actor in the process of dealing directly with the third. The difference involved here may be very small in behavioral terms, and the distinction may seem overly refined, but it goes to the heart of an important conceptual problem (the difference between a closed "network" and a "group"), and it rests upon the fact that two very different balancing operations are involved. The C-A-B network is balanced through the addition of a third relation (C-B) in operation number two, but it is still just a power network. In operation number 4 it achieves

balance through collapsing the two-relational network into one group-person relation with the emergence of a "collective actor." Operation number two reduces the power of the stronger actor, while number 4 increases the power of weaker actors through collectivization. If the rewards mediated by A are such that they can be jointly enjoyed by B and C, then the tensions of imbalance in the A-B and A-C relations can be resolved in the (BC)-A coalition.

In a general way, Marx was asking for balancing operation number 4 in his call to "Workers of the world," and the collectivization of labor can be taken as an illustration of this balancing tendency as an historic process. Among the balancing operations described here, coalition formation is the one most commonly recognized as a power process. However, the more general significance of this balancing operation seems to have escaped notice, for the typical coalition is only one of the many forms this same operation takes. For this reason the next section will explore coalition processes further.

THE ORGANIZED GROUP

We wish to suggest that the coalition process is basically involved in all organized group functioning, whether the group be called a coalition or not. We believe this illuminates the role which power processes play in the emergence and maintenance of group structure in general.

In the typical coalition pattern, (AB)-C, A and B constitute a collective actor in the sense that they act as one, presenting themselves to their common environment as a single unit. A coalition, as one *type* of group, is characterized by the fact that (a) the common environment is an actor to be controlled, and (b) its unity is historically based upon efforts to achieve that control. Now, all we need do to blend this type of group with groups in general is to *dehumanize* the environmental problem which the group collectively encounters. Thus, instead of having the control of actor C as its end, the group attempts to control C in the interest of achieving X, some "group goal." Now, if C also aspires toward X, and if C is dependent upon the group for achieving X, C might well be one of the group members—any member. Thus, in a three-member group

¹⁶ Dorothy Eggan, "The General Problem of Hopi Adjustment," *American Anthropologist*, 45 (July-September, 1943), pp. 357-373.

we have three coalition structures as *intra*-group relations, each representable as ([AB]-C)-X, with A, B and C interchangeable.

The situation involved here is reminiscent of the rapidly forming and reforming coalitions in unconsolidated children's play groups. As the group consolidates, these coalitions do not drop out of the picture; they become stabilized features of group structure, and the stabilization process is identical with "norm formation." In fact, the demands made by (AB) of C in the power process within ([AB]-C) are exactly what we normally call *group norms* and *role-prescriptions*. Such norms are properly viewed as the "voice" of a collective actor, standing in coalition against the object of its demands. This reasoning suggests an idealized conception of group structure, based upon two types of collective demands:

- (1) *Role-Prescriptions*. Specifications of behavior which all group members expect (demand) of one or more but not all members.
- (2) *Group Norms*. Specifications of behavior which all group members expect of all group members.

Certain actions, when performed by some member or members, need not be performed by all other members to properly facilitate group functioning. These will tend to be incorporated in role-prescriptions, which, taken together, provide a division of labor in a role structure. Roles are defined and enforced through a consolidation of power in coalition formation. Likewise with group norms. Thus, the structure of a group (its norms and prescriptions) will specify the makeup of the coalition a member would face for any group-relevant act he might perform.

This conception of group structure is idealized in the sense that it describes complete consensus among members, even to the point of group identification and internalization of collective demands (members expect things of themselves in the above definitions). Balancing operations, along with cost reduction, should move group structure toward this ideal.

AUTHORITY

It should be clear that in introducing conceptions of group *structure* we have in no

way digressed from our discussion of power *processes*, for the emergence of these structural forms is attributed directly to operation number four, closely resembling coalition formation. Even the most formalized role-prescription is properly viewed as the "voice" of all members standing as a coalition in making its demand of the occupant of the role. Whenever a specific member finds occasion to remind another member of his "proper" job in terms of such prescriptions, he speaks with the *authority* of the group behind him; he is "authorized" to speak for them. In this sense, every member has authority of a kind (as in civil arrest), but authority is usually used to refer to power vested in an office or role. The situation is basically the same, however, in either case. The occupant of such a role has simply been singled out and commissioned more explicitly to speak for the group in the group's dealings with its members. That authority is *limited* power follows from logical necessity when role-prescriptions are treated as they are here. A dean, for example, can force faculty member A to turn in his grades on time because the demand is "legitimate," that is, supported by a coalition of all other faculty members joining with the dean in making the demand. If that dean, however, were to employ sanctions in an effort to induce that member to polish the dean's private car, the "coalition" would immediately re-form around the faculty member, as expressed in role-prescriptions defining the boundary of "legitimate power" or authority. The dean's authority is power contained and restricted through balancing operation number four, coalition formation.

The notion of legitimacy is important, for authority is more than balanced power; it is *directed* power which can be employed (legitimately) only in channels defined by the norms of the group. A person holding such authority is commissioned; he does not simply have the right to rule or govern—he is obliged to. Thus, authority emerges as a transformation of power in a process called "legitimation," and that process is one special case of balancing operation number four.¹⁷

¹⁷ The process of legitimation has sometimes been described as a tactic employed by a person aspiring

Earlier in this section we referred to the common phenomenon of rapidly forming and re-forming coalitions in children's play groups. Our reasoning suggests that it is precisely through these coalition processes that unifying norms emerge. These fluctuating coalitions can be taken as the prototype of organized group life wherein the tempo of coalition realignment is accelerated to the point of being a blur before our eyes. Stated more accurately, the norms and prescriptions define implicitly the membership of the coalition which would either support or oppose any member if he were to perform any action relevant to those norms.

OPERATION NUMBER THREE: EMERGENCE OF STATUS

One important feature of group structure remains to be discussed: status and status hierarchies. It is interesting that the one remaining balancing operation provided in this theory takes us naturally to the emergence of status ordering. Operation number three increases the weaker member's power to control the formerly more powerful member through increasing the latter's motivational investment in the relation. This is normally accomplished through giving him status recognition in one or more of its many forms, from ego-gratifications to monetary differentials. The ego-rewards, such as prestige, loom large in this process because they are highly valued by many recipients while given at low cost to the giver.

to power or trying to hold his power, rather than a process through which persons are granted restricted power. For example, C. Wright Mills states: "Those in authority attempt to justify their rule over institutions by linking it, as if it were a necessary consequence, with widely believed in moral symbols, sacred emblems, legal formulae. These central conceptions may refer to god or gods, the 'vote of the majority,' 'the will of the people,' 'the aristocracy of talent or wealth,' to the 'divine right of kings,' or to the allegedly extraordinary endowments of the ruler himself. Social scientists, following Weber, call such conceptions 'legitimations,' or sometimes 'symbols of justification.'" (*The Sociological Imagination*, New York: Oxford University Press, 1959, p. 36). Whether we view the process of legitimation in the context of the formation of such collective conceptions, or in the context of calling upon them to justify action, the process is fundamentally that of mobilizing collective support to oppose those who challenge power. Power so supported is authority, and the process fits the general model of coalition formation.

The discussion of status hierarchies forces us to consider *intra*-group relations, and how this can be done in a theory which treats the group in the singular as *an* actor. The answer is contained in the idealized conception of group structure outlined above. That conception implies that every intra-group relation involves at once every member of the group. Thus, in a group with members A, B, C, and D, the relations A-B, A-C, etc. do not exist. Any interactions between A and B, for example, lie outside of the social system in question unless one or both of these persons "represents" the group in his actions, as in the coalition pattern discussed at length above. The relations which do exist are (ABCD)-A, (ABCD)-B, (ABCD)-C and (ABCD)-D as a minimum, plus whatever relations of the (ABCD)-(AB) type may be involved in the peculiar structure of the group in question. Thus, in a group of N members we have theoretical reason for dealing with N *group-member* relations rather than considering all of the $\frac{N(N-1)}{2}$ possible

member-member relations. Each of these group-member relations can now be expressed in the familiar equations for a power-dependence relation:

$$\begin{aligned} P_{gm_i} &= D_{m_i}g \\ P_{m_i}g &= D_{gm_i} \end{aligned}$$

To account for the emergence of a status hierarchy within a group of N members, we start with a set of N group-member relations of this type and consider balancing operations in these relations.

Let us imagine a five member group and proceed on three assumptions: (1) *status* involves differential valuation of members (or roles) by the group, and this valuation is equivalent to, or an expression of, D_{gm_i} ; (2) a member who is highly valued by the group is highly valued in other *similar* groups he belongs to or might freely join; and (3) all five members have the same motivational investment in the group at the outset. Assumptions 2 and 3 are empirical, and when they are true they imply that D_{gm} and D_{mg} are inversely related across the N group-member relations. This in turn implies a state of imbalance of a very precarious nature so far as group stability is concerned.

The least dependent member of a group will be the first to break from the group, and these members are precisely the most valued members. It is this situation which balancing operation number three alleviates through "giving status" to the highly valued members, thus gaining the power to keep and control those members.

These ideas are illustrated with hypothetical values in Table 1, with imbalance represented as power advantage (PA). Balancing operations will tend to move PA toward zero, as shown in column 6 after the highly valued members A and B have come to depend upon the group for the special rewards of status, and in column 9 after the least valued members D and E have withdrawn some of their

taches to member roles), it is notably difficult to rely upon a functional explanation. Is the pitcher more highly valued than the center fielder because he is functionally more important or because good pitchers are harder to find? Is the physicist valued over the plumber because of a "more important" functional contribution to the social system, or because physicists are more difficult to replace, more costly to obtain, etc.? The latter considerations involve the availability factor. We suggest here that the *values* people use in ordering roles or persons express the dependence of the system upon those roles, and that the *availability* factor in dependency plays the decisive part in historically shaping those values.¹⁸

TABLE 1. HYPOTHETICAL VALUES SHOWING THE RELATION BETWEEN DGM AND DMG IN A GROUP WITH FIVE MEMBERS

Member	Before Balancing			After Operation #3			After Operation #1		
	1 Dgm	2 Dmg*	3 PAgm**	4 Dgm	5 Dmg	6 PAgm**	7 Dgm	8 Dmg	9 PAgm**
A	5	1	-4	5	5	0	5	5	0
B	4	2	-2	4	4	0	4	4	0
C	3	3	0	3	3	0	3	3	0
D	2	4	2	2	4	2	2	2	0
E	1	5	4	1	5	4	1	1	0

* Assuming that all members have the same motivational investment in the group at the outset, and that highly valued members (A and B) are valued in other groups as well.

** Power Advantage $PAgm = Dmg - Dgm$.

original motivational investment in the group. The table presents three stages in status crystallization, and the process of crystallization is seen as a balancing process. The final stage (columns 7, 8, and 9) should be achieved only in groups with very low membership turnover. The middle stage might well be perpetual in groups with new members continually coming in at the lower levels. In such "open" groups, status striving should be a characteristic feature and can be taken as a direct manifestation of the tensions of imbalance. In the final stage, such strivers have either succeeded or withdrawn from the struggle.

Among the factors involved in status ordering, this theory focuses attention upon the extreme importance of the *availability* factor in dependency as a determinant of status position and the values employed in status ordering. In considering Dgm (the relative value or importance the group at-

CONCLUSION

The theory put forth in this paper is in large part contained implicitly in the ties of mutual dependence which bind actors together in social systems. Its principal value seems to be its ability to pull together a wide variety of social events, ranging from the internalization of parental codes to society-wide movements, like the collectivization of labor, in terms of a few very simple principles. Most important, the concepts involved are subject to operational formulation. Two

¹⁸ "Motivational investment" and "availability," which jointly determine dependency at any point in time, are functionally related through time. This is implied in our balancing operations. While these two variables can be readily distinguished in the case of Dmg, they are too intimately fused in Dgm to be clearly separated. The values by which a group sees a given role as "important" at time 2, evolve from felt scarcity in that role and similar roles at time 1.

experiments testing certain propositions discussed above led to the following results:

1. Conformity (Pgm) varies directly with motivational investment in the group;
2. Conformity varies inversely with acceptance in alternative groups;
3. Conformity is high at both status extremes in groups with membership turnover (see column 5, Table 1);
4. Highly valued members of a group are strong conformers *only if* they are valued by other groups as well. (This supports the notion that special status rewards are used to hold the highly valued member who does not depend heavily upon the group, and that in granting him such rewards power is obtained over him.);
5. Coalitions form among the weak to control the strong (balancing operation number three);
6. The greatest rewards within a coalition are given to the less dependent member of the coalition (balancing operation number three, analogous to "status giving").

Once the basic ideas in this theory have been adequately validated and refined, both theoretical and empirical work must be ex-

tended in two main directions. First, the interaction process should be studied to locate carefully the factors leading to *perceived* power and dependency in self and others, and the conditions under which power, as a potential, will be employed in action. Secondly, and, in the long run, more important, will be study of *power networks* more complex than those referred to here, leading to more adequate understanding of complex power structures. The theory presented here does no more than provide the basic underpinning to the study of complex networks. There is every reason to believe that modern mathematics, graph theory in particular,¹⁹ can be fruitfully employed in the analysis of complex networks and predicting the outcome of power plays within such networks.

¹⁹ F. Harary and R. Norman, *Graph Theory as a Mathematical Model in the Social Sciences*. Ann Arbor: Institute for Social Research, 1953. An effort to apply such a model to power relations can be found in John R. P. French, Jr., "A Formal Theory of Social Power," *The Psychological Review*, 63 (May, 1956), pp. 131-194.

PATTERNS OF CHOICE IN INTERPERSONAL RELATIONS *

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How do people's attributes influence the interpersonal choices among them? Data on work groups are used to examine the regularities revealed by 17 items on four types of interpersonal choice—respect, consultation, sociable attraction, and informal acceptance. Four main patterns could be discerned: (1) Items that had a differentiating effect on respect also had differentiating effects on consultation and attraction but usually not on informal acceptance; (2) Orientations toward work had a segregating effect on respect, but only orientations with pronounced significance for respect also had segregating effects on other interpersonal choices; (3) Attributes that differentiated consultants from others without producing a corresponding differentiation of respect to legitimate the status of consultant created segregating barriers to sociability; (4) Measures of approach to people had a segregating effect on consultation, like others salient orientations, but they had a differentiating effect on attraction, probably because an informal approach made a worker a more attractive companion. The four groups of independent variables in this analysis are shown to represent orthogonal dimensions.

RELATIONSHIPS between persons acting in social roles constitute the matrix of social structures. The systematic investigation of interpersonal relations, therefore, promises to contribute much to a

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better understanding of social structure. The data to be explained in this schema are dis-

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