

THE TRADEOFFS OF SOCIAL CONTROL AND INNOVATION IN GROUPS AND ORGANIZATIONS

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I. Introduction

In both small groups and larger organizations, one of the most significant psychological tendencies is a strain toward uniformity, a tendency for people to agree on some issue or to conform to some behavioral pattern. Such uniformity, we argue, has both necessary and desirable elements, particularly with regard to attainment of goals and harmony. It also has detrimental elements. Uniformity may result in decreases in innovation, in the detection of error, or in the willingness or ability to adapt to changing circumstances. We first explore forces for uniformity and attempt to understand why they occur and what personal and situational elements foster them. We then explore the realm of dissent and investigate ways in which it can contribute to the functioning of small groups and larger organizations.

In this article, the description of research on social influence moves rather freely between laboratory settings and organizational contexts. The laboratory studies follow several well-developed research paradigms, with variations in conditions and resultant findings occurring in a cumulative fashion. In contrast, organizational studies of social influence have tended to draw on a wide variety of psychological and sociological theories, resulting in a more disparate set of findings, which have rarely been drawn together. Whereas the social psychological work has typically been experimental, the organizational research ranges from quantitative experiments and surveys to more qualitative case studies. Thus, our integration of work on social control and innovation will necessitate mixing results with varying levels of internal and external validity.

In our discussion of social control and innovation, we also move freely between

the microscopic and the macroscopic. Our goal has not been to show how basic principles of social influence can be simply generalized from laboratory groups to functioning organizations, because this would no doubt be misleading. Instead, we have attempted to show (1) how studies of organizational behavior can profit from knowledge of more basic social influence processes, and (2) how experimental group research can be enriched by an understanding of more complex organizational processes. We therefore will alternate between social psychological research and organizational work in illustrating concepts in social control and innovation. We avoid specifying how the microscopic processes aggregate to explain more global behavior because so little is known about such composition rules. In contrast, we draw analogies between group and organizational phenomena and speak to the differences, where they are relevant. Thus, this essay is pretheoretic in nature—an effort to weave together disparate literatures so as to further the work in each subarea, creating a bridge on which future integrative research and theory can be built.

II. Some Theoretical Considerations of the Strain toward Uniformity

In 1950, Festinger noted the importance of pressures for uniformity in his now-classic paper on informal social communication. After studying spontaneous patterns of communication in small groups, Festinger observed the power of pressures toward agreement or conformity and argued that such pressures arise out of two major considerations. The first he termed “social reality,” referring to our dependence on the opinions of others for maintaining confidence in the positions that we hold. As noted by Festinger, there are beliefs that can be validated by physical reality (e.g., one can determine if a surface is fragile versus unbreakable by hitting it with a hammer) and beliefs that depend on others for social validation (e.g., knowing who “should” win a Presidential election). For social beliefs, subjective validity depends on whether others share one’s views; they provide the anchor or comparison point by which one can validate his or her own opinion. Of course, as Festinger pointed out, it is not necessary to have complete unanimity before one’s opinion is considered valid, nor are all people equally important in providing social validation. Some people serve as more important reference groups, their opinions and agreement being especially important in determining subjective confidence in a position.

A second pressure toward uniformity, termed “group locomotion” by Festinger, arises from the desire or need for the group to move toward some goal. It should be clear that groups can be immobilized by dissent and disagreement. When there is consensus on both the goal and the ways to achieve that goal, there is an impetus to move, to locomote, toward that goal.

From the foregoing considerations, it is evident that the strain toward uniformity can be a very persuasive and powerful process in small groups and organizations. Because almost all attitudes, beliefs, and opinions rely on subjective rather than objective realities, and because most groups and organizations do have goals toward which they attempt to locomote, members of collectivities find themselves subject to pressures toward agreement, toward behaving in accordance with existing norms and patterns of behavior. The questions, of course, are, "How is such uniformity achieved? Whose position does each member adopt? And what are the consequences of the pressures for uniformity for both small groups and organizations?"

As we explore the ways in which people come to share the same or similar viewpoints, we note that the agreement can be a result of compromise, or mutual movement toward a central point; it can be the result of movement to, or adoption of, a viewpoint that has already been established by others. It can occur around the position held by those in power or those who constitute a numerical majority. These are the statistically "usual" ways in which uniformity of viewpoints and actions can be achieved. However, agreement could be on the position originally held by a newcomer, by a statistical minority, or by someone (or someones) low in power. While these forms of influence are less usual, they can be important mechanisms for groups and organizations to adapt to changing circumstances, to detect new solutions to old problems, and to evidence creativity.

In this article, we explore the various ways in which influence processes achieve uniformity. We then look to the broader issues regarding the quality of decision making and performance as a function of social influence processes.

III. Ways of Achieving Uniformity

A. DEVELOPMENT OF NORMS AND AGREEMENT BY "COMPROMISE"

Agreement can be achieved via compromise, and the early work by Sherif (1935) on the formation of norms manifests such a process. In attempting to understand how people come to share viewpoints, Sherif studied ad hoc groups (people with no past or established way of viewing a particular issue) with regard to their developing judgments on an ambiguous perceptual issue. The *autokinetic effect* was chosen, which is simply the phenomenon that when an individual is shown a stationary pinpoint of light in an otherwise dark room, the light appears to move, and it may appear to move in any direction. This is an illusion of movement and one on which people initially disagree. Sherif's questions were simply, "What would happen if an individual were placed in such a highly ambiguous situation, one that lacked any external frames of reference? Would the

person's judgments be highly variable or would they reflect a subjective frame of reference? When a group of individuals was placed in a similar situation, would it be erratic or would it, too, show a subjectively determined frame of reference, a shared way of viewing things?

Sherif simply asked individuals to indicate the direction of the movement of light. Alone, each person judged the movement of light to be quite erratic; over time, they established their own anchoring points and ranges around which most observations were made. Thus they created their own "norm." When placed with other individuals, Sherif found that the judgments of others affected the perceptual judgments made. This was studied in two ways. In one situation, individuals first made their judgments alone and then were placed with others in a group. In a second situation, the individuals first made judgments of the light movement in a group and then made further judgments by themselves.

Sherif found that when individuals first made judgments in the group setting, they then adhered to the group norm, even when making judgments alone. However, if they first made judgments alone, there still was some tendency for convergence when placed in groups, but the tendency was less marked than when they faced the situation in the group first. Thus, group influence on the autokinetic task was particularly powerful when it was part of the origination of the norm.

In summary, Sherif found that individuals, when faced with an ambiguous situation in a group setting, tended to converge in their judgments until a shared frame of reference was achieved. That frame of reference then continued to operate even when individuals were no longer subject to social influence. It is important to note that the agreement reached in such settings occurred as a result of mutual compromise. The norm was somewhere "in between" original individual judgments. As we look at some of the elements present in such a setting that may have fostered such a process of compromise, it is important to note that the situation was highly ambiguous; there was not even a prior history for such judgments. No one could claim expertise or superior ability, nor was there any prior commitment to a particular point of view. It is of interest to note that when the individual norms were developed after the group experience, there was the greatest degree of convergence. This is consistent with the notion that a relative lack of prior history or commitment fosters maximum compromise and agreement in a social context.

B. PERPETUATION OF NORMS: THE SOCIAL-PSYCHOLOGICAL AND ORGANIZATIONAL PERSPECTIVES

In a good deal of subsequent research, both by Sherif and others, there is evidence that once a norm is established, newcomers come to share that norm. Thus, such norms continue even as new members are added and old members

leave. In studies by Jacobs and Campbell (1961), for example, an arbitrary norm was created by several confederates influencing the judgment of naive subjects. As the confederates exited the study, however, their influence on group norms continued to be felt. As generations of fresh subjects judged the movement of light, their judgments continued to be influenced by the judgments of the confederates who had originated the group norm, albeit with decreasing strength. That is, as newcomers entered the study, they *slowly* brought the group norm originally created by confederates down to a baseline level. In reflecting on the Jacobs and Campbell study, there are two contrasting phenomena being demonstrated. On the one hand, their data showed how arbitrary norms can be created and persist well beyond the point at which they are directly supported by their originators. On the other hand, their research demonstrated how new entrants to a group bring with them a source of reality, a way of influencing social norms so that they are more in line with external phenomena.

As we move to the organizational context, we find that cultures arise in organizations in quite similar ways to those in which norms develop in groups. An organizational culture (1) provides meaning to behavior and events surrounding individual members, (2) supplies a way to distinguish one firm or collectivity from another, (3) is a vehicle for solidarity and support, and (4) offers continuity over time. And, just as the originators of norms may exert strong influence on subsequent group judgments, an organization's founder is thought to be crucial for development of its culture (Schein, 1985). The founder's management style sets the tone for interpersonal relationships and his or her priorities set the ordering of values for the collectivity. As a firm grows, the founder's personal style and preferences are likely to be modeled and emulated by a management team (people probably hired by the founder) and diffused throughout the organization. Thus, even after the founder passes from the scene, as in the normative transmission studies, the organization is likely to carry his or her imprint (see, e.g., Martin, 1982, for a discussion of Thomas Watson's long-standing influence on IBM; and Schein, 1985, for other detailed case examples of the role of the founder on organizational culture).

Directly extrapolating the normative transmission studies to field settings requires some caution, however. As Weick and Gilfillan (1971) have noted, one reason that beliefs may persist in actual situations is that they have a logical underpinning. They may be warranted, given their ease of use and availability, constituting one of many possible solutions to an environmental problem. Therefore, norms that are totally arbitrary are less likely to persist than those with some environmental justification, even if the latter, over time, are not optimal solutions to external problems.

Zucker (1977) directly addressed the issue of normative transmission in an organization-like setting. She showed that simply running the Jacobs and Campbell experiment with some changes in social labelling produced greater persistence of the norm. Subjects were run in conditions in which they were subjected to

simple social influence (i.e., the judgments of other peers, as in the Jacobs and Campbell study) or to judgments in the context of an organization. For the latter, two forms of organizational context were used. Individuals either joined what was described as an ongoing organization or joined an organization with some minimal hierarchy (e.g., the person with the longest tenure in the group was given the title of "light operator"). Zucker found that individuals maintained their beliefs longest, and that these beliefs were most resistant to change, when they operated in an organization with hierarchy followed by the nonhierarchical organization and the nonorganizational context. Thus, the transmission of norms may be strengthened by the institutional character of formal organizations.

A factor that may additionally promote the transmission of norms in organizations is the selection of members. Unlike the normative transmission studies, the perpetuation of beliefs in organizations is not simply a matter of observation and imitation of behavior. Ongoing organizations have norms even before new individuals ever become members, and the selection process favors those who share such norms. First, individuals have been found to self-select themselves into organizations on the basis of the organizations' presumed values and characteristics (Holland, 1976). Second, the organization usually makes a concerted effort to find those who fit in, in terms of values and skills, with the current organizational membership (Schneider, 1987). Thus, a substantial amount of cultural transmission generally occurs before individuals ever enter the confines of the organization.

C. UNIFORMITY VIA POWER AND STATUS

While originators of group norms and organizational selection affect the transmission of beliefs over time, it is clear that there are other immediate sources of influence that can either maintain or modify the original norms. Persons who hold positions of power or who are viewed as higher in status are powerful sources of influence, and agreement is often achieved by adopting the positions they propose. To illustrate the power of such processes, consider the classic studies by Milgram (1963, 1965, 1974) on obedience to an authority figure. In these studies, the authority was a scientist presumably studying the relationship between punishment and learning. The individual (who assumed he was participating in such an experiment) was in fact being tested for his obedience to this scientist. The "scientist" instructed him to shock the "learner" each time that the learner erred and, further, to increase the intensity of the shock with each error. Given that the subject believed that the shocks were painful, Milgram investigated when the people would resist the authority who instructed them to continue the shocks. Would they stop after 150 volts, when the learner first asked to be freed? Would they increase the intensity until the learner no longer responded (at 300 volts)? Would they continue to the end (i.e., 450 volts)? In fact, 63% of the actual subjects continued to the end and delivered 450 volts. These in-

dividuals were businessmen, professional men, white-collar workers and blue-collar workers.

Such obedience to an authority, particularly one who had no real power to reward or punish the individuals themselves, was unexpected. Most people predicted that individuals would defy the experimenter at some point. Psychiatrists, for example, predicted that most would defy the authority at 150 volts. They were wrong. Further, this willingness to obey authority was found even with changes in the subject population or the setting. When women served as subjects, the results were similar. Even when the authority figure was of less high status (i.e., in which the experimenter was in a run-down building in downtown Bridgeport, Connecticut, rather than at Yale), 40% of the individuals still obeyed the authority fully (Milgram, 1974).

The results of such studies are even more compelling when one considers the relative lack of power held by Milgram's authority figure. There was no past or future with this individual; he had no real reward or coercive power over the subjects. In ongoing formal organizations, there is very real reward and coercive power. Raises, promotions, reprimands and firings are obvious examples. There is a past and, so the employee hopes, a future with those individuals whose power is embedded in the hierarchy. In a typical bureaucracy, roles are specified by those in command, and exceptions to standard procedures or role specifications are referred up the hierarchy for resolution. General policies are formulated at the highest levels, given specification by middle management, and finally implemented by those lower in the hierarchy. In fact, influence can be so evident and orderly in such a system that it is commonly labeled a "machine model" or mechanistic approach to organization.

Although a large number of organizations emphasize hierarchical power and orderly decision making, there do exist other organizations with more organic structures (Burns & Stalker, 1961), with power not so firmly unidirectional, or with its subparts not so neatly supporting a common goal or theme. To illustrate the contrast, one could place, at one extreme, military and religious organizations with undeniable hierarchies and common goals. At the other extreme would be educational organizations (e.g., universities), with a set of very loosely coupled departments, minimally connected by a common budget and location (Weick, 1976). Most organizations no doubt fall between these two end points.

Though most organizations have a formal hierarchy and a communication system that is better designed for downward than for upward flow of influence, even the most bureaucratic organizations display some power complexities. One such complexity (noted by Mechanic, 1962) is that participants lower in an organizational hierarchy sometimes have substantial latitude in the means by which they implement orders. They also vary in their capacity to influence those formally in charge. As an illustration, Crozier (1964) found that maintenance workers in a large factory possessed virtual immunity from supervisory pressures because they were the only ones who could keep the plant running. Another complexity

is that power can emanate from many disparate sources in formal organizations. Not only may each department or division have its own agenda in trying to influence organizational priorities, so too will external constituencies such as suppliers, customers, and regulatory agencies exert control (Mintzberg, 1983). Thus, many organizations can best be described as a confluence of shifting coalitions (Cyert & March, 1963) and power centers rather than a simple hierarchical structure.

Research on organizational power has demonstrated that power comes from the ability to provide resources for the system and to help the system cope with major sources of uncertainty (Hickson, Hinings, Lee, Schneck, & Pennings, 1971; Hinings, Hickson, Pennings, & Schneck, 1974; Pfeffer & Salancik, 1974). This implies that shifts in the power structure are a way in which organizations can adapt or align themselves with changes in the environment. Those who possess critical skills and on whom the organization depends most will, according to this view, attain the greatest power, influencing the way the organization is structured and behaves. The problem with this "critical contingencies" approach to power (Hickson *et al.*, 1971), however, is that power can be self-perpetuating. Even though the environment of the organization changes markedly, those in power may still control the organization's decision processes, thus preserving their influence over the formation of goals, policies, and the allocation of resources. The power structure can be shaken by reality (just as a group's arbitrary set of beliefs eventually return to baseline over time), but the adjustment process often substantially lags behind changes in environmental conditions.

D. UNIFORMITY VIA CONFORMITY TO MAJORITY VIEWS

Much as we have seen that original norms and persons in power can ensure uniformity in viewpoint, there is a more tacit form of influence provided by peers. In the sequence of studies that Milgram conducted on the willingness of people to provide painful shocks to a "learner," an important but often neglected study showed the power of peers, even in the absence of an authority figure. In this study (Milgram, 1974), the authority figure (the experimenter) left the decision of shock intensity to a group of three individuals; one of these was a naive subject and the other two were paid accomplices of the experimenter. In this situation, the shock that was to be given to the learner was the *lowest* level suggested by the three individuals, thereby giving the naive subject complete control over the shock allocation. Even here, however, individuals increased their shock level in response to the increasing shock level suggested by the confederates. They did not adopt the exact position proposed by the confederates, but they "lagged" with increasing intensity. Thus, at Trial 5, when the two confederates suggested

Lever 5 (i.e., 75 volts), the mean response of the naive subjects was Lever 4 (i.e., 60 volts). By trial 30, when the confederates were suggesting Lever 30 (450 volts), the mean lever pulled was 14.13 (over 210 volts). Of 40 individuals, 10 went beyond Lever 25, and 7 went to Lever 30, the maximum intensity.

Majority opinion and its power over the viewpoints of individuals, or minorities of individuals, has a long history in social psychology, and it was perhaps most systematically explored in the years following the classic studies by Solomon Asch (1951, 1955). In the original studies, individuals were asked to choose which of 3 comparison lines was equal in length to a standard line. Alone, people had no difficulty. When confronted with an erroneous majority view, however, many individuals ignored the evidence of their own senses and agreed with the erroneous majority view. Approximately one-third of the responses were in such error. These early studies provided the paradigm and impetus for hundreds of studies investigating why conformity occurs and the ways in which such conformity can be increased or decreased (see generally, Allen, 1965).

As research proceeded, the theoretical developments were sparse, but two main reasons for conformity served as guiding forces for the research. One explanation, termed "informational influence" (Deutsch & Gerard, 1955), is that people accept the viewpoints of others as information about reality. The second explanation, termed "normative influence," is that people want to gain approval or avoid disapproval via conformity. Numerous studies have demonstrated the reasonableness of the distinction between informational and normative influence (see, generally, Allen, 1965). Thus, for example, conformity increases in face-to-face groups (Deutsch & Gerard, 1955); it increases with increasing size of the majority—though incrementally less after three or four individuals (Asch, 1955; Gerard, Wilhemy, & Conolley, 1968; Tanford & Penrod, 1984). It increases with increased expertise on the part of the majority (Mausner, 1954), with greater task difficulty (Blake, Helson, & Monton, 1957), and with ambiguity in the stimulus situation (Crutchfield, 1955). While such factors may promote or impede the degree of conformity, the studies underscore a pervasive tendency for individuals to follow a majority position, even an erroneous majority position. They do so with regard to the judgment of factual items, be it visual (Asch, 1956), auditory (Olmstead & Blake, 1955) or from memory (Deutsch & Gerard, 1955); they do so with regard to opinion items, ranging from the relatively unimportant to the highly important (see, generally, Allen, 1965).

The power of this conformity process is also evident in nonexperimental settings. Kalven and Zeisel (1966), for example, studied actual jury deliberations. These researchers collected information on the first ballot of the 12 jurors and also on the final verdict rendered. The majority position on the first ballot was found to be highly predictive of the final verdict. In fact, when a majority of persons (7–11) favored "guilty," the percentage of "guilty" verdicts was 86%, 9% were "hung" (that is, did not render a verdict), and only 5% rendered a

“not guilty” verdict. Similarly, when a majority of persons favored “not guilty,” 91% of the verdicts were “not guilty,” 7% “hung,” and only 2% rendered a “guilty” verdict.

Given the power of majority opinion, consider then the situation confronting newcomers in organizations. They are often painfully aware of the forces for conformity when they arrive at their jobs. They must learn not only the skills and the tasks in order to execute their roles, but also the nuances of organizational life—the norms of dress, speech, and behavior that are associated with being accepted and getting ahead in the system. As described by most scholars of organizational socialization (e.g., Schein, 1978; Van Maanen & Schein, 1979), the individual must progress through various stages in his or her organizational life, moving from outsider to trusted insider in the firm. Though subject to controversy and subjected to little empirical validation, many of these stage models do highlight common themes in organizational socialization. As summarized by Wanous (1980), individuals must confront and accept organizational reality, achieve role clarity, locate oneself in the organizational context, and detect signposts of successful socialization. In short, the newcomer must make sense of the organization’s demands and develop strategies to cope with them. Observing the behavior of others—particularly the majority of others—is one way of learning these demands and coping strategies.

Social influence is especially strong in terms of what Schein (1968) has termed “pivotal norms.” These norms relate most closely to the central concerns of the organization (e.g., belief in nuclear power by a utility company) or reflect upon the identity of the firm (e.g., conservative dress that implies fiduciary responsibility in banking). Similar to Hollander’s (1960) contention that one needs to both conform and show competence in order to achieve status, Schein (1968) argues that conformity in terms of pivotal norms is essential to gaining organizational acceptance and subsequent influence. The degree of conformity mandated by the situation differs according to one’s role in the organization, however. Those in managerial positions are subject to influence over a wider range of attitudes and behavior. Theirs is a pervasive role, and, as such, any loose comments or demeanor, even off-the-job, can bring reprimand and recrimination. Blue-collar jobs, on the other hand, tend to be more restricted roles, in which behavior is expected to conform to expectations only within the confines of the organization. Thus, one would expect much greater internalization of norms for those in pervasive rather than restricted roles. One would also expect greater selectivity on the basis of nonperformance (e.g., background and personality) criteria for those entering pervasive roles. As Kanter (1977) has noted, managers tend to reproduce themselves, using similarity in attitudes and demographic characteristics as a means of reducing uncertainty in the hiring process.

As recognized in the conformity literature, ambiguity also contributes to uniformity in beliefs. We have previously noted that individuals seek consensus in their opinions of ambiguous stimuli. It is equally apparent that individuals’ work

attitudes are affected by the judgments of others. In tests of what has been called the social-information-processing (SIP) approach to job attitudes (Salancik & Pfeffer, 1978), it has been demonstrated that job attitudes depend on the social labeling of work (whether it is seen as desirable or not) and the opinions of others (whether one's co-workers appear satisfied or not). After several laboratory and field validations of the SIP perspective (Griffin, 1983; O'Reilly & Caldwell, 1979; White & Mitchell, 1979), it is now believed that objective job characteristics are only one (albeit important) determinant of work attitudes. Other, just as important, social influences include the definition of work by management, co-workers, unions, family, and the larger society, including direct and indirect communications from each of these sources.

Ambiguity concerning the definition of performance can also contribute to uniformity in organizations. Generally, as one progresses up the hierarchy of an organization, work tasks become increasingly amorphous, and there are ambiguous criteria for evaluation. Managing a product, long-range planning, and market analysis, for example, are not as easily judged as manual activities involving production or direct sales. And, as criteria for evaluation become more ambiguous, the reliance on personal characteristics, demeanor, and "potential" in performance evaluations increases. Under such conditions, pressures toward conformity may increase for the individual because adherence to the norms of the organization and conforming to the tastes of the supervisor can become surrogates for promotion criteria (Evan, 1961). Those seeking upward advancement in ambiguous settings (e.g., staff vs. line jobs) can therefore be expected to attend closely to any cues related to social approval as well as the more visible norms of organizational behavior (Pfeffer, 1977).

E. UNIFORMITY VIA DISSENTING, MINORITY VIEWS

Up to now, we have concentrated on the influence exerted by norms and by persons holding positions of relative power and influence. To some extent, this is reflective of the bulk of the research endeavors, both in social psychology and in organizational behavior. There has been a tendency in those literatures to assume that influence flows from the stronger to the weaker, from those with more authority to those with less authority, as well as from the numerical majority to the minority. Nonetheless, as we have seen, some organizational researchers have recognized the multidirectionality of social influence. Some social psychologists have also tried to understand ways in which those lower in power or fewer in number exert influence.

In the early 1970s, Moscovici and Faucheux (1972) and Moscovici and Nemeth (1974) argued that social influence, as studied by social psychologists, tended to be equated with conformity. From this perspective, the individual or the

minority was seen as a passive agent. They could conform to the wishes and viewpoints of the majority, or they could resist such influence by remaining independent. However, these theorists reasoned that a consideration of social change rather than social control led one to the inescapable conclusion that minorities do influence majorities, that originally deviant views can come to prevail. After 15 years of research on the ways in which minorities come to exercise such influence, one finding that has been consistently replicated is that minorities must be consistent over time in order to exercise influence (see generally Maass & Clark, 1984).

In an early experimental study on minority influence, Moscovici, Lage, and Naffrechoux (1969) asked individuals in groups of 6 to judge the color and the perceived brightness of a series of blue slides. Two of the 6 individuals, unbeknownst to the naive subjects, were confederates who consistently judged the blue slides to be "green." In such a condition, naive subjects reported nearly 9% "green" responses. When those two confederates were inconsistent in their judgment—that is, when they judged two-thirds of the slides to be "green" and one-third to be "blue," no influence was manifest. Less than 1% of the responses were "green," a finding that is insignificantly different from the control group (i.e., individuals who were exposed to no dissenting viewpoints and who consistently judged the slides to be "blue").

Subsequent research has shown that the behavioral style exhibiting consistency is more subtle than simple repetition. For example, Nemeth, Swedlund, and Kanki (1974) had individuals in groups of 6 judge the color and brightness of a series of 20 blue slides. In three of the conditions, the two confederates were not repetitious in their judgments. On half of the trials, they reported the slides to be "green" and on half of the trials they reported them to be "green-blue." However, the pattern of the responses differed by condition, with a resulting differential in subjects' perception of consistency. In one condition, the two confederates judged the 10 "dim" slides to be "green" and the 10 "bright" slides to be "green-blue." In a second condition, the pattern was reversed (that is, the "dim" slides were judged to be "green-blue" and the "bright" slides were judged to be "green"). In a third condition, these 10 "green" and 10 "green-blue" judgments were randomly paired with the slides, that is, without regard to brightness. In the conditions in which the confederates patterned their judgments to a property of the stimulus (in this case, brightness), they exerted considerable influence. Naive subjects judged the slides to contain "green" over 25% of the time. When the judgments were random, influence was negligible. Less than 1% of the responses contained "green," a finding insignificant from the 0% "green" response of the control group.

Subsequent research refined the concept of consistency, with distinctions, for example, between rigidity and consistency (Mugny, 1982; Ricateau, 1971). Inflexible, extreme positions, it was found, could produce resistance instead of influence. Furthermore, there is some evidence that nonrepetitive behavioral styles

that still preserve the perception of consistency may be more effective than repetition. Nemeth and Brilmayer (1987), for example, show that compromise "at the last minute" may produce both manifest and latent influence. Levine *et al.* (Levine, Saxe, & Harris, 1976; Levine, Sroka, & Snyder, 1977) offer evidence that a conformer-turned-deviant is more influential than a consistent deviant. Yet, most researchers find that, on balance, the perception of consistency of position over time is a necessary if not sufficient condition for minorities to exercise influence (Maass & Clark, 1984).

Additional research concentrated on the importance of perceived confidence on the part of the minority. Some work documented that minorities have some advantages and that, in particular, the fewer the number, the more they are presumed to be confident when they maintain a deviant position (Nemeth, Wachtler, & Endicott, 1977). Other work documented the impact of behavioral acts indicating confidence. In one study, for example, Nemeth and Wachtler (1974) investigated influence exerted by a confederate in a simulated jury deliberation, who took a deviant position with regard to compensation on a personal injury case. Prior to the deliberation, that person either chose the head seat at the table, chose a side seat, was assigned to the head seat or was assigned to a side seat. It was found that the act of taking the head seat, an act that translated into perceived confidence, rendered that individual far more effective. Though his arguments were the same, he significantly swayed majority opinion more when he chose the head seat than when he chose a side seat, or when he was assigned to a seat, be it a head or side seat.

In addition to research emphasizing the importance of behavioral style for minority influence, studies have repeatedly documented that the influence exerted by minorities tends to be latent rather than manifest. We use this important work when we discuss performance issues. In most studies of minority influence, latent influence is greater than manifest influence. For example, people may show little movement to the minority position in public, yet they may often show considerably greater adoption of the position when asked later, in a slightly different way or on a related issue. In the early study by Moscovici *et al.* (1969), less than 9% of the public responses were "green" when individuals were exposed to the minority who consistently judged the slide to be "green." When subjects were asked subsequently to place a series of "blue-green" stimuli into the categories of "blue" or "green," well over half of these individuals showed a pattern consistent with the influence. They called more "blue-green" stimuli "green" than did a control group.

In the Nemeth and Wachtler (1974) study on jury deliberations, individuals did not move publicly to the compensation position advocated by the confederate. They thought his position was ridiculously low and would not agree to that position. However, they privately lowered their judgments of compensation on that case and they gave less compensation to the plaintiff in an entirely new case. Other work corroborates greater private than public changes to minority views

(Maass & Clark, 1984), and there is evidence that individuals show more influence on indirect judgments than on those directly related to the minority position (Mugny, 1982). Thus, there is considerable evidence that minorities exert more influence than is outwardly manifested.

Although the minority can exert influence, they tend not to have that influence acknowledged or recognized. Even when individuals are influenced by the minority's judgments, such as when they come to judge blue stimuli as "green," they still see the minority as being incorrect and has having poor color vision (Nemeth *et al.*, 1974). Further, there is evidence that the minority that maintains its position is actually disliked, ridiculed, and held with disdain. In the early work by Schachter (1951), for example, people increased their communication to a deviant who maintained a differing position; when unsuccessful in getting him to rescind, they cut off communication and rejected him sociometrically. More recently, studies in minority influence show consistent dislike of the minority and there are anecdotal reports of threats toward a minority who maintains a position even on a hypothetical issue (Nemeth & Wachtler, 1974, 1983).

Such dislike appears to be exacerbated when deviance is viewed as impeding group locomotion toward desired goals. Thus, when group performance, as opposed to individual performance, will be rewarded, people are more rejecting of an interfering deviant (Berkowitz & Howard, 1959). When the group's existence appears threatened due to the behavior of a deviant, rejection is greater (Lauderdale, 1976). It also appears that such dislike may bear some relationship to status. As Levine (1988) has pointed out, when the person interfering with the goal attainment is of high status, he or she is less likely to be defined as a deviant and punished (Giordano, 1983; Hollander & Willis, 1967).

The work on minority influence in organizational settings has, to date, been quite sparse. In an excellent review essay, however, Zald and Berger (1978) have argued that research on this topic should borrow liberally from the study of political processes in nations and communities. They describe organizational coups, in which executives manage to oust the president of a corporation; bureaucratic insurgencies, in which middle managers or professionals gain political support for a change in the organization's direction or procedures; and mass movements, in which large numbers of those at the bottom of the hierarchy resist or confront the organization on issues of concern. However, very little research has been completed on these topics, due no doubt to the difficulties of gaining access for such research.

There has been more work done on *whistle-blowing*—in which the person does not simply argue his or her position within the organization, choosing instead to take the case to outside authorities or the press. Both Graham (1986) and Near and Miceli (1987) have outlined a host of determinants of whistle-blowing activity, ranging from personal responsibility and morality, to assessments of the seriousness of the issue and the likely consequences of one's actions. As in the case of deviants in small-group research, whistle-blowers do not fare well in orga-

nizations. Both anecdotal and quantitative evidence shows that they are typically demoted, reassigned to isolated and powerless positions, or fired. Graham (1984) did find that the credibility of the whistle-blower, based on education and pay, was inversely related to retaliation, and Near and Miceli (1986) found that retaliation is lessened if there is some support from supervisors or management. However, Near and Miceli (1985) showed that retaliation was more likely if the reported wrongdoing represented a critical and nonsubstitutable resource—something on which the organization was dependent. Thus, even though whistle-blowers are more likely to act when they see an organization's wrongdoing as serious, this is exactly the condition in which retaliation is likely to be greatest against the dissenting individual.

IV. The Costs and Benefits of Achieving Uniformity

Up to this point, we have underscored and reviewed the extensive research literature documenting the strain toward uniformity among individuals. They may achieve such uniformity by compromising and accommodating to a position somewhere in the middle. They often achieve it either by agreement to an already established norm or by agreement with the position held (1) by those in power, (2) by those higher in status, and/or (3) by those enjoying a numerical majority. Less often, they achieve it by agreement with the position initially held by a numerical minority or by a person low in power or status. The questions then arise, "What are the consequences of such uniformity?" and "Are those consequences different, depending on the form that the influence process takes?"

One of the more obvious advantages of the achievement of uniformity is that people are under less strain; there is greater harmony. In addition, there is far greater efficiency when the norm, or the wishes, will and viewpoint of those in power, is accepted and adopted. Everyone is in agreement, and therefore the group can locomote toward its goals, this being a necessary element for the survival of the group or organization.

On the other hand, there are numerous disadvantages of such influence processes. Some disadvantages are due to the common assumption that truth is correlated with consensus, thus consensus views may be maintained even in the face of changing circumstances or new facts.

Other disadvantages derive from the particular influence process that led to the consensus. When consensus is achieved because of power, status or numerical superiority, people appear relatively unreflective in their adoption of the proposed viewpoint. People are more likely to adopt the viewpoints of the majority than of the minority, for example, regardless of whether that majority is correct or incorrect (Nemeth & Wachtler, 1983). When the influence source is a minority,

however, there is evidence of greater originality and divergent thought, permitting the detection of more solutions (Nemeth & Kwan, 1985, 1987; Nemeth & Wachtler, 1983). We first explore the issue related to consensus in general and then proceed to the particular forms of influence, primarily concentrating on the potential contributions of dissent.

A. THE DISADVANTAGES OF CONSENSUS: BREEDING RIGIDITY RATHER THAN CHANGE

With uniformity, individuals and organizations often have difficulty adjusting to shifts in the environment. They neither heed negative data as soon as the data are evident nor shift resources from unproductive to more appropriate ventures as quickly as they should. In the small-group literature, one of the best-known examples is Janis's (1971) historical and archival analysis of cabinet-level decision making that led to political "fiascos" (e.g., the Bay of Pigs). Janis labeled as "groupthink" that mode of thinking in which concurrence seeking becomes so dominant that it tends to override realistic appraisal of alternative courses of action. Janis (1971) offers evidence that groupthink is encouraged by harmonious and cohesive groups that are relatively isolated from contrary views and that have a directive leader who signals a preference for a given course of action. Other symptoms and by-products of groupthink are an illusion of invulnerability, a belief in the group's morality, stereotyped views of others, strong conformity pressure accompanied by self-censorship, direct pressure on dissenters, and even an illusion of unanimity where it does not exist. The net effect of these symptoms is that decision-making groups do not completely survey the alternatives, examine the risks of their preferred courses of action, or search the information well; they exhibit selective bias, and, on balance, they render poor decisions. Thus, pressures for uniformity may cause a rush to judgment and an inability to make careful, deliberate, and divergent decisions.

While Janis's work on groupthink has shown how social influences can interfere with effective group decision making, separate streams of research have examined social influence on organizational decisions. One example is research on behavior in escalation situations (Brockner & Rubin, 1985; Staw & Ross, 1987; Tegar, 1980). These are situations in which negative results have been received, but in which there is a possibility of recouping one's losses by increasing one's commitment of time, effort, or resources. Several studies have shown that individuals responsible for prior losses invest more in a losing course of action than those facing the same economic decisions without the burden of prior losses (e.g., Bazerman, Beckum, & Schoorman, 1982; Staw, 1976). The most well-documented psychological mechanism accounting for this effect is that of individual or self-justification. However, as one moves from isolated individual action to behavior in social situations, such as an organization, the question arises as to

whether the tendency for escalation would be nullified by countervailing forces or whether it would be amplified by social pressures.

In organizations, decision makers may persist in a losing course of action just because they do not want to admit an error *to themselves*. They may invest further because they do not want their mistakes exposed *to others*. Usually, organizations put a premium on success and tend to devalue the careers of those who have failed. Therefore, important moderators of justification in organizations are job security and public identification with a project. Fox and Staw (1979) found in a role-playing exercise that those most worried about keeping their administrative positions tended to commit more resources to a losing course of action. Though not yet researched, it would also be expected that those whose organizational identities are staked to a project (via its origination or advocacy) would remain most committed during its decline. Through explicit and public identification (e.g., "that's Jim's baby"), organizations may thus lock managers into support for a course of action, even if private beliefs are not so unwavering (cf., Kiesler, 1971; Salancik, 1977).

Behavioral norms of the organization may also govern the degree of commitment in escalation situations. Staw and Ross (1980) found that observers of behavior in an escalation situation judged continuing commitment rather than withdrawal to be the behavior most befitting of managerial leadership. Thus, one organizational reason that managers may fall so readily into escalation traps is because consistency in behavior fits existing norms of positive leadership, as exemplified in the phrases "sticking to your guns," "holding the course" or "weathering the storm."

Staw and Ross (1987) have argued that organizational commitment to a course of action often follows a temporal pattern. It begins at the individual level, due to psychological motivations and biases. However, as negative data start to pile up, individual forces for commitment may be superseded by social and structural forces binding the person to the course of action.

Such a pattern was evidenced by British Columbia's decision to hold the World's Fair, Expo 86. As originally advocated by the Premier of British Columbia, Expo was supposed to operate close to the financial break-even point. But as plans for the fair started to become realized, the magnitude of expected losses grew dramatically. At first, efforts were made to minimize the financial hazards by providing more positive estimates of revenues and minimization of costs. Yet, as more dire financial projections were finally accepted (and even the fair's director recommended cancellation), plans for Expo did not change. Politically, it was too late. The fortunes of too many businesses in the province were tied to Expo; it was popular with the voters; and the future of the Premier and his political party were aligned with it. Finally, the question of whether to hold or to cancel the fair also became tied to the very identity of the city of Vancouver—was it reliable in its commitments? Was it "world class" and equal to Toronto and Montreal? Eventually, plans were made to cope with the expected

deficit of \$300 million (by installing a provincial lottery), and the fair was constructed and held as scheduled (Ross & Staw, 1986).

Escalation situations such as those in the Expo case graphically show how organizational action is more than a simple summation of individual behavior. Errors were no doubt made by key individuals in pursuing the fair, but organizational action in persisting in the course of action was probably due in large part to social influence. The inability of organizations to make proper decisions and to react to changes in their environment is not just collective stupidity or a lack of leadership. It is a more complex consequence of social influence, expressed both in overt pressure on office holders and in political maneuvering, as well as the more tacit effects of shared identity.

B. DISADVANTAGES OF PARTICULAR WAYS OF ACHIEVING CONSENSUS

One of the difficulties in discussing the advantages or disadvantages of influence processes is that, to a large extent, the evaluative judgments depend on whether the source of influence is correct or incorrect, wise or foolish. Thus, if the numerical majority was correct, we would, by and large, welcome the conformity process. If it were the dissenter who had the best ideas or who was most correct, one would then value the role of minority influence.

One of the concerns repeatedly raised in the literature on conformity is the extent to which individuals abdicate the information even from their own senses and adopt an erroneous majority viewpoint. In the Asch (1956) studies on length of lines, for example, some individuals reported that they "saw" the "equality" of lines as proposed by the majority. However, many reported that they knew the majority judgment was incorrect; yet, they followed that judgment in order to belong and to avoid disapproval. Such reactions tend not to occur when the influence source is a minority. Here, approval is not a primary motivation because movement to the minority position, while perhaps incurring the minority's approval, would also incur the disapproval of the majority, which one is deserting. People follow a minority viewpoint primarily when they believe it to be true or correct. Further, there is a far greater tendency to accept a majority viewpoint, regardless of its correctness, than a minority viewpoint (Nemeth & Wachtler, 1983).

1. Promoting Independence

Given the power of majority influence and the tendency for people to adopt majority views even when they are wrong, there has been a concern and emphasis on how to promote independence, particularly when it comes to holding a correct viewpoint rather than succumbing to majority error. One antidote to such con-

formity and an aid to independence appears to be exposure to a dissenting minority, even when the minority is incorrect.

In some of Asch's (1956) early studies, instead of having the individual face a unanimous disagreeing majority, he placed the individual in a group with a dissenter, one who gave the correct answer and agreed with the naive subject. With a dissenter, the amount of conformity was drastically reduced from 32% to 5%. Perhaps the most interesting finding comes from the condition in which the dissenter was not an ally, but was even more extreme than the majority, disagreeing with both the majority and the naive subject. Even here, conformity was greatly reduced, at least for visual items. For opinion items, Asch (1956) found little effect from exposure to the extreme dissenter. Allen and Levine (1969) have confirmed these results in a study manipulating veridical dissent (supporting the views of the subject) as well as extreme erroneous dissent. Again, both kinds of dissent from the majority reduced conformity on visual and information items, with only veridical dissent reducing conformity on opinion items. Thus, it appears that the presence of a dissenter, even an erroneous one and one who does not agree with you, can reduce the likelihood of conformity. Any break in the unanimity of the majority, even by error, may signal the appropriateness of independent judgment.

More recent evidence by Nemeth and Chiles (1988) suggests that dissent may promote independence more broadly and even in subsequent settings. In that study, three naive individuals were exposed to a confederate who (consistently or inconsistently) called blue stimuli "green." Others were exposed to no dissent. In a subsequent setting, these individuals found themselves in a minority position, faced with a majority judgment that was in error. Three others consistently judged red slides to be orange. If the individuals were not previously exposed to dissent, conformity was very high. On over 70% of the trials, they agreed with the majority's erroneous judgment of orange. When they had been exposed to dissent, whether it was consistent or inconsistent, conformity was drastically reduced; there was less than 25% conformity. In fact, those exposed to consistent dissent showed almost complete independence. They did not differ significantly from control subjects who made their judgments alone.

Still other research points to the possibility that dissent may not only aid independence by reducing the tendency for conformity, but also actually stimulate originality. In a study by Nemeth and Kwan (1985), subjects were exposed to an erroneous majority or minority view that blue slides were "green". Subsequent to this setting, they gave associations to the words "green" and "blue." Using normative data for such word associations, Nemeth and Kwan (1985) found that those exposed to the minority judgment gave not only more associations to each of the words but also significantly more original associations. Their associations were statistically less frequent. Thus, for example, associations to the word "blue" might include "sky" for those exposed to the majority, whereas it might include "jeans" for those exposed to the minority view.

2. Independence and Spontaneity in the Work Setting

Independence is also important in organizations because these goal-directed entities often make a conscious effort to control and channel individual behavior at work. Sets of rules, regulations, and penalties are usually in place to assure attendance and at least minimal performance. To gain a higher level of productivity, many organizations have also instituted some form of incentive system or goal-setting techniques. Although these social control efforts contribute to physical presence and dependable work performance (e.g., Locke, Shaw, Saari, & Latham, 1981), they have not been shown to contribute to more spontaneous and innovative behavior. This is important because, as Katz and Kahn (1966) noted,

No organizational planning can foresee all contingencies within its own operations, can anticipate with perfect accuracy all environmental changes, or can control perfectly all human variability. The resources of people for innovation, for spontaneous cooperation, for protective and creative behavior are thus vital to organizational survival and effectiveness. An organization which depends solely upon its blueprint of prescribed behavior is a very fragile system.

So far, a small literature has developed on extra-role behavior—actions that are not required by the organization, but nonetheless are seen by managers as beneficial. Participation in social events, making suggestions, volunteering for extra work, and helping coworkers are all positive activities that are neither written into the job description nor extrinsically rewarded. Smith, Organ, and Near (1983) showed that several of these behaviors can be integrated on an organizational altruism scale and distinguished empirically from organizational compliance. O'Reilly and Chatman (1986) similarly separated intra-role and extra-role behaviors, demonstrating that the conduct of prescribed duties have different predictors than that of more prosocial behaviors. Compliance motives were shown to relate to intra-role behavior, whereas both identification and internalization were the strongest correlates of extra-role activities.

Indirectly related to the study of extra-role behavior is the literature on intrinsic motivation. In numerous task experiments, it has been shown that efforts at social control can reduce the individual's intrinsic motivation to perform an activity (see, e.g., Deci, 1975 or Staw, 1976). The application of contingent monetary rewards may increase the role behavior that is directly reinforced, but after the reinforcers are eliminated and surveillance reduced, time voluntarily spent on the task is often diminished. Extrinsic rewards have also been found to reduce performance on creativity tasks—situations in which the best behavior is not inherently obvious or the result of simple increases in effort (Amabile, 1983).

In many organizations, spontaneous and innovative behavior may also fall victim to social control attempts. Whereas extrarole behavior includes a set of

actions that managers want from employees but are unwilling to pay for, innovative and spontaneous behavior includes actions that are not planned by nor necessarily approved by supervisors. It is thus quite likely not only that dependable role behavior and innovative activity are driven by different determinants, but also that they may be inimical to each other. For example, symbols of authority, rules, and penalties may induce compliance but drive out various (often functional) forms of deviance. Although monetary rewards and goal-setting are currently thought to be reliable techniques for increasing performance, they may likewise inhibit more spontaneous and innovative behaviors that are not prescribed by management.

Very little research has so far addressed the relation between social control and spontaneous, innovative work behavior. One lead is however provided by Hornstein (1986), who interviewed middle managers about their experiences with courageous acts—instances in which individuals spoke out against supervisors or championed unpopular positions. He found that courageous acts seemed to be less determined by independence or self-reliance than by a sense of identification with the immediate task. Hornstein argued that when self-identity is bound strongly to organizational welfare and job confidence is high, individuals are more likely to speak out when they realize that current practices are not in the best interest of the organization.

In a university setting, Staw and Bell (1988) found that students who were most committed to the school were more likely to make suggestions for its improvement. However, they also found that the number of suggestions varied inversely with satisfaction toward the school. Thus, those who were involved or somehow attached to the organization, but who had grievances or criticisms about it, were most valuable as a source of ideas. This points to the danger of many organizational development activities designed simply to reduce dissatisfaction, because they may quiet the very foes of the system that the organization needs. These results also remind us that most organizations contain many sources of innovation not associated with new technology or product development—sources that are probably suppressed by traditional modes of structure and control.

V. Dissent, Performance, and the Quality of Decision Making

Up to now, we have concentrated on the forces for uniformity and the potentially deleterious consequences of particular ways of achieving that consensus—in particular, conformity to erroneous views and a relative lack of spontaneity and innovation. We have noted the importance of exposure to dissent in overcoming some of these deleterious consequences. However, we also find that

dissent makes indirect positive contributions as well. In particular, there is evidence that dissent, even when erroneous, contributes to the detection of truth and to the improvement of both performance and decision making.

A. PERMITTING TRUTH FROM A DISSENTER

Consider the scenario in which the dissenter's position is itself correct, and the majority, the authority, or the norm is incorrect or at least less appropriate to the situation at hand. In such cases, one would want to foster recognition and acceptance of the truth held by this minority. This is not easy to achieve, however. Sometimes, the dissenter is unwilling to voice his or her position. Other times, the majority is reluctant to accept the dissenter's position even though it is correct.

A study by Staw and Boettger (1988) illustrates the former. These authors used the term "initiative" to describe cases in which the individual, in a sense, knows more than the organization. These are cases in which the prevailing knowledge about how to do a job is wrong, and the person defies accepted practice or higher authority to correct the error. Initiative may therefore constitute extraordinarily high performance, the kind that Katz and Kahn saw as essential to organizational functioning. Yet, unlike extra-role behaviors that are unpaid but generally desired by supervisors, acts of initiative are often viewed as subversive activities—behaviors that undercut the established order and prescriptions of the organization.

Staw and Boettger designed an experiment in which business students were asked to play the role of a communications officer in the school. In this staff role, subjects were charged with writing a promotional brochure used to attract incoming students. They were given a first draft of a paragraph describing the features of the school and asked to rewrite the description for the brochure. Unfortunately, the draft they were given was not only poorly written but also included content that was both inappropriate and erroneous. Included as selling points for the school were several features known from a previous student survey to be important drawbacks of attending the school. Thus, subjects were asked to work on a task in which the basic assumptions were flawed and would be detrimental to the program.

One independent variable in the Staw and Boettger study was the salience of alternatives to the prescribed task. Half of the subjects were primed before the experiment by having them rate numerous selling points of the business school, while half received no priming. A second independent variable was the authority level of the person who wrote the school descriptions—whether it was a secretary or the associate dean. The third manipulated variable was goal setting—whether subjects were told to make sure grammatical errors were corrected or simply instructed to "do your best."

The results of the initiative experiment showed very strong effects for priming and goal setting. When an erroneous goal for improving the grammar of the

brochure was given, few content changes were offered by subjects. Likewise, when subjects were not primed with alternative content for the brochure, they used the majority of the ideas from the previous draft of the school description, including those rated at the bottom in appropriateness. These results are disconcerting because most natural settings do not include any specific encouragement for alternative approaches; instead, such settings actively focus attention on established, though perhaps erroneous, goals. Moreover, natural settings do not usually include task models that are as blatantly false or undesirable as the ideas included in the school descriptions used in this study. Tasks and procedures are typically buttressed by precedent, rationale, and the specific goals of the organization. Thus, it is likely that initiative is held at a very low level by social influences present in most work settings.

Even where the dissenter does show initiative, in the sense that he or she proposes an answer that is correct, available studies suggest that the recognition of that correctness is not easy if the individual has lower status or is a member of a numerical minority. In studies by Torrance (1959), for example, the issue of correctness versus status was directly studied with Navy bomber crews that consisted of a pilot, a navigator, and a gunner. Pilots had high status and gunners relatively low status. In those studies, individuals attempted to solve a horse-trading problem: an individual buys a horse for \$60, sells it for \$70, buys it back for \$80 and sells it again for \$90. The question was how much profit did he make? (It turns out that the correct answer (\$20) is not obvious even to college-educated students). In the Navy crews, the navigator was most likely to judge it correctly. However, Torrance was interested in how groups of 3 would decide on the correct answer, given that at least one member knew it. The group solution depended on who knew the correct answer. When the pilot had the correct judgment, 94% of the 3 member groups accepted it; when it was the navigator who held the correct judgment, 80% accepted it; however, when the gunner held the correct answer, only 63% of the groups accepted it. Acceptance of the correct answer was directly related to the status of the person holding the correct answer.

B. PERMITTING UNTRUTH FROM A DISSENTER: THE IMPORTANCE OF PROCESS

While a good deal of research, both in small groups and in organizations, recognizes that majorities or authorities can be in error and that dissent can be a corrective, some recent work suggests that dissent, regardless of its accuracy, contributes to group performance. Rather than concentrating on the truth or error of the minority position, several researchers have documented the importance of dissent as it aids the decision-making process. Janis (1972) for example, has concentrated on the usefulness of dissent in preventing the negative consequences of conformity and unreflective information processing. In his model of groupthink, he outlined several techniques to prevent excess concurrence-seeking, including

the assignment of a critical-evaluator role to each member, assigning a member to the role of devil's advocate, examining more carefully dissenting views, and reconsidering decisions even after consensus has been reached. Most of these suggestions involve the usefulness of dissent in processing more divergent information and considering a wider range of alternatives.

More recently, Nemeth (1986) proposed that dissenting minority views do more than retard the negative consequences of conformity and concurrence-seeking. She argued that minority views, even when they are wrong, foster the kinds of attention and thought processes that lead to the detection of new truths and raise the quality of decision making. One element of this is that minorities, if they persist over time, stimulate the majority to exert more cognitive effort and to think in more divergent ways about an issue. Thus, regardless of the specific decisions or judgments that are reached, the decision-making process will, on balance, be improved by the presence of a minority.

Nemeth does not consider all forms of disagreement to lead to decision-making improvements, however. She specifically contrasts minority influence with the influence rendered by majorities. The latter tend to stimulate *convergent* thought processes. People exposed to majority judgments focus on the position from the viewpoint proposed by the majority, and as such, they are often blind to alternative perspectives. To the extent that the majority is correct, convergence of thought and quick adoption of their views can be useful, but to the extent that it is incorrect or only partially correct, such convergence can be deleterious to effective decision-making.

Several studies corroborate these hypotheses. In early research by Nemeth and Wachtler (Nemeth, 1976; Nemeth & Wachtler, 1983) the detection of truths was investigated as a result of majority versus minority influence in an embedded-figures task. Individuals in groups of six were shown a series of slides in which there was a standard figure and six comparison figures. Subjects alone were able to detect the standard in the one "easy" comparison figure; the others were more difficult. Depending on the condition, either two members (a minority) or four members (a majority) repeatedly judged the figure to be embedded in one of the difficult figures as well as in the easy figure. Again depending on the condition, this judgment was either correct (i.e., the comparison figure did indeed contain the standard) or incorrect (i.e., the comparison figure did not contain the standard). It turns out that the correctness of the judgments was found to have little impact on subjects' behavior. Whether the source constituted a numerical majority or minority, however, made a great deal of difference. People simply adopted the majority judgment. Of particular interest, however, was the kind of influence that was exerted by the minority. While individuals did not follow the minority judgment, they did detect the standard in novel comparison figures—that is, those that were not suggested by the minority. And they were correct. They detected embedded figures that were correct, that they would not have detected when alone, and that were not suggested by any confederate. Thus, there is

evidence for the notion that people follow the majority more than the minority and they do so even when the majority is incorrect. However, in response to a minority judgment, the individuals appear to search the stimulus array more carefully and, in the process, detect correct solutions that otherwise would have gone undetected.

A second study by Nemeth and Kwan (1987) investigated both the strategies used in problem solving and the detection of correct solutions. Groups of four individuals were shown a series of six-letter strings (e.g., "tNOWap") and asked to name the first three-letter word that they noticed. Because all letter strings contained three capital letters that formed a word from left to right, brief exposures elicited this word as the first one noticed. In the example, this would be "NOW." After five such slides, feedback was given to the individuals. In the "majority" condition, the experimenter then pointed out that *three* of the individuals first noticed the word formed in capital letters from right to left (e.g., "won" in the present example) and that *one* person first noticed the word formed in capital letters from left to right (e.g., "now"). In the minority condition, individuals were told that one person first saw the word formed by the backward sequencing ("won") and that three persons first noticed the word formed by forward sequencing ("now").

Subsequent to these minority and majority treatments, individuals were given a series of 10 slides and were asked to write down all the words they could discern from the given string of letters. They were given 15 seconds for each slide. In confronting this task, there are three primary strategies. Using the example, "tNOWa," it is clear that some words can be formed by the rather usual "forward" sequence (e.g., "no," "tow"). Words can also be formed by the strategy suggested by the influence source (i.e., the "backward" strategy, exemplified by "ant," "on"). Finally, words can be formed by a mixed strategy, which is a combination of forward and backward (e.g., "not," "want").

The results of the Nemeth and Kwan experiment showed that the individuals exposed to the majority view excelled in the usage of the backward sequencing. The majority strategy for problem solving was followed exactly. However, this was at the expense of using the more usual forward sequencing. Thus, their overall performance was equivalent to the control individuals (those not exposed to any information on others' solutions). By contrast, those exposed to the minority view used all three strategies. They used forward, backward, and mixed strategies in the service of a significantly better performance than either those in the majority condition or the control condition.

In subsequent studies (e.g., Nemeth *et al.*, 1989), there is evidence for superior recall of information as a consequence of exposure to minority views. Further, this superior recall is not only on information relevant to the disagreement but even on subsequent information. Thus, the studies by Nemeth and her associates show that it is not opposition, per se, that provides a creative contribution to individual thought and performance. Rather, it is opposition by a minority rather

than a majority. It is the minority who is usually ridiculed and derided, who is presumed to be incorrect, and who rarely prevails even when correct. But unlike the majority opposition, which constrains and focuses attention, minority influence can stimulate reappraisal of the situation, help to increase consideration of facts from multiple perspectives, and improve the detection of correct solutions.

C. UTILIZING DISSENT FOR OPTIMAL PERFORMANCE

From both a theoretical and a practical point of view, it is important to know how one can use varying viewpoints and, in particular, dissenting minority views to aid the decision-making process. One relatively obvious way of obtaining multiple perspectives is to utilize Janis's (1972) advice and assign a devil's advocate. Another is simply to form groups based on heterogeneity of viewpoints, as suggested by the work of Hoffman and Maier (1961a,b). In their work investigating homogeneity versus heterogeneity on the basis of personality, demographics, and attitudes, they have found that not all forms of heterogeneity are related to improvements in decision making. On balance, however, the evidence is that heterogeneity, particularly when it involves differing perspectives or viewpoints, improves decision making. Heterogeneity, they argue, provides benefits in terms of increasing the necessary resources for group problem solving; it brings a broader range of skills and abilities to bear on decision-making tasks. The issue, of course, is whether or not these skills, abilities, and perspectives are used.

In contrast to work on heterogeneity, which emphasizes the presence of differing views or abilities within the group, the Nemeth (1986) formulation (previously described) emphasizes the stimulation of individual members to consider multiple perspectives. Such stimulation appears to arise as a result of exposure to a minority view and, in particular, a minority view that persists over time. From this theoretical vantage point, the existence of a single contrasting view argued consistently by a minority of individuals might result in better information processing and decision making than the presence of multiple views in a group. Such a hypothesis remains speculative, but there is indirect support from a study by Nemeth and Nolan (1987), in which recall was improved by exposure to a consistent minority view rather than exposure to a plurality of viewpoints.

In the organizational literature, there is little empirical research on the role of minority influence. We do not know whether the presence of minority opinion serves as a stimulant to the decision making of those in power or those in the majority, or whether the simple existence of multiple perspectives has an additive effect on capabilities of the organization. Theoretically, a case can be made for either position.

The “stimulant” position is taken by Hirschman (1970), who argued that participant dissent or voice is a major means by which organizations come to improve themselves. Freeman and Medoff (1984) have also posited that unions often act as a constructive voice in industrial firms, prompting them to become more systematic and efficient. Finally, while much of the research on the effects of work participation has tried (often futilely) to demonstrate benefits in terms of individual work performance (e.g., Locke & Schweiger, 1979), it can be argued that participation schemes have a more system-wide impact. The scope and form of organizational participation (e.g., through worker ownership, board membership, works councils, unionization) may affect the goals the organization seeks, the actions it takes, and its structural design, in lieu of simple main effects on productivity (Strauss, 1982).

Many scholars of organizational behavior have argued that formal mechanisms should be instituted to protect dissent. For example, Waters (1980) has advocated the creation of an ombudsman office so that individuals would have a place to go for support, especially in trying to change an organization’s illegal or unethical practices. Aram and Salipante (1987) have argued for a more active board of directors for considering ethical, social, and legal conflicts. Finally, several schemes have been suggested to formalize the role of dissent in decision making, ranging from use of recognized “corporate devil’s advocate” (Herbert & Estes, 1977) to a structured debate in the Hegelian tradition (Mason, 1969), to a strategic assumption analysis (Mitroff & Emshoff, 1979) by which the unstated assumptions of an organization are challenged and substantiated (Graham, 1986). All of these suggestions are essentially efforts to use minority influence as a stimulant to those currently in power or as a way to challenge the unstated assumptions (Argyris, 1982) governing the organization.

It is conceivable that minority views in an organization might also increase, additively, the capacity of the organization to make good decisions. However, this statement would be true only to the extent that firms listened to or somehow used minority input in the decision-making process. More likely, dominant parties exclude minority input until a time of crisis develops—periods in which it is apparent that the prevailing wisdom and assumptions are no longer accurate or have not kept pace with environmental changes. Tushman and Romanelli (1985) have argued that organizations go through long periods of convergence (or normalcy), punctuated by brief times of discontinuity or metamorphosis. It is quite likely that the role of minorities is especially important during these upheavals in which the power structure and set of assumptions guiding the organization are subject to change. Thus, the existence of minorities may be more closely related to the capacity of organizations to survive occasional crises than to their steady-state productivity.

The long-run adaptiveness of having multiple points of view and diverse skills is based on a social-evolutionary model of organizations (Campbell, 1969). When an organization’s environment radically shifts over time (e.g., via changes in

consumer tastes and preferences, the regulatory environment, or the world competitive structure), there is the need for some mechanism to bring forth alternative perspectives that best fit the new setting. The existence of minority viewpoints provides the organization with alternative procedures and strategies. As the environment shifts, minorities may either come to power themselves or provide the new set of assumptions needed to effect radical changes. Organizations with sources of diversity and the ability to attend to them are thus more likely to survive or prosper following unsettling events (such as dramatic changes in world oil prices) than organizations possessing a more uniform view of its world. Some indirect evidence for this adaptive function of heterogeneity comes from research on the survival rates of various forms of organizations. Population ecologists have found a greater survival rate for generalists (multifunction or diversified firms) as opposed to specialists (single-purpose and more centralized organizations) when environments shift abruptly over time (Aldrich, 1979; Hannan & Freeman, 1977). Although firms possessing fewer attributes (specialists) are likely to be most efficient during stable times, they are least likely to be able to adapt to radically new conditions facing the organization over time.

Obviously, the stimulant and adaptive contributions of minorities do not come without costs. Just as psychological research has shown the efficiency value of homogeneity and the interpersonal difficulties associated with heterogeneity (Byrne, 1971), organizational studies have shown that the demography of managers (e.g., in terms of age and tenure) can adversely affect attitudes and behavior in the firm. Demographic heterogeneity has been shown to be associated with lower cohesion in superior-subordinate relations (Tsui & O'Reilly, 1987), higher managerial turnover (Wagner, Pfeffer, & O'Reilly, 1984), and even with lower ratings of innovation by external analysts (O'Reilly & Flatt, 1987). The latter finding poses the greatest challenge to the assumed benefits of minority influence. It is possible that O'Reilly and Flatt's (1986) innovation ratings are simply a product of positive halo, since they are highly correlated with measures of ongoing performance. It is also possible that the costs of heterogeneity exceed the benefits, except during times of crisis. Thus, the net advantage of heterogeneity would not be evident with cross-sectional analyses or longitudinal studies of short duration, unless measures were gathered before and after a major market or industry change. Finally, it is conceivable that few organizations have the capability to manage or weather the costs of heterogeneity while waiting for its benefits. For each of these reasons there may not be a simple relationship between organizational heterogeneity and innovation.

D. INTEGRATING THE DIFFERENTIATION

Though heterogeneity provides a greater number of inputs and ideas, they are of little use if lack of cohesion and common direction prevent their implemen-

tation. A well-known study by Lawrence and Lorsch (1967) illustrates this fact. In their study, Lawrence and Lorsch demonstrated that it was not enough to have a differentiated (or heterogeneous) organization in order to cope with a changing environment. There also need to be mechanisms by which the firm could become integrated. Thus, as differentiation increases (e.g., by having more diverse members and points of view), it is necessary to build in mechanisms to provide integration (e.g., communication aids, conflict-resolution techniques, norms for openness), or there will not be gains in effectiveness. Supporting this argument, Lawrence and Lorsch found that high differentiation *and* high integration were associated with organizational performance in rapidly changing environments.

Although maintaining differentiation and integration is no doubt very useful for organizational adaptiveness, the process is probably much more complex than that originally outlined by Lawrence and Lorsch. Kanter's (1988) discussion of the characteristics of innovative, high-technology companies illustrates this point. She notes that innovative companies often design specific structures that are meant to stimulate diversity—for example, by having a decentralized structure with numerous competing pockets of influence, by keeping roles ambiguous and procedures unformalized so that individuals can work according to their own priorities and interpretations of goals, by separating subunits doing innovative work from sources of central control, by providing some measure of job security so as to minimize fearful adherence to procedures, and by rewarding successful risk taking with both monetary and social rewards. However, in addition to these mechanisms for stimulating diversity, Kanter notes several procedures that high-technology companies often use for channeling organizational efforts in a unified direction. People with innovative ideas are often forced to mobilize other people and resources toward their own particular projects. They must “tin-cup” around the organization, pleading for slack resources that can be hidden in others' budgets, sometimes maintaining secrecy of the nature or scope of the project until success is more assured (e.g., via the famous “skunk-works” at Data General). Innovators may also need to seek aid or sponsorship from those with formal power. As their projects become increasingly promising, more and more people will want to “sign-on” or be associated with the venture, and it will eventually gain top management endorsement. Of course, very few projects actually evolve in this way, from the idea to the implementation stage. Most perish early for lack of support and the resources to carry them forward.

From a social-evolutionary perspective (Campbell, 1969), variety-generating mechanisms, such as those that foster greater diversity in ideas and minority opinions, can potentially aid the adaptiveness of an organization. Yet, there also need to be mechanisms for selection/retention—ways in which the organization can cull the good ideas from the impractical, as well as mechanisms to channel resources to the best of the available alternatives. Thus, organizational innovation may be characterized as a “funneling” process (Staw, 1988). The more diversity and heterogeneity the organization tolerates, the broader the mouth of the funnel for capturing new ideas. The more fine-grained or the stronger the selection

mechanisms, the fewer the number of ideas reaching the stage of implementation. The trick of adaptiveness, of course, is to maximize the number of good ideas reaching fruition. Unfortunately, too few organizations know how to maintain both substantial diversity *and* strong selection processes. This may be one reason why a simple association of heterogeneity with innovativeness has not always been found. Diversity, by itself and without a way of culling and carrying forward those projects that are most promising, is thus as likely to lead to misdirection and inefficiency as innovation and adaptiveness.

VI. Social Control and Social Changes: Some Final Thoughts

John Stuart Mill (*On Liberty*, 1859/1979) long ago recognized the importance of open confrontation of viewpoints, of the allowance of diversity, variety, and choice. For him, the adversarial system of competing ideas served democratic principles, but it also was a vehicle for the finding of truths, as well as for the vitality of the positions reached. Like Lord Macauley (1830), he believed that "Men are never so likely to settle a question rightly as when they discuss it freely."

This article provides some empirical underpinnings for Mill's approach. Minority influence can both add to the problem-solving capacity of groups and serve as an intellectual stimulant to the parties involved. By contrast, majority influence can narrow the alternatives and quality of decisions made and stifle innovation when it is expressed via various means of social control. As we have seen, social control in organizational contexts may also lead individuals to defend established courses of action beyond their useful lives, reduce individual initiative to correct organizational errors, and eliminate the diversity that is a prerequisite for organizational adaptiveness.

No doubt, some degree of social control is essential for both groups and organizations. Hence, it is typical to think of cohesion and diversity as opposing processes that need to be traded off in any particular situation. A contingency model is often thereby formulated, in which the composition and processes of the social unit are selected to fit best the problem being solved or the units' demands for efficiency versus adaptiveness (e.g., Maier, 1967; Weick, 1983). While such contingency models are useful, a more productive approach might be to think of the forces for cohesion and diversity as allies rather than trade-offs. We follow Hackman (1976) in noting that what currently exists for a social unit does not necessarily represent its potential. Groups and organizations can be made more effective by finding new mechanisms, not current or standard practices, that can increase both cohesion *and* diversity. Influence as a stimulus to thought is but one concept, and the funnel model of innovation is but one metaphor that can aid in this reformulation.

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