What Differences Make a Difference?

The Promise and Reality of Diverse Teams in Organizations

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SUMMARY—*As the workplace has become increasingly diverse, there has been a tension between the promise and the reality of diversity in team process and performance. The optimistic view holds that diversity will lead to an increase in the variety of perspectives and approaches brought to a problem and to opportunities for knowledge sharing, and hence lead to greater creativity and quality of team performance. However, the preponderance of the evidence favors a more pessimistic view: that diversity creates social divisions, which in turn create negative performance outcomes for the group.*

Why is the reality of diversity less than the promise? Answering this requires understanding a variety of factors, including how diversity is defined and categorized, and the moderating as well as mediating processes that affect the diversity–process–performance linkage.

We start with a definition. The word diversity *has been used to refer to so many types of differences among people that the most commonly used definition—"any attribute that another person may use to detect individual differences" (Williams & O'Reilly, 1998, p. 81)—while accurate, is also quite broad. As a result, various categorization schemes based on factors such as race or gender, or based on proportions such as the size of the minority, have been used to further refine the definition of diversity in teams. The choices researchers have made in using these categorization schemes, however, do lead to particular trade-offs. Factor approaches, for example, allow an examination of multiple types of diversity and the interactions among them but ignore the sizes of factions and subgroups. Proportional approaches allow the consideration of minority-group size, and hence the study of issues such as tokenism, but also tend to focus on only one type of diversity and thereby overestimate its relevance relative to other types.*

The underlying effects of diversity, whichever way it is defined and categorized, have typically been understood through three primary theoretical perspectives: the similarity–attraction paradigm, self- and social categorization, and information processing. These approaches also have their biases.

The predictions of similarity–attraction theory are straightforward: Similarity on attributes such as attitudes, values, and beliefs will facilitate interpersonal attraction and liking. Empirical research has supported that surface-level similarity tends to predict affiliation and attraction.

The similarity–attraction paradigm was developed to understand dyadic relationships. Yet, individuals can express preferences for membership in particular groups even when they have had no prior social interaction with members of that group. This is primarily a cognitive process of categorization: Individuals are postulated to have a hierarchical structure of self-categorizations at the personal, group, and superordinate levels. Research has demonstrated that the specific categories on which we tend to focus in categorizing others—such as race, gender, values, or beliefs—are likely to be those that are the most distinctive or salient within the particular social context. The act of social categorization activates differential expectations for in-group and out-group members. This distinction creates the atmosphere for stereotyping, in which out-group members are judged more stereotypically than in-group members are.

The self-categorization/social-identity and similarity–attraction approaches both tend to lead to the pessimistic view of diversity in teams. In these paradigms, individuals will be more attracted to similar others and will experience more cohesion and social integration in homogeneous groups. The information-processing approach, by contrast, offers a more optimistic view: that diversity creates an atmosphere for enhancing group performance. The information-processing approach argues that individuals in diverse groups have access to other individuals with

different backgrounds, networks, information, and skills. This added information should improve the group outcome even though it might create coordination problems for the group.

As we disentangle what researchers have learned from the last 50 years, we can conclude that surface-level social-category differences, such as those of race/ethnicity, gender, or age, tend to be more likely to have negative effects on the ability of groups to function effectively. By contrast, underlying differences, such as differences in functional background, education, or personality, are more often positively related to performance—for example by facilitating creativity or group problem solving—but only when the group process is carefully controlled. The majority of these effects have typically been explained in terms of potential mediators such as social integration, communication, and conflict. However, the actual evidence for the input–process–output linkage is not as strong as one might like.

Clarifying the mixed effects of diversity in work groups will only be possible by carefully considering moderators such as context, by broadening our view to include new types of diversity such as emotions and networks, and by focusing more carefully on mediating mechanisms. As we delve into advice for organizational teams to enhance the assets of diversity and manage the liabilities, we focus on the benefits of "exploring" as opposed to "exploiting" types of tasks, of bridging diversity through values and goals, and of enhancing the power of the minority. Finally, we end with suggestions for how organizations can learn to create incentives for change within the firm.

INTRODUCTION: THE PROMISE AND REALITY OF DIVERSE TEAMS

There is no doubt that the North American workforce is increasingly diverse in a variety of ways (Friedman & DiTomaso, 1996; Johnston & Packer, 1987; Morrison & Von Glinow, 1990; Offerman & Gowing, 1990). Changing population demographics, as well as civil rights gains made by women and racial/ethnic minorities, have created organizations that are more and more heterogeneous ("Affirmative Action," 1995; Triandis, Kurowski, & Gelfand, 1993). At the same time, most organizations have moved to ways of doing work that include less hierarchical organizational structures and the use of various types of work groups and teams to get tasks done (Applebaum & Batt, 1994; Ilgen, 1999; Jackson, Stone, & Alvarez, 1992; Tolbert, Andrews, & Simons, 1995). To remain competitive in the 21st-century global economy, workers must be increasingly specialized, yet must work together in cross-functional teams; this creates a demand for sophisticated coordination and manage-

ment (Lipnack & Stamps, 1993; Mohrman, Cohen, & Mohrman, 1995). It is the intersection of these two important organizational phenomena—an increasingly diverse workforce and its organization increasingly along team lines—that is the focus of this paper.

A belief has developed among laypeople, management scholars, and social scientists alike that diversity in teams will lead to a direct increase in the variety of perspectives brought to a problem, to opportunities for synergistic knowledge and information sharing, and hence to greater creativity and quality of team performance. Both for policy reasons and, perhaps, out of a rosier-than-warranted interpretation of the extant research on the topic, diversity has been credited with myriad positive outcomes for team performance. Indeed, the top reasons cited by human-resource executives for increased diversity in the workplace include not only better utilization of talent and understanding of the marketplace but also enhanced creativity and problem-solving ability (Robinson & Dechant, 1997). However, when one reviews almost 50 years of social-science research on diversity in teams, the reality appears much less clear-cut. Research has shown that the performance advantages of diversity are often found under very narrow conditions (for reviews, see Jackson, Joshi, & Erhardt, 2003; Milliken & Martins, 1996; Williams & O'Reilly, 1998). As we will show in this monograph, a close look at this research reveals no consistent, positive main effects for diversity on work-group performance (Webber & Donohue, 2001). Indeed, a recent award-winning paper has concluded that the business case (in terms of demonstrable financial results) for diversity remains hard to support based on the extant research (Kochan et al, 2003).

We are cautious to note, however, that this does not at all imply that integration and diversity for reasons of equal access and opportunity are not appropriate, desirable, and necessary. In addition, we know that equal access and opportunity are still a long distance off and that the glass ceiling is still alive and well (Catalyst, 2005; Meyerson & Fletcher, 2000). We applaud diversity initiatives that reduce discrimination and increase access to career opportunities. However, we also applaud efforts to understand how the increased diversity of organizations and work teams affects work processes and performance. To implement policies and practices that increase the diversity of the workforce without understanding how diverse individuals can come together to form effective teams is irresponsible. Our aim here is to provide such a roadmap, based on the current state of knowledge about the consequences of diversity, broadly defined.

As opportunities open up for women and underrepresented minorities in 21st-century organizations, a new reality presents itself: Leading or working with a diverse team can be a very difficult task (Bridges, 1994; Ely & Thomas, 2001; Ilgen, 1999). Research shows that diversity can have negative effects on social integration, communication, and conflict in groups (e.g., Chatman, Polzer, Barsade, & Neale, 1998; E. Hoffman, 1985; Jehn, Northcraft, & Neale, 1999; Pelled, Eisenhardt, & Xin,

1999; Watson, Kumar, & Michaelson, 1993; Webber & Dono-hue, 2001) and can result in poorer performance and lowered satisfaction for group members (e.g., Ancona & Caldwell, 1992; Riordan & Shore, 1997; Tsui, Egan, & O'Reilly, 1992). As such, our premise is that diversity is a difficult state for teams—and that it is an equally difficult state to manage (Hewstone & Brown, 1986). However, we also argue that there are ways to manage, and even capitalize on, diversity in teams. Most of those solutions will come by focusing on the links between diversity and group process, rather than by focusing on the direct links between diversity and performance. As such, our story will be a complicated one.

Before we proceed further, we should note that we will be examining the nature of diversity quite broadly, as a construct that includes demographic factors (such as race or age) as well as nondemographic factors (such as education or functional background, which refers to work experience in specific areas such as finance, marketing, or operations). Some scholars have argued that the definition of diversity should be limited to variation based on race, gender, and other cultural categories, as doing so forces a focus on discrimination and issues of exclusion (Cross, Katz, Miller, & Seashore, 1994; Morrison, 1992). However, others have argued for a broader definition encompassing all ways in which work-team members can differ (Jackson, May, & Whitney, 1995; Thomas & Ely, 1996). While a large number of definitions of diversity exist, we will define diversity as variation based on any attribute people use to tell themselves that another person is different (Williams & O'Reilly, 1998; Jackson, 1992). The advantage of this approach is that it is both broad and applicable to any particular group.

We will show this advantage by next exploring the approaches that have been taken to understand the relationships between diversity, team process, and performance. This will allow us to more fully understand the nature and meaning of diversity and the various theoretical approaches scholars have adopted in studying it. We then move to the heart of the monograph, on the intersection of team diversity with the demands placed on teams in organizations. We use a framework of exploration and exploitation to categorize tasks that teams perform and present a more nuanced understanding of when (i.e., under what set of conditions) and for whom (e.g., society, the organization, the team, or the person) diversity is beneficial in team settings.

It is important to note at the outset that this monograph is not about prejudice, stereotyping, or discrimination. While those are incredibly important topics in their own right, we focus here on the effects and implications of diversity (broadly defined) for team interaction and performance.

The ''Optimistic'' View

One central ideological view of diversity has become known as the "value in diversity" hypothesis (Cox, Lobel, & McLeod, 1991). This view argues that diversity creates value and benefit for team outcomes, even as it creates challenges for team-interaction processes. This view is rooted in the classic work on heterogeneity in small groups conducted by Hoffman and his colleagues over four decades ago (L. Hoffman, 1959; L. Hoffman & Maier, 1961). Hoffman suggested that diverse groups of individuals should be expected to have a broader range of knowledge, expertise, and perspectives than homogeneous groups of individuals do. These factors should facilitate more effective group performance when the task is cognitively complex or requires multiple perspectives. Hoffman's initial studies examined diversity of personality type (L. Hoffman, 1959; L. Hoffman & Maier, 1961). His findings indicated that heterogeneous groups produced higher-quality solutions than did homogeneous groups for complex decision-making problems.

Another early stream of research on heterogeneity and problem solving was undertaken by Triandis and colleagues, who specifically argued that heterogeneity was most beneficial for tasks requiring creativity (Triandis, Hall, & Ewen, 1965). Indeed, dyads with heterogeneous attitudes (e.g., liberal and conservative) generated more creative solutions to problems than did dyads with homogeneous attitudes. Hoffman suggested that conflict was the key mediating variable between heterogeneity and performance (L. Hoffman, Harburg, & Maier, 1962). More recent scholars adopted Hoffman's ideas by arguing that diversity enhances problem solving through the presence of cognitive conflict or divergence of viewpoints (Damon, 1991; Levine & Resnick, 1993). Empirically, heterogeneous groups have been shown to outperform homogeneous groups, as the expression of alternative perspectives can lead to novel insights and solutions (Nemeth, 1986). This has been demonstrated (in controlled laboratory settings) for groups diverse on a variety of dimensions including expertise (Stasser, Stewart, & Wittenbaum, 1995), information (Gruenfeld, Mannix, Williams, & Neale, 1996), and ethnicity (Watson et al., 1993).

These findings bode well for the value-in-diversity hypothesis, and fuel the view that diversity in teams creates positive environments of constructive conflict and debate, in which ideas synergistically resolve into higher-level outcomes than would be achievable in more homogeneous teams. The underlying reasoning is that because greater diversity entails relationships among people with different sets of contacts, skills, information, and experiences, heterogeneous teams should enjoy an enhanced capacity for creative problem solving.

While value in diversity may be found in ad hoc groups studied in the controlled setting of the laboratory, some theorists have questioned whether these results are generalizable to ongoing work groups in organizational settings. One test of this question was conducted by Bantel and Jackson (1989), who examined the composition of the top management teams of 199 banks, looking at the relationship between diversity and innovation. They found that more innovative banks were managed by teams that were more educated overall and also more diverse with respect to their educational and functional backgrounds of

expertise. Bantel and Jackson's finding supports upper-echelons theory, developed by Hambrick and Mason (1984), which links demographic characteristics of top management teams to a variety of organizational processes and outcomes. Specifically, in upper-echelons theory, the psychological and cognitive characteristics underlying observable demographic characteristics are critical to a group's processes and subsequent decisions. In a study also looking at top management teams in this vein, Wiersema and Bantel (1992) examined the relationship between team demography and corporate strategic change, as measured by the absolute change in diversification level, within a sample of Fortune 500 companies. They found that firms most likely to undergo strategic changes in corporate strategy had top management teams characterized by higher diversity on educational specialization—indicating that cognitive diversity led to a greater propensity for change.

However, studies of top management teams relying on upper-echelons theory have been criticized for ignoring the "black box" of process that links diversity effects to outcomes (Lawrence, 1997). Ancona and Caldwell (1992) attempted to explore the inside of the black box when they examined 45 mid-level product-development teams. They found that tenure diversity—that is, diversity in employee length of service—had some beneficial effects on work-group processes. For example, tenure diversity improved a group's ability to define goals, prioritize work, and develop workable plans. As a result, heterogeneous teams rated themselves more highly in terms of performance. Unfortunately, their managers did not agree with their assessment. Increased heterogeneity on tenure, as well as on functional background, was negatively related to managerial ratings of adherence to budgets and schedules. In this study, functional diversity did increase communication with people outside the work group. Such communication, in turn, improved managerial ratings of team innovation. However, the direct effect of functional diversity on managerial ratings of team innovation was negative—in other words, it was not diversity per se that increased innovation but rather the external communication the diversity generated.

Thus, overall, most of the support for the value-in-diversity hypothesis comes from studies concentrating on functional differences (serving as a proxy for diversity in skills, information, and expertise). These differences have typically been shown to improve performance through vigorous debate that leads to creativity and improved problem solving (see also Bunderson & Sutcliffe, 2002; Carpenter, 2002; Pitcher & Smith, 2000).

The ''Pessimistic'' View

This brings us to the more pessimistic view of the effects of diversity. In this view, diversity creates social divisions that, in turn, create poor social integration and cohesion, resulting in negative outcomes for the group. One prominent theory that espouses the pessimistic view is reflected in Pfeffer's influential article, "Organizational Demography" (Pfeffer, 1983). While focusing at the organizational rather than team level of analysis, he argues that the demographic composition of organizations can determine many processes, including absenteeism, turnover (cf. McCain, O'Reilly, & Pfeffer, 1984; Pfeffer & O'Reilly, 1987), communication (cf. Zenger & Lawrence, 1989), innovation (cf. O'Reilly & Flatt, 1989), and performance (cf. Ancona & Caldwell, 1992; Tsui & O'Reilly, 1989). The central variable here is the organizational cohort, defined by organizational tenure or length of service. From this perspective, individuals who join the organization at the same time develop a similar understanding of its events, culture, and way of doing business. As such, scholars working in this tradition have emphasized the importance of homogeneity in organizational-cohort membership as a predictor of successful processes and outcomes and the dysfunctional effects of cohort conflict.

Another study in this tradition has examined a team-level variable, specifically focusing on turnover in the top management teams of 31 Fortune 500 companies from 1976 to 1980 (Wagner, Pfeffer, & O'Reilly, 1984). The researchers measured demographic dissimilarity based on age and organizational tenure (date of firm entry). They found that date-of-entry distributions at the organizational level predicted the proportions of turnover in the top management team. At the individual level, they found that older managers, who were more dissimilar to their team in terms of age, were more likely to leave. They explained this result by arguing that people who were dissimilar to others in time of entry were less likely to communicate, resulting in lower levels of social cohesion and higher levels of conflict.

O'Reilly, Caldwell, and Barnett (1989) relied on a more micro level of analysis to predict social integration in the group as well as individual turnover based on cohort differences. Thus, this study, unlike Wagner et al. (1984), directly measured the presumed underlying causal psychological construct of social integration. O'Reilly et al. demonstrated that heterogeneity in group tenure among work-group members did in fact lead to lower levels of social integration, which in turn resulted in higher levels of turnover. They also found that it was the more distant members, in terms of their deviation from the average tenure, who were more likely to leave.

Most of the research demonstrating the pessimistic view of diversity has operationalized diversity as tenure, but some has focused on social-category variables such as age, sex, or race. While tenure diversity has particularly negative effects on performance, diversity based on social-category variables such as age, sex, and race seems to produce mixed effects and particularly depends on proportions (an issue discussed below). For example, Kochan and colleagues (Kochan et al., 2003) recently reported a large-scale, four-study project in which they measured the effects of racial and gender diversity on team process and performance. Across the four studies, gender diversity typically had either no effect or positive effects on team pro-

cesses, while racial diversity tended to have negative effects on team process. There were few direct effects for either type of diversity on team performance, although some contextual effects (such as a competitive team culture between the teams) exacerbated the negative effects of racial diversity. This is consistent with recent research showing that teams with gender variation tend to have somewhat lower group performance, although the effect is not terribly strong. Racial diversity tends to create more difficulties for team process as well as performance (Jackson et al., 2003), although the negative effects of racial diversity have been shown to be mitigated by training and development initiatives and positive environment (cf. Ely & Thomas, 2001; Kochan, et al, 2003).

Integrating the Optimistic and Pessimistic Views

Which of the two views of diversity—optimistic or pessimistic—is more accurate? The optimistic view has the advantage of tending to focus on processes, attempting to reveal the underlying mechanisms that explain the relationship between diversity and performance. The focus tends to be on variables such as communication, conflict, information exchange, and cohesiveness. However, studies in this tradition have tended to rely on ad hoc groups in controlled laboratory conditions, functioning without the context of an organizational culture or reward system. By contrast, the work on organizational demography has the advantage of most often looking at intact workgroups in an organizational context. Yet, with some notable exceptions, the research less often looks at psychological or process measures, instead focusing on cohort membership and directly observable outcomes—most often turnover and firm performance (cf. Carroll & Harrison, 1998; Hambrick, Cho, & Chen, 1996). As a result, the theoretical explanation for why cohort heterogeneity so often creates negative-outcome effects remains speculative.

While the previously discussed approaches have been developed relatively independently, it is possible to create an integrative picture of the work on diversity in teams. Clearly, by the examples used so far, it can be seen that scholars have lumped many different kinds of difference under the rubric of diversity. Examples have included demographic differences such as race, age, and gender; organizational-status differences such as length of service or tenure; functional differences such as education, knowledge, or information; variance in attitudes and beliefs; or even variance in personality traits. And this is by no means an exhaustive list. But it is not always easy to tell what differences "make a difference." When attempting to define diversity, only one thing is certain: Diversity is something that no one individual has, but all groups do (McGrath, Berdahl, & Arrow, 1995). In the section that follows, we will examine the various definitions and categorization schemes that have been used for diversity in teams, as well as their implications for our view of the diversity–process–performance link.

THE NATURE AND MEANING OF DIVERSITY IN TEAMS

In a recent issue of *The New Yorker*, a cartoon showed three rather nondescript but dissimilar-looking individuals standing together sheepishly, with a fourth berating them: "You call yourselves a demographic?" (Mueller, 2004). This cartoon, meant to poke fun at the current politically correct climate—in which to talk about differences is always a bit risky, and a bit uncertain—also raises the question: What is the nature and meaning of diversity?

Scholars are still struggling to develop a clearly defined and categorized construct called *diversity* (Guzzo & Dickson, 1996; Jackson & Ruderman, 1995; S. Schneider & Northcraft, 1999). The word has been used to refer to so many types of differences among people that our definition of it—variation based on any attribute that another person may use to detect individual differences—while accurate, may also be so broad that it weakens the rigor of the theoretical and empirical work in the field. Thus, it may be useful to review the various categorization schemes for diversity that social scientists have developed. From there we will review the underlying theoretical basis for the predictions of diversity effects. As we explore the social construction of diversity, we will see how this has driven different theoretical and empirical paths.

Approaches to Categorizing Diversity

In general, scholars have relied on two paradigms to understand the effects of diversity in teams. The first is an approach based on factors, in which types of diversity are identified and measured. These factor approaches tend to fall into two categories: two-factor approaches, in which diversity is coded into two major types (such as visible—that is, readily detectable—and non-visible), and multifactor approaches, in which attempts are made to create exhaustive and mutually exclusive categories. The second is an approach based on proportions, or ratios of minority to majority members. This is a more generic approach that tends to treat the types of diversity as interchangeable and focuses on proportion size as the variable of interest. Below we discuss both approaches, give examples of research in each area, and discuss the implications of each approach for our knowledge of diversity's effects in teams.

Factor Approaches

One approach to diversity is a bifurcated approach in which two categories of differences are defined, measured, and compared. For example, one means of categorizing different types of diversity is into visible and nonvisible differences (cf., Jackson et al., 1995). Visible differences include race, ethnicity, age, gender, and physical disabilities. Less visible differences, also known as underlying attributes, include education, skills and abilities, values and attitudes, tenure in the organization, functional background, personality differences, and sexual

orientation. Scholars have argued that one reason to differentiate based on visible versus nonvisible differences is that visible differences are more likely to evoke responses because of stereotypes or bias (Milliken & Martins, 1996).

In a refinement of the two-factor approach, Harrison and his colleagues (Harrison, Price, Gavin, & Florey, 2002; Harrison, Price, & Bell, 1998) have distinguished between the effects of surface-level and deep-level diversity on group functioning. Surface-level diversity includes demographic differences, while deep-level diversity is defined as differences in attitudes and beliefs. In a longitudinal laboratory study, surface-level or demographic diversity was found to have weaker effects on group cohesion and performance as group longevity increased, as compared to deep-level, or attitudinal, diversity. Interestingly, the researchers found no correlation between surface-level and deep-level diversity (Harrison et al., 2002).

Townsend and Scott (2001) adapted the categorization scheme of Harrison et al. (2002) to study the effects of surface- and deep-level diversity in self-directed work teams in the textile industry. They examined attitudinal (e.g., team commitment, cohesion, attitudes toward performance), performance, and demographic data from 1,200 workers in 122 work teams. Their findings reveal effects for both types of diversity. In terms of surface-level effects, they found racial differences in individually held perceptions. For example, whites reported higher levels of team cohesion, commitment, desire to perform well, and efficacy than blacks did. Aggregated to the team level, these perceptions significantly predicted performance. The racial composition of the teams did have an impact on performance, such that homogeneous teams were more productive than were teams equally split between whites and blacks. And finally, looking at deep-level diversity, differences in attitudes helped to explain the effects of racial composition on team performance and, statistically speaking, reduced the "unexplained" impact of racial composition by over 60%.

One problem with the two-factor approaches is that they depend on the measurement of a limited set of variables, often operationalized as only one focal characteristic. A way to overcome this limitation is to measure diversity as a multifaceted concept. In this approach, diversity is conceptualized in terms of an array of attributes, or a profile. Thus, multifaceted approaches utilize several clusters of categories and their interactions. For example, McGrath et al. (1995) created the following five diversity categories: (a) demographic attributes; (b) task-related knowledge, skills, and abilities; (c) values, beliefs, and attitudes; (d) personality and cognitive and behavioral styles; and (e) status in the work group's organization. Although they seem fairly exhaustive, these categories are still somewhat imperfect. In Table 1, we attempt to list most of the diversity variables that have been studied, starting with McGrath et al.'s organizing scheme as a framework, but the end result is certainly open to disagreement.

TABLE 1

Categories and Types of Diversity

Social-category differences
    Race
    Ethnicity
    Gender
    Age
    Religion
    Sexual orientation
    Physical abilities
Differences in knowledge or skills
    Education
    Functional knowledge
    Information or expertise
    Training
    Experience
    Abilities
Differences in values or beliefs
    Cultural background
    Ideological beliefs
Personality differences
    Cognitive style
    Affective disposition
    Motivational factors
Organizational- or community-status differences
    Tenure or length of service
    Title
Differences in social and network ties
    Work-related ties
    Friendship ties
    Community ties
    In-group memberships

Despite the problems, categorization schemes have proved useful to researchers. For example, Jehn et al. (1999) used a multifaceted categorization scheme to explore, in a field study, the impact of diversity on 92 functioning work groups. These researchers distinguished among three types of diversity: social-category, informational, and value diversity. In their study, social-category diversity refers to explicit differences among group members in demographic membership, such as race, gender, and ethnicity. Informational diversity refers to differences in knowledge bases and perspectives that members bring to a work group—differences likely to arise as a function of differences in educational background, training, and work experiences. Finally, value diversity occurs when members of a work group differ in their views of what their real task, goal, or mission should be.

Jehn and colleagues found that different types of work-group diversity did indeed have different effects on group processes and outcomes. Informational diversity, as measured by differences in education and functional area in the firm, increased task conflict (measured as differences of opinions or points of view over the task itself) within the group, which positively in-

fluenced group performance. Social-category diversity, as measured by heterogeneity in sex and age, positively influenced group members' morale. And finally, perceived value diversity, as measured by perceptions of value differences among group members, decreased member satisfaction, intent to remain, and commitment to the group.

Pelled (1996) developed a multifaceted view of diversity by adding the dimension of job relatedness to the visible–nonvisible dimension. Thus, each feature of diversity could either be visible or not, as well as job-relevant or not. Job relatedness was defined as the extent to which the variable "directly shapes the perspectives and skills related to cognitive tasks" (Pelled, 1996, p. 615). Thus, Pelled argued that age, gender, and race are highly visible but low in job relatedness; that education and functional background are low in visibility but high in job relatedness; and that group tenure is high on both visibility and job relatedness. Her model proposed that as job-related diversity within a work group increases, task-related conflict should also be expected to increase, and that as visible category differences increase, affective conflict, measured as interpersonal tension or dislike, should be expected to increase.

In a field study operationalizing her model, Pelled, Eisenhardt, and Xin (1999) found complex links between diversity, conflict, and work-group performance. Functional-background diversity, a job-relevant type of diversity, led to increased task conflict. Racial diversity, high in visibility but low in job relatedness, increased affective conflict. However, age diversity, another high-visibility type of diversity, led to lower affective conflict. No effects were found for gender diversity. To further the complexity, both group longevity and task routineness moderated these effects. In groups that had worked together longer, the association between diversity and conflict was lessened. Task routineness reduced the positive association between diversity and emotional conflict, but it increased the positive relationship between diversity and task conflict. Finally, task conflict did improve cognitive-task performance, but affective conflict did not.

Proportions

An alternative approach, taken by some of the most influential work on diversity, focuses on the proportions of minority/majority membership in the group. Blau's well-known work, *Inequality and Heterogeneity* (1977), focuses on the role that proportions play in determining the quality of relations between demographically different groups. His theory argues that, based on pure statistics alone, heterogeneous groups will result in increased contact between demographically diverse individuals. As such, based on the logic of the social-contact hypothesis—in which simple social contact and interaction is predicted to increase attraction, liking, and understanding (Pettigrew, 1982)—the quality of relations between heterogeneous individuals will be improved.

In her classic work, *Men and Women of the Organization*, Kanter (1977a) also argued that the proportion of in-group and out-group members matters when looking at the effects of proportions on outcomes, with being a solo or token as the extreme case. Kanter's (1977b) work on demographic proportions is similar to Blau's in that it is a "generic" theory, meant to apply to any type of "salient external master status such as sex, race or ethnicity" (Kanter, 1977a, p. 208). The theoretical framework begins with the idea of four group types, which depend on the percentage of minority-group members. In uniform groups, all members share the same external status—for example, a group comprising only men. In skewed groups, minority members constitute 1% to 15% of the group. In tilted groups, the minority proportion ranges from 15% to 35%. And finally, in balanced groups, the minority- and majority-group members reach approximate parity, with the minority group ranging from 35% to as much as 65%. In Kanter's theory, it is the "skewed" category that contains the most problematic possibility—a group with a "token" minority-group member, who is likely to be subject to stereotyping and marginalization.

In actual empirical tests, however, Kanter's theory has found mixed support (E. Hoffman, 1985; Konrad, Winter, & Gutek, 1992; South, Bonjean, Markham, & Corder, 1982; Tolbert, Andrews, & Simons, 1995). Women students in a law school with a smaller ratio of women to men scored significantly higher on measures of performance pressure and social isolation than did their counterparts at a second law school with a more balanced ratio (Spangler, Gordon, & Pipkin, 1978). However, in a more recent study of faculty membership in 50 sociology departments from 1977 to 1988, Tolbert et al. (1995) found more support for a competition-based theory of proportions than for one based on social-contact notions.

Competition theories (Blalock, 1957, 1967) argue that people perceive that in most situations there is a finite set of available resources. As such, minority groups, as they increase in proportionate size, are likely to be perceived as a threat to the power of the majority group and to the majority group's claim on scarce resources. Perceptions of competition and power threats lead to increasing hostility and discrimination, which explains why so-called "balanced" groups may be particularly dysfunctional. Tolbert et al. (1995) found that departments with a high proportion of women faculty overall were significantly less likely to increase the number of women on their faculty. The researchers concluded that "women's growing representation in a group leads to an increasingly negative environment for them" (Tolbert et al., pp. 153–154). This effect was moderated, however, by the percentage of women with power—that is, tenure. Departments with a higher proportion of tenured women faculty were more likely to increase the number of women faculty than other departments were.

Similarly, Wharton and Baron (1987, 1991) have looked at the impact of gender segregation on men at work. They found that while women tend to prefer gender-balanced or even male-

dominated settings (see also Konrad et al., 1992), men in mixed-gender work settings report significantly lower job satisfaction and self-esteem and more job-related depression than men in either male-dominated or female-dominated work settings do (see also Tsui et al., 1992). This is true even after controlling for individual, job, economic, and organizational determinants of well-being. Thus, it seems unlikely that men dislike gender integration simply for economic reasons (being paid less) or because they suffer status losses as jobs become "feminized." Wharton and Baron interpret their results as consistent with the theory that minority–majority relations are at their worst when the ratio between the two groups is at parity (Allport, 1954; Blalock, 1967). At least for men, this implies a curvilinear relationship between gender mix and perceptions of well-being.

Reconciling the Approaches

Each of the approaches to categorizing and measuring diversity has its advantages. The proportional approaches allow a focus on relative differences, recognizing that a diverse group with a minority of one is qualitatively different than a group with more balanced proportions. Proportion theories allow us to understand why, for example, as minority-group numbers increase, their status and treatment from majority-group members may actually worsen (Blalock; 1967; Tolbert et al., 1995). However, the down side of proportional theories is that they tend to focus on single, select demographic attributes, such as gender or race. And while studies of demographic proportions often find significant effects, they often do not measure the subjective or psychological processes that account for outcome differences (Lawrence, 1997).

Factor theories, by contrast, have the potential to examine a broader array of variables. Many of them, however, have taken a bifurcated approach (e.g., visible versus nonvisible differences) and are operationalized with the assumption that the limited set of attributes actually studied are the dominant, salient, and central criteria for social divisions (Merton, 1972). Any particular characteristic, however, may be more or less salient, or relevant, depending on the context. Consider a widely reported example in which Teresa Heinz (2004 presidential candidate John Kerry's wife), speaking to a group of black Americans, referred to herself as an African American. It is true that she was born in Africa (in Mozambique) and is now an American citizen. However, as some members of the Kerry campaign committee reflected at the time, her choice of salient categorization may not have been one with which her audience resonated (Cottle, 2004).

Researchers have begun to recognize that focusing on a single demographic attribute, or even a restricted set of attributes, may cause one to miss the potential impact of key attributes and their interactions. As in the Heinz example above, in a particular context, an individual's array of characteristics may be more or less salient or relevant. Multifaceted factor approaches have the advantage of allowing for an integrative view of the effects of multiple types of diversity on group process and performance (Kramer, 1991, 1993). They also allow for the examination of interaction effects between different types of diversity on group process and performance. In addition (and probably more importantly), multifaceted theories do not assume that different types of diversity are of equal importance or have equal effects in every situation. Thus, diversity based on educational background may not be the same as diversity based on race, nor is it likely to have the same effects on group interaction (Brickson, 2000; Nkomo, 1992; Randel, 2002; Randel & Jaussi, 2003).

Lau and Murnighan (1998) have recently suggested a reconciliation of the proportion and factor approaches with their theory of group *faultlines*. These are hypothetical dividing lines that may split a group into subgroups, usually based on multiple attributes. According to these theorists, the strength of faultlines depends on three factors: (a) the number of individual attributes apparent to group members; (b) their alignment; and, as a consequence, (c) the number of potentially homogeneous subgroups. Group faultlines are proposed to increase in strength as more attributes are highly correlated, thus reducing the number and increasing the homogeneity of the subgroups. Lau and Murnighan (1998) give as an example a group that includes five young, white, male shipping clerks who have worked for a company for less than a year and five middle-aged, black, female vice presidents who have been with the company for 20 years or more. In this case, the group's faultline would be particularly strong because all the listed characteristics are highly correlated.

The predictions of this theory are consistent with some previous formulations. For example, groups that split into subgroups of comparable power are likely to experience intense, overt conflict. This is derived from Blalock's (1957, 1967) classic competition hypothesis discussed previously. However, at this point, empirical tests have yet to demonstrate the overall validity of the predictions that faultlines will create dysfunction in groups. Indeed, in the one published study we could find on the effects of faultlines on conflict, morale, and performance in groups, strong faultlines did not affect performance or morale, and groups with strong faultlines had less conflict than groups with weak faultlines did (Thatcher, Jehn, & Zanutto, 2003). However, the authors of this study note that, due to a restriction of range in the data, the results may be unreliable. They suggest that there is a curvilinear effect, in which very weak and very strong faultlines may have the strongest and most deleterious effects on group process and performance. The curvilinear hypothesis has also been recently suggested in other research (e.g., Richard & Shelor, 2002).

Recent work by Phillips, Northcraft, and Neale (in press) suggests that the saliency of the faultlines may be critical in determining the impact of intragroup differences on performance. As noted above, attempts to diminish the salience of categorical boundaries or faultlines by asking members of

racially diverse groups to focus on their similarities was not beneficial for group performance. In contrast, focusing homogeneous teams on their similarity increased their sense of belonging and subsequent performance. These differences in performance existed despite the fact that the similarities discovered in surface-level diverse groups did not differ in nature from those discovered in surface-level homogeneous groups. The authors suggest that these "discovered" similarities may not have been sufficiently powerful to overcome the saliency of racial faultlines among group members. Thus, it appears that the attempt to highlight commonality in the racially diverse groups only served to highlight their differences.

More research needs to be done on the formulation and impact of group faultlines, but what is certain is that diversity is a multifaceted concept that affects individual, group, and organizational outcomes. As such, a scheme that encompasses a multifaceted view of diversity and that also acknowledges the dynamic and changing nature of groups—in terms of their tasks, goals, membership, and environment—is much more informative. In addition, approaches that take into account the subjective experiences of the group members will be more likely to capture the factors that are actually affecting the group. Thus, we argue for the value of a multifaceted approach, which—as we will show below—also will ultimately allow researchers to explore and understand the causes underlying both the optimistic as well as the pessimistic view of diversity.

Conclusion: The Nature of Diversity

At this point we return to our original, admittedly broad, definition of diversity as any attribute people use to tell themselves that another person is different (Williams & O'Reilly, 1998, p. 81). As we noted at the onset of this monograph, the advantage of this approach is that it is broad but also specific to the particular group. In other words, it encompasses multiple categories but focuses on categories that are relevant, salient, and critical to the self- and social identities of the group members (Merton, 1972). Indeed, researchers have suggested that all dimensions of diversity have the potential to stimulate or hinder performance based on the saliency of the social categorization (Brewer, 1995; Earley & Mosakowski, 2000; Lau & Murnighan, 1998) on information exchange (Van Knippenberg, De Dreu, & Homan, 2004). Another advantage of this definition is that it directly acknowledges the theoretical traditions on which much of diversity research is based: self-categorization (Tajfel, 1981; Turner, Hogg, Oakes, and Reicher, 1987) and social-identity theory (Hogg & Abrams, 1988; Turner, 1982). The majority of diversity researchers draw, at least in part, on these theories to understand and explain the effects of diversity on group interaction and performance—that is, the underlying mechanisms that explain how diversity works.

Two additional approaches, similarity–attraction theory (Berscheid & Walster, 1978; Byrne, 1971) and information-processing frameworks (Gruenfeld et al., 1996; Hinsz, Tindale, & Vollrath, 1997; Wittenbaum & Stasser, 1996; Steiner, 1972; L. Hoffman, Harburg, & Maier, 1962) have also been fundamental to understanding diversity's influence on team process and performance. In the next section we will review these theories and their application to diversity. Following this discussion we will see how scholars have used these theories to build specific categorization schemes of diversity and to test the relationship among various types of diversity, group process, and performance.

THEORETICAL APPROACHES: UNDERSTANDING THE PROCESS EFFECTS OF DIVERSITY

Similarity–Attraction Theory

Newcomb's theory of social attraction (Newcomb, 1961, 1968) is basically derived from Heider's theory of cognitive balance (Heider, 1958). The predictions of Newcomb's theory are straightforward: Similarity on attributes such as attitudes, values, and beliefs will facilitate interpersonal attraction and liking, and vice versa. Liking and similarity reinforce one another and create a strain toward symmetry. People will avoid communicating with those they dislike or with those who hold opinions or views differing from their own as a means of reducing the strain produced by the disagreement (Rosenbaum, 1986). Newcomb found evidence for his theory in real-life studies of college students (Newcomb, 1961), whose patterns of friendships were predictable from the similarity of their attitudes.

Byrne's early work on the attraction–similarity paradigm confirmed that individuals are more attracted to others who they believe hold similar attitudes to themselves and rate those individuals as more intelligent, knowledgeable, and well-adjusted (Byrne, 1971). Researchers have also noted that surface-level similarity tends to predict affiliation and attraction (Berscheid, 1985). For example, in his classic research on cultural diversity, Triandis found that members of culturally dissimilar groups were less likely to be attracted to one other and had more difficulty communicating with each other than members of culturally homogeneous groups did (Triandis, 1959, 1960). Hoffman found that racially diverse groups tended to have more process-related problems than racially homogeneous groups did (L. Hoffman, 1959; L. Hoffman & Maier, 1961). In addition, similarity–attraction effects have been found for a number of less visible variables, including attitudes and socioeconomic status (Byrne, Clore, & Worchel, 1966; Lincoln & Miller, 1979).

The similarity–attraction approach is consistent with a trait-based view of demographic diversity that assumes that surface-level differences, such as diversity in race or age, also imply differences in underlying attributes, such as values and beliefs (McGrath et al., 1995). For example, Townsend and Scott (2001) argue that while race per se does not determine an individual's attitudes toward work and rewards, it can contribute to a set of life experiences that are likely to affect these attitudes. Thus,

they argue that race can be a "proxy" for a set of experiences that can lead directly to the formation of specific attitudes (cf. Kirchmeyer, 1993).

In a study following from trait-theory assumptions and also consistent with similarity–attraction theory, workplaces can be subject to what Lefkowitz (1994) calls "ethnic drift." In a study looking at the assignment of new employees to supervisors, he found that white and black employees were assigned to supervisors of the same ethnicity to a degree significantly greater than chance (Lefkowitz, 1994). In addition, after a few months of employment this effect increased even further, so that after 5 months, four times as many black employees as white employees were assigned to black supervisors. The study controlled for initial employee aptitude, the supervisor's like or dislike for the employee, and employee performance ratings. None of these variables had any effects, suggesting that personal liking, animosity, or job-related performance cannot explain these job assignments. What can explain these assignments is the assumption, derived from the trait approach, that demographic similarity will also lead to other types of similarity and, eventually, to attraction and liking.

In recent studies of structural relationship patterns, similar effects have been observed: Individuals have been found to strive toward homophily (or homogeneity) in their social and career networks (Carley, 1991; Ibarra, 1992, 1993). In a study of the spontaneous networks formed by 1st-year MBA students, Mollica, Gray, and Trevino (2003) found that race predicted friendship ties, despite the efforts of the university to promote diversity and to form heterogeneous classes and teams. In fact, racial minorities demonstrated greater homophily in their network ties than did whites, and this tendency persisted over time (see also Goins & Mannix, 1999).

Taking attraction–similarity and principles of homophily to their extreme, but perhaps logical, conclusion, Schneider's (1987) model argues that organizations will naturally evolve toward a state of homogeneity through a process of attraction, selection, and attrition. The process begins as individuals are attracted to join organizations whose members, they believe, are similar to themselves. Because current organizational members will prefer to select members who are similar to themselves, the screening process will tend toward the selection of like others (Chatman, 1991). As the new members join the organization and get to know tenured members, the similarity–attraction process works to increase the homogeneity that already exists or to weed out the overly dissimilar members. Over time, these processes create more homogeneous work groups, with homogeneity defined in terms of individual-difference variables such as values, attitudes, and personality factors (George, 1990; Jackson et al., 1991; Premack & Wanous, 1985).

In a field study of 93 top management teams over a 4-year period, Jackson and colleagues (Jackson et al., 1991) applied attraction–selection–attrition theory to predict patterns of recruitment, turnover, and promotion rates. They predicted that top-level executives would not be randomly distributed across management teams but would be grouped into teams characterized by greater homogeneity of personal attributes (such as age, military experience, and college curriculum) than would be expected by chance. The findings supported this prediction. Notably, most of the factors were not attributes that could be socialized over time, but were fixed qualities with which the individuals entered the organization (such as military experience or educational background). This bolsters Schneider's (1987) assertion that selection and attrition processes explain much within-group homogeneity. The researchers also found that demographically more heterogeneous teams had higher levels of turnover than homogeneous teams did and that those individuals who were the most dissimilar were most likely to leave.

Social-Identity and Self-Categorization Theories
The similarity–attraction paradigm was developed to understand dyadic relationships. Yet, individuals can express preferences for membership in particular groups even when they have had no prior social interaction with members of that group. This suggests that the dyadic-level similarity–attraction paradigm may not account for all the reported demographic effects, especially when actual interaction between participants is unlikely or limited (Pfeffer & O'Reilly, 1987; Tsui, Egan, & O'Reilly, 1992). Social-identity (Hogg & Abrams, 1988; Tajfel, 1978) and self-categorization theories (Turner, 1982, 1985) offer theoretical insight into these processes at the group level.

Self-categorization (Turner, 1985) is the process by which people define their self-concepts in terms of membership in social groups. This is primarily a cognitive process of categorization in which individuals are postulated to have a hierarchical structure of self-categorizations at the personal, group, and superordinate, or overarching, levels. Self-categorizations at a particular level become salient as a result of the "fit" of the category (ratio of between-group differences to within-group similarities) and the degree to which contextual factors make the category accessible. Self-concepts are activated and provoke specific behaviors depending on the characteristics of the others who are present in a situation (Markus & Cross, 1990). Thus, the key issue here is that the group context is predicted to shape the self-view of group members. For example, members of demographically heterogeneous groups have been shown to be more likely to categorize themselves and others in terms of demographic characteristics than are members of homogeneous groups (Stroessner, 1996).

Social-identity theory (Hogg & Abrams, 1988; Tajfel, 1981) provides both a cognitive and motivational perspective on the origins and consequences of group identification. Identification with a group involves two key components: Membership in the group is an emotionally significant aspect of the individual's self-concept, and the collective interests of the group are of

concern to the individual above and beyond their implications for personal self-interests (Brewer, 1991, 1995). Ultimately, social identity arises from a process of social categorization in which individuals put themselves and others into salient social categories that allow comparison among the resulting groups.

Research has demonstrated that the specific categories on which we tend to focus in categorizing others—such as race, gender, values, or beliefs—are likely to be those that are the most distinctive or salient within the social context (Clement & Schiereck, 1973; Nelson & Klutas, 2000). Although such categories are often continuous rather than discrete, social categorization theory would argue that processes of category accentuation are likely to force exaggeration between category differences while minimizing differences within categories (Tajfel & Wilkes, 1963). Once categorization occurs, we tend to think of others not as unique individuals but as examples of a relevant group stereotype.

In addition, because one of the key motivating factors in social-identity categorization is the bolstering and maintenance of self-esteem (Tajfel & Turner, 1986), the act of social categorization activates differential expectations for in-group and out-group members. Social categories, in effect, create "us–them" distinctions. When people are judged as out-group members, they are seen as overly homogeneous, while in-group members tend to be seen as more heterogeneous than average. This distinction creates the atmosphere for stereotyping: Out-group members are stereotypically judged more quickly, and with more confidence, than in-group members are (Mackie & Smith, 1998).

Stereotypes shape the expectations group members have about one another's behavior and may, in turn, lead to differential treatment of group members (McGrath et al., 1995). Thus, in this expectations approach to diversity (as compared to a trait approach), demographic factors are not assumed to be linked to systematic differences in underlying attributes such as knowledge, values, and beliefs; however, they are likely to trigger inferences regarding those underlying attributes. The end result is likely to be biased behavior directed toward out-group members and favoritism and preference directed toward in-group members (Brewer, 1979, 1995; Schopler & Insko, 1992).

For example, Dreachslin, Hunt, & Sprainer (2000) examined the effects of racial diversity on perceptions and communication patterns in nursing-care teams. Among their findings was that black team members were much more likely to identify race as a factor exacerbating team conflict and miscommunication while white team members tended to attribute problems to roles and status in the team and to see race as incidental and irrelevant. These different belief systems, based on team members' own salient social identities, served as "lenses" through which they perceived the world, creating very different realities and unresolved tensions that ultimately affected team performance. Thus, the in-group/out-group effect provides the explanation for a number of empirical findings on diverse teams, including why

members of heterogeneous groups (particularly those with a majority–minority structure) show less attachment to one another and less commitment to their organizations (Harrison et al., 1998; Tsui et al., 1992), are absent from work more often (O'Reilly et al., 1989; Wagner et al., 1984), take more time to reach decisions (Hambrick et al., 1996), and experience more conflict (Jehn, Northcraft, & Neale, 1999; Pelled et al., 1999).

The area of relational demography largely builds on ideas from social-categorization theory (Mowday & Sutton, 1993; Tsui, Xin, & Egan, 1995). The focus here is on the importance of relationships between supervisors and subordinates (Graen & Scandura, 1987) or among individual work-group members who classify each other as members of either the in-group or the out-group. As such, it is the relative, not the absolute, demographic characteristics that are predictive of an individual's work-related attitudes and performance (Zenger & Lawrence, 1989). As discussed above, in-group members are characterized by high trust, support, and reward, while out-group members are characterized by low trust, support, and reward.

In a classic study of relational demography, Tsui & O'Reilly (1989) investigated the effects of six demographic variables (age, gender, race, education, and company and job tenure) on superiors' ratings of performance and liking for subordinates. In a manner consistent with the theories, their results indicate that increasing dissimilarity between superiors and subordinates was associated with lower subordinate performance and less personal liking for subordinates by superiors. Similarly, Tsui, Egan, & O'Reilly (1992) analyzed a sample of 151 groups (1,705 respondents) in three large organizations, demonstrating that as individuals became more demographically different from their work groups they became less psychologically attached, had lowered intentions to remain in the firm, and had higher levels of absenteeism. Interestingly, this effect was largest for whites and men compared to nonwhites and women.

Some recent work by Huo and colleagues (Huo, 2003; Huo, Smith, Tyler, & Lind, 1996), however, gives us reason to see possibilities for a more positive outcome. Their findings indicate that superordinate category identification can override subgroup identification in important matters such as obedience to legal authorities. Extrapolating to an organizational setting, it may be possible that even when individuals have high levels of within-group identification, if they also have high levels of superordinate identification with the overall organization, they will be less prone to negative effects such as withdrawal or lowered commitment.

Information-Processing and Problem-Solving Approaches
The self-categorization/social-identity and similarity–attraction approaches both lead to the pessimistic view of diversity in teams. These theories highlight the problems with distinctiveness or difference in groups. In these paradigms, individuals will be more attracted to similar others and will experience more

cohesion (O'Reilly et al., 1989), less relational conflict (Jehn et al., 1999), lower turnover (Wagner, 1984)), and more commitment (Tsui et al., 1992) in homogeneous groups. Diversity, then, is likely to lead to negative social processes, including difficult intragroup relations, that result in poor outcomes for the group. By contrast, the information-processing approach offers a more optimistic view in which diversity creates an atmosphere for enhancing group performance. While there is likely a propensity for individuals to communicate more with similar others, as noted above, individuals in diverse groups also have access to other individuals with different backgrounds, networks, information, skills, and experiences. Thus, in diverse groups individuals have a variety of perspectives and approaches to the problem, as well as different sources of information and expertise. This added information might improve the group outcome even as it creates coordination and integration problems for the group (Gruenfeld et al., 1996; Phillips, Mannix, Neale, & Gruenfeld, 2004).

Thus, the information-processing tradition tends to focus on the benefits of diversity in terms of information, educational or functional background, or expertise (Ancona & Caldwell, 1992; Winquist & Larson, 1998; Wittenbaum & Stasser, 1996). As such, the information-processing view tends to be at odds with the trait approach to diversity and tends to avoid measuring what are sometimes known as "demographic proxies" such as gender, race, or age. Instead, researchers in this tradition focus on diversity variables that are argued to make a direct impact on the social and cognitive processes of the group (e.g., Pitcher & Smith, 2000; Priem, Lyon, & Dess, 1999). For example, it has been shown that scientists benefit most from contact with dissimilar colleagues (Pelz, 1956). Differences are presumed to create an opportunity for team members to examine the problem at hand more carefully. Rather than settling for a good-enough but less-than-optimal solution, different perspectives create an opportunity for deeper analysis. The synergy that is created by different perspectives is argued to create a process gain for the group when it can manage the social-integration problems caused by the diversity (Steiner, 1972).

Yet, as the meta-analyses of Bowers, Pharmer, and Salas (2000) and Webber and Donahue (2001) note, there is no consistent support for the notion that different types of diversity directly influence performance. Specifically, these researchers report that neither surface- nor deep-level diversity can be reliably linked to performance. Thus, it may not be enough for the necessary diversity to simply exist within a group; task-relevant differences also must be noticed by group members and consciously utilized if they are to have an effect on performance (Van Knippenberg, De Dreu, & Homan, 2004).

A primary mechanism for this elaboration is through information exchange (Gruenfeld et al., 1996; Jackson, 1992; Mannix, Thompson, & Bazerman, 1989; Thompson, Mannix, & Bazerman, 1988). When participants in interpersonal problem solving experience cognitive conflict in the absence of pressure to conform or defer to a dominant viewpoint, they often respond by revising fundamental assumptions, engaging in cognitive restructuring, and generating novel insights. These effects typically lead to enhanced problem solving (Damon, 1991; Perret-Clemont, Perret, & Bell, 1991). Thus, to the extent that groups are more diverse in their perspectives and approaches to problem solving, they should outperform groups with less diversity. However, to exchange information, groups must have both the ability and the willingness to engage in constructive, task-focused conflict to integrate their divergent perspectives (Gruenfeld et al., 1996; Mannix & Jehn, 2004; Neale & Bazerman, 1991).

Researchers have demonstrated the positive effects of heterogeneity of functional background, knowledge, and ability in a variety of settings. For example, Hambrick, Cho, and Chen (1996) demonstrated that top management teams in the airline industry that were diverse in terms of functional background and education exhibited a greater propensity for action than more homogeneous teams did. In another field study, but with a very different sample—textile workers in the garment industry—heterogeneity of ability in work teams was shown to improve performance in terms of work output (Hamilton, Nickerson, & Owan, 2003).

Bunderson & Sutcliffe (2002) have differentiated functional diversity into two types: dominant-functional diversity and intrapersonal-functional diversity. The former is defined as "the functional area in which [team members] have spent the greater part of their careers" (Bunderson & Sutcliffe, 2002, p. 878); while the latter focuses on the extent to which "individuals on a team are narrow functional specialists" (p. 878). The authors argue that the teams composed of individuals with broad functional backgrounds—that is, the ones with intrapersonal-functional diversity—will be more able to interact effectively, sharing information and hence performing more effectively than teams with narrow functional specialists. In a sample of 45 teams from a Fortune 100 consumer products company, the authors' predictions were substantiated. When teams were composed of functionally broad individuals, team members were less susceptible to the sorts of in-group/out-group biases and stereotyping that restrict information exchange. By contrast, when team members had dominant-functional diversity, their different backgrounds and experiences increased their difficulty communicating and relating to one another. In addition, information sharing largely mediated the diversity–performance relationship, so that teams composed of members with intrapersonal-functional diversity outperformed those with dominant-functional diversity. Information sharing as a necessary condition for achieving the benefits that are inherent in diverse groups was identified by Van Knippenberg et al. (2004) as the primary mechanism in the categorization–elaboration model of work-group diversity (cf. Nemeth & Staw, 1989).

Conclusion: Theoretical Approaches

While researchers and scholars have emphasized the importance of each of the theoretical approaches to different degrees, it is almost impossible to understand the diversity–process–performance link without integrating all three approaches. A fully balanced perspective may be achieved by considering the intersection of categorization (i.e., self-categorization/social identity, similarity–attraction theories) and the information-processing approaches. The first perspective helps us explain the pull individuals feel toward the validation of homogeneity and the comfort of belonging, while the information-processing view helps us understand how distinctiveness and difference can create novel approaches, learning, and enhanced performance through interaction and the constructive exchange of information. These results point to why we see no consistent main effects for diversity in the literature. Unless diverse teams are able to overcome the disruptive effects of their differences or avoid the tendencies to drive out distinctiveness and move toward similarity, they will be unable to engage in effective and creative problem solving.

Therefore, we must understand under what circumstances groups will be able to overcome the natural disruptive effects of diversity in favor of its benefits. It is first of all important to be clear about the context and purpose of the team: A diverse team with a purely learning mission might be likely to have very different outcome prospects than might a diverse team with a short-term, goal-directed project. It is also necessary to understand the processes of the team itself and, in particular, how distinctive members interact with the other members of the team. Below we discuss these features of teams in more detail, unraveling both the mechanisms that lead to benefits and the barriers to effective team performance in diverse groups.

PROMOTING THE ASSETS AND LIMITING THE LIABILITIES OF DIVERSITY IN TEAMS

What We Know and Where to Go

Studies on diversity in teams from the last 50 years have shown that surface-level social-category differences such as race/ethnicity, gender, or age tend to be more likely than underlying differences to have negative effects on the ability of groups to function effectively, in terms of variables such as performance, commitment, and satisfaction. Age diversity tends to have the weakest effects, while tenure diversity is often most strongly negative related to performance in organizational groups. Underlying differences, such as differences in functional background, education, or personality, are more often positively related to performance, for example in terms of creativity or group problem solving, but only when the group process is carefully controlled.

The majority of these effects of diversity on group performance (both positive and negative) have typically been explained by their effects on potential mediators such as social integration, communication, and conflict. However, the actual evidence for the input–process–output linkage is not as strong as one might like. For example, the results linking racial/ethnic diversity to negative group processes is quite mixed, showing negative results in some studies but positive results in others (cf. Jackson et al., 2003; Williams & O'Reilly, 1998). The results for age and gender are also mixed, with several studies showing neutral results (cf. Kochan et al, 2003; Pelled et al, 1999). Other diversity variables tend to show stronger consistent connections to group process. For example, there is fairly strong evidence that tenure diversity reduces social integration, limits within-group communication, and increases dysfunctional conflict. The effects of functional diversity tend to be more mixed: Sometimes it increases task conflict (and thus group performance) and other times it creates dysfunctional conflict that reduces social integration (thus lowering group performance).

Disentangling the various, seemingly inconsistent findings on diversity will likely require a careful consideration of the moderators at work in particular organizational contexts, a focus on underlying mechanisms explaining the effects of diversity, and an exploration of new ways to understand and measure diversity. These research directions have already begun, and they are likely to lead us into more complicated, yet richer, territory as we try to understand the effects of diversity in teams.

Context

Context might include issues of organizational culture (e.g., Chatman & Spataro, 2005; Ely & Thomas, 2001), gender composition in the overall organization (e.g., Pelled et al., 1999), or the features of the task (e.g., Pelled et al.). As Kochan et al. (2003) demonstrated, the effects of racial diversity can be either positive or negative depending on the organizational context, proving factors such as competition to be important moderators. Attention to temporal issues is also important, as the effects of diversity have been shown to vary over time (e.g., Jehn & Mannix, 2001; Watson et al., 1998). Ultimately, the context provides the backdrop for what is noticed and becomes salient and relevant to organizational actors. For example, Chatman and Spataro (2005) demonstrated the importance of context in a study of organizational culture. Their results showed that demographically distinct individuals (e.g., individuals who were different from their coworkers on race, nationality, or gender) behaved more cooperatively when their business unit emphasized collectivistic rather than individualistic cultural values. This finding supports laboratory-based work also showing the importance of the organizational culture as a moderator to cooperative or competitive behavior in diverse settings (Chatman, Polzer, Barsade, & Neale, 1998).

Underlying Mechanisms

To the extent that researchers have used (primarily) demographic proxies to predict outcomes, the in-depth explanations

of the underlying mechanisms producing diversity's effects have been neglected. Reliance on proxies can probably be traced to the congruence assumption (i.e., visible traits are reasonable substitutes for, and predictors of, underlying differences). However, recent criticisms of proxy-driven research have pointed out the benefits of attempts to measure heterogeneity constructs more directly (e.g., Lawrence, 1997; Priem et al., 1999). There are two primary reasons for such an approach. The first is the need to focus on explanation rather than prediction. Organizational demography research, while it does tend to produce significant results, can lack precision (Lawrence, 1997). One of its primary characteristics is, admittedly, methodological ease (Pfeffer, 1983). That, in itself, is not necessarily negative; but it comes at a price: a lack of deep explanatory power. Because the underlying mechanisms such as communication, conflict, or social integration are rarely measured in this approach, they have to be simply assumed as the ones responsible for the observed effects of heterogeneity or homogeneity on performance.

The second major problem with proxy-driven research is the congruence assumption itself—the assumption that visible traits (such as gender, race, or age) are reasonable substitutes for, and predictors of, underlying differences (such as cognitive style, values, or beliefs). There are two major issues here. One is whether it is methodologically reasonable to argue that visible traits are a reasonable substitute for subjective constructs. In an extremely thorough and thoughtful essay, Lawrence (1997) has demonstrated that the answer is no. The data do not provide strong evidence for the congruence assumption. In addition, she argues that the congruence assumption discourages careful thinking about how and under what conditions demographic predictors really work.

This does not mean that demographic variables are unimportant or that they are not linked to other specific differences among individuals. The important issue is to measure the link between specific demographic variables underlying psychological constructs and proposed mediators. Work in the cross-cultural arena has broken new ground in this area. For example, for years it was assumed that if you came from a collectivistic culture, such as China, you must have collectivistic traits. More recently, researchers have begun to understand that the collectivistic and individualistic culture distinctions are related to, but not perfectly correlated with, personal-difference measures on social motives and other underlying traits. So, for example, in a study looking at the effects of country of origin as well as social motives on negotiator behavior, Chen, Mannix, and Okumura (2003) found that country-of-origin differences in negotiator behavior were fully mediated by social motives (to cooperate versus to compete).

Similarly, diversity researchers must be more precise in measuring the actual individual-level underlying constructs, such as personal identity or attitude differences, that are presumed to be driving group-level mediators such as the lack of social integration or conflict, which ultimately result in poor team performance. For example, Barsade and her colleagues (Barsade, Ward, Turner, & Sonnenfeld, 2000) have focused on the individual trait of positive affect and how it is distributed in a team. Using similarity–attraction theory, the researchers predicted and found that greater affective fit (homogeneity) in a sample of 62 top management teams was related to more positive attitudes about group relations and individuals' perceptions of having greater influence within the group. Interestingly, they also found that affectively diverse teams experienced the most team conflict and the least cooperation. Finally, they found a negative relationship between team diversity in positive affect and CEOs' use of participatory decision making, as well as a negative relationship between positive-affect diversity and firms' financial performance.

Broadening Our View

The Barsade et al. (2000) study is not only an excellent example of research examining the underlying psychological mechanisms linking diversity to team processes and outcomes; it also broadens the field's view of diversity by studying trait positive affect as a type of diversity. Another area that offers a rich pool for diversity scholars is network theory and research. Network scholars have already found that women's managerial networks differ from those of men (Burt 1998; Etzkowitz, Kemelgor, & Uzzi, 2000; Ibarra, 1997) and that those of underrepresented minorities differ from those of whites (Ibarra, 1995; Seidel, Polzer, & Stewart, 2000). Ibarra, particularly, has been interested in the structure of networks for women and underrepresented minorities. For example, she found that when the effects of position and potential for advancement were held constant, women's networks were less homophilous (homogeneous) than were men's (Ibarra, 1997). She also found that women high in advancement potential relied to a greater extent than men did on closer and broader-ranging information-network ties; in other words, their networks held "alternate routes" to similar career resources. Similarly, Ibarra (1995) found that minority managers (defined by race) had less homophilous networks than whites did and that high-potential minority managers had more contacts outside their racial group and less overlap between their social and work-related network circles than high-potential whites did.

Ibarra's studies indicate that the network configurations for career success may differ for women and for racial minorities. Recently, network researchers have broadened their definitions of diversity to try to understand how diverse networks may affect team interaction and, as a result, performance. Reagans and Zuckerman (2001) examined the effects of network heterogeneity and density on communication within research-and-development (R&D) teams. They defined network heterogeneity in terms of organizational tenure; higher levels of heterogeneity indicated that scientists allocated a larger portion of their communication time to colleagues farther removed in the team's tenure distribution. Network density was measured as the

average level of communication between any two members of a team (regardless of heterogeneity). First, the researchers found a small negative correlation between network density and network heterogeneity. Also, denser and more heterogeneous networks were linked to higher team productivity. Thus, while there is some trade-off between communicating within the group and reaching out to dissimilar individuals, communication in both modes appears to improve productivity in R&D teams. In addition, a significant interaction effect between the two network measures indicated that communicating across tenure boundaries (network heterogeneity) was more valuable when ties were relatively strong (high density) than when they were weak (low density; see also Cummings, 2004; Reagans, Zuckerman, & McEvily, 2004).

Other understudied, yet important, diversity attributes affecting team process and performance might include individuals' sexual orientation (Dietch, Butz, & Brief, 2003); critical life experiences such as military service (e.g., Jackson et al., 1991); or status, broadly defined (e.g., Lovaglia, Mannix, Samuelson, Sell, & Wilson, 2004; Priem et al., 1999; Spataro, 2000). Status characteristics are particularly important diversity factors that affect the influence and decision-making processes in groups (Berger, Fisek, Norman, & Zelditch, 1977; Kirchler & Davis, 1986). It is the addition of these factors to our understanding of the meaning of diversity, as well as the examination of the interaction of these factors within the context of the modern organization, that will move the field forward in significant ways.

ADVICE FOR ORGANIZATIONAL TEAMS

The earliest arguments for diversifying work groups and organizations focused mainly on the injustice of discrimination and exclusion, and legal and moral issues still predominate in many discussions of diversifying the American workforce. These arguments are certainly still valid. However, at some point the conversation also came to encompass the idea that "diversity is good for business." As surveys began to quantify the spending power of various demographic categories (e.g., blacks, Hispanics, and women), organizations discovered that similarity did indeed attract and began seeing the benefit of employing a balanced representation of various constituent groups who could create an attractive climate for underserved consumers. Examples of this include creating cosmetics for women of color, employing Spanish-speaking sales representatives, or marketing vacations to locations of historical importance to African Americans.

In this new perspective, scholars and practitioners alike are starting to recognize that it is critical to bring a method of social integration to teams and organizations that can bridge diverse characteristics but not eradicate the distinctiveness of individuals and the value it brings to a team (Brewer, 1995; Thomas & Ely, 1996). In trying to quantify what we know about the effects of diversity and how to realize its potential, we have highlighted a large number of studies, using a variety of methods and dif-

ferent types of participants. As is clear from this evidence, the task of moving from the research to definitive prescriptions will not be straightforward, yet there are some conclusions we can reach.

We make several suggestions for organizational teams. The first is to attend to the type of tasks and goals diverse teams are assigned within the firm. The second is to find ways to "bridge" diverse team members through connections such as social ties, common values or identity, superordinate goals, or culture within the team. And the third is to enhance the influence of minority team members through differentiation, persistence, and coalitions.

Tasks and Goals Within the Team: Exploitation Versus Exploration

At the beginning of the 21st century, times are turbulent. It is hard to envision a time when the rate of continuous change will diminish (Peterson & Mannix, 2003). As such, organizations and the teams within them that do much of their work have to find ways to cope—ways that include not only innovation and exploration of new opportunities, ideas, and products, but also the straightforward exploitation and implementation of what is already known (March, 1991; Tushman & Romanelli, 1985). Exploration activities typically include experimenting, innovating, divergent thinking, and problem solving, while exploitation focuses on production, efficiency, convergent thinking, and execution. In essence, exploration is rooted in variance-increasing activities while exploitation is rooted in variance-minimizing activities. In the literature, exploration and exploitation have been characterized as fundamentally different search modes that usually result in completely different outcomes (Cameron & Quinn, 1988; Lewis, 2000; March, 1991). Exploitation tends to build on the organization's past, while exploration builds on its future and often creates products or services that are in direct competition with current offerings. Despite the fact that these two activities are fundamentally contradictory, many organizational teams are expected to perform both sorts of tasks (cf. Tripsas & Gavetti, 2000).

Recently, Tushman and colleagues (Smith & Tushman, in press; Tushman & O'Reilly, 1997) have suggested the advantages of an alternative form of organizational architecture, one consisting of teams that are highly differentiated by whether they engage in exploitation or innovation activities, integrated by a top management team (Gibson & Birkinshaw, 2004; He & Wong, 2004; Tushman & O'Reilly, 1997). The "ambidextrous" organization has the advantage of being designed to manage the contradictions that many scholars argue are required for long-term organizational effectiveness (Leavitt & March, 1988). It is our contention that while exploitation is best achieved by more homogeneous teams, exploration is best accomplished by teams made up of diverse individuals. Thus, in effect, we argue that task type and task goals, in addition to organizational culture as

discussed above, should be considered important moderators to the relationship between diversity and team performance.

Exploration requires the creation and expression of divergent perspectives and, as such, is best achieved with teams composed of heterogeneous individuals (Brown and Eisenhardt, 1998). Specifically, the extant research shows that the heterogeneity required to bring about creative solutions to problems is most likely to be heterogeneity at the level of knowledge, skills, and abilities. Scholars argue that, theoretically, demographic and social-category differences may be associated with these deeper-level cognitive differences (Eagly & Wood, 1991; Feingold, 1994; Halpern, 1986; Halpern, 1989), but the empirical evidence has been equivocal and the debate heated. Indeed, as noted above, social-category differences may trigger expectations of deeper-level cognitive differences, actually leading to a self-fulfilling prophecy in group process and performance (McGrath, Berdahl, & Arrow, 1995; Phillips & Loyd, 2005).

We might also note that groups tasked with exploitation have a secondary goal of experimentation and learning, not just performance. Given what we know about diversity in teams, there is no reason to believe that diverse teams will outperform homogenous teams, but we should expect that team members will learn from each other—learn new skills and ways of approaching and thinking about problems and issues. Learning can and should be thought of as an important goal for organizational teams—particularly in organizations with a long-term point of view—and should be achievable given the right set of skills and the right motivation, particularly from the team leader (Ely & Thomas, 2001).

Working Within the Team: Providing a Bridge Across Diversity

Diverse teams must go through a process of knowledge generation, sharing, and elaboration. Those with divergent perspectives, in particular, must work to be heard as legitimate group members. The role of the distinctive individual or individuals in influencing other members of a team, and how they interact with other members to exert that influence, are particularly important in predicting a team's performance. If a team cannot create an environment that is tolerant of divergent perspectives and that reflects cooperative goal interdependence, then the individuals who carry the burden of unique perspectives may be unwilling to pay the social and psychological costs necessary to share their viewpoints.

Perhaps one of the most disappointing findings from the group-decision-making area in recent years is that information exchange in groups typically focuses on information that is known and shared by all group members before the interaction, rather than information that is uniquely held by individual experts (for reviews see Argote, Gruenfeld, & Naquin, 2000; Wittenbaum & Stasser, 1996). Thus, while diverse groups may have the initial resources to solve problems effectively and

reach creative solutions, individual distinctiveness may be wasted by the tendency of groups to focus on commonly held information (Wittenbaum, Hubbell, & Zuckerman, 1999). Poor group decisions that result from information-sharing failures may be explained, in part, by group members' propensity to introduce and consider commonly held information at the expense of exchanging and considering information uniquely possessed by distinctive members (Stasser & Stewart, 1992; Stasser, Taylor, & Hanna, 1989; Stasser & Titus, 1985). Kim (1997) has described this phenomenon as a group's discussion bias while Wittenbaum, Hubbell, and Zuckerman (1999) have termed this the collective information sampling (CIS) bias.

Discovery of this group-discussion bias has encouraged researchers to examine the circumstances in which it is mitigated (Gigone & Hastie, 1993; Stasser & Titus, 1985; Wittenbaum, 1998), as well as to provide theoretical explanations. These explanations range from statistical explanations (e.g., common information is more frequent and thus more likely to be shared and recalled; Stasser & Stewart, 1992) to more psychologically oriented explanations. For example, Gruenfeld et al. (1996) compared the information exchange and decision making of three-person teams, finding that groups composed of socially connected individuals outperformed groups of strangers in hidden-profile tasks (that is, tasks in which not all relevant information was known to all group members) but that groups composed of strangers outperformed socially tied groups when all task information was common to all members. They suggested that the security of diverse teammates who were socially connected—i.e. for whom a "bridge" existed—led to their greater willingness to take the risks necessary to share their unique information (Asch, 1952; Festinger, 1957). In contrast, teams composed of strangers were unwilling to risk the discomfort, potential conflict, and ostracism that might result from deviant behavior. Thus, connectedness through social ties may be a key factor allowing diverse teams to experience trust and social cohesion, communicate effectively, and achieve high performance. While this may be an advantage for diverse teams who are socially tied, it is also important to note that individuals who are socially tied are more likely to be similar than different from one another—and thus, to have less unique information available.

To overcome their process issues, diverse teams might typically be advised to improve their group-process skills (such as conflict management, communication, and decision making). However, major improvements in group process can be difficult to achieve. We believe that another way of obtaining the full benefits of a diverse team—and ultimately building trust and respect—is through bridges that connect team members in some way that is meaningful to the particular team. The advantage of bridging is that it is a powerful and multifaceted link between group members that leads to other benefits. The point is to emphasize what is similar between team members rather than simply what is different. For example, as we noted earlier, Huo

and her colleagues (Huo, 2003; Huo et al., 1996) have demonstrated the importance of a superordinate identity to resolve what are seemingly intractable differences between ethnic subgroups. In Huo's studies, when the superordinate identity of being an American bridges across the subgroup ethnic identities of African Americans, Latinos, and whites, individuals are more likely to accept the legitimacy of legal authorities. Similarly, Van der Vegt and Bunderson (2005) found that for teams working in the oil and gas industry that had a low collective identification, expertise diversity was negatively related to team learning and performance. However, for teams with high collective identification—in effect creating a bridge across the diverse team members—expertise diversity was positively related to team learning and performance.

In a focus on the power of organizational culture as a bridge, Chatman et al. (1998) found that when demographically heterogeneous individuals were members of a predominately collectivistic culture they were more likely to interact, cooperate, and produce novel ideas than when they were members of an individualistic culture. In effect, collectivism created the effect of "being different yet feeling similar." It allowed unique, demographically distinct individuals to leverage their uniqueness and helped the group to produce more novel ideas. Jehn and Mannix (2001) found that executive-MBA and MBA teams with similar or congruent work-related values were more likely to have constructive (task-focused) conflict and less likely to have destructive (relationship-focused) conflict over time than were teams that had incongruent values. As a result, they had higher levels of performance than groups with incongruent values did. In a second study (Mannix & Jehn, 2004), groups that were diverse on age and ethnicity were more likely to perceive greater value incongruence, and this perception was more relevant than actual value incongruence (as measured objectively) for outcomes such as conflict, trust, respect, and performance. The researchers argued that values became a mechanism by which diverse groups were able to create social integration. At the same time, however, individuals were able to remain distinct, maximizing the benefits of diversity.

In our view, the leader of a team can bridge diversity by proactively taking steps to bring a superordinate goal to the team. Such superordinate or overarching goals might be task related, organizationally relevant, or focused on work values. For example, at the World Bank, a highly diverse organization, team members from different national, religious, and functional backgrounds reportedly connect with one another by focusing on their overarching goal of working to end poverty and facilitate economic development around the world. Some bridges, particularly those that focus on values, norms, or overarching goals, are likely to be more powerful than others. However, even beginning an interaction by discussing what team members have in common as well as what they each uniquely bring to the group is likely to be a way to focus on bridging as well as learning.

Enhancing the Influence of the Minority

It might be argued that one of the most serious problems in teams is the strain toward conformity: the tendency for people to repress disagreement or to conform to some behavioral pattern (Janis, 1982; Nemeth & Staw, 1989). Of course, conformity can produce benefits such as group harmony, feelings of social validation, and integration. However, it can also hinder organizational change and result in decreases in innovation, learning, and even the detection of error or decision accuracy. Considerable research on conformity and social influence supports the notion that the mechanisms of majority and minority influence work differently, implying different prescriptions, as well as possible pitfalls for the focal individual working against the grain (cf. Nemeth & Staw, 1989). For example, Sinaceur, Thomas-Hunt, O'Neill, and Neale (2004) found that in a decision-making task with experts and nonexperts, the private opinions of team members were affected differently depending on whether they held a majority or a minority perspective. Specifically, majority members were more likely to change their private opinions after discussion in groups whose minority members were seen as expert. Further, when the minority individual possessed perceived expertise, or ascribed status, minority members were less reserved in stating their opinions, and a livelier debate took place within the group. In fact, groups whose minorities were seen as expert experienced more conflict and diversity of opinions than did groups whose minorities were not seen that way (see also Larson, Christensen, Abbott, & Franz, 1996; Thomas-Hunt, Ogden, & Neale, 2003).

This study illustrates the classic notion that while the presence of a majority opinion tends to stimulate convergent thinking, the presence of a minority opinion tends to generate divergent thinking—a consideration of the issue from multiple perspectives—resulting in debate and constructive conflict (Nemeth, Mosier, & Chiles, 1992). When there is a minority opinion, majority members respond with increased cognitive flexibility. Ironically, this seems to occur because of the desire of the team to converge to a single outcome or decision. As majority members attempt to explain away or somehow incorporate minority perspectives, they typically must reconceptualize their own perspectives on the task. In doing so, they may recognize aspects of problems that had until then been hidden (Nemeth, 1986).

It has consistently been shown that individuals exposed to opposing minority views exert more cognitive effort, attend to more aspects of the situation, think in a divergent way, and are more likely to detect novel solutions or come to new decisions (Nemeth & Kwan, 1985, 1987; Nemeth & Wachtler, 1983). Thus, adding a minority opinion can create the learning opportunities we have been focusing on for diverse teams. However, there are some qualifications to these findings, and they also must be reconciled with the discussion or CIS bias we discussed above. First, there is consistent evidence that while people publicly adopt the majority perspective (Tanford &

Penrod, 1984), the minority perspective exerts significant influence on latent or private opinions (Maass & Clark, 1984)—even though their publicly espoused opinions or compliance behavior may not change. Moscovici (1985a, 1985b) proposed a dual-process model of influence that suggests that the minimal public and significant private influence of minority appeals are a function of the conflict that these deviant positions create within a group. Guillon and Personnaz (1983) observed that minority and majority influence stimulated very different forms of conflict: Minority influence typically generated cognitive (or task) conflict while majority influence typically generated interpersonal (or relationship) conflict. Interestingly, minority influence was also less powerful when it was direct (i.e., face to face) than when it was indirect (i.e., audiotaped or written; Moscovici & Neve, 1971).

Clearly, minority opinions in teams can lead to divergent thinking and enhanced performance. However, it is important to consider exactly how the presence of a minority opinion has its effects, and thus how to help the minority-opinion holder be most effective. Minority group members face the unenviable challenge of persuading an often-skeptical majority bent on convergence. One way that minority-opinion holders are most persuasive is by being consistent. In fact, Wood, Lundgren, Ouelette, Busceme, and Blackstone (1994) conducted a meta-analysis of 97 minority-influence experiments, finding that minorities perceived as especially consistent in the advocacy of their positions were viewed as especially influential. However, it is not simply consistency that accounts for these findings. In the minority-influence situation, there is considerable social pressure from the majority to reach a consensus. Consistency may also convey that the minority members will not compromise their positions, indicating that if convergence is to be achieved, it will be the majority converging with the minority (Moscovici, 1985b). Mugny and Papastamou (1980) found that while the disagreement of one minority member can be discounted as idiosyncratic, the consistent disagreement of two could not be so easily dismissed. In recent support of this view, Larson, Sargis, and Bauman (2004) found coalitions to be particularly effective at revealing unique information and persuading the group, suggesting that team leaders may look to support minorities or dissenters in order to ensure that relevant information is completely revealed and utilized.

It is also important to note that many times minority viewpoints come from individuals who are distinct from the group on more than one metric—that is, they are double minorities. A single minority is defined as one that differs from majority colleagues only in one attribute—for example, beliefs. Such opinion minorities are drawn from the same salient social category. In contrast, double minorities differ from the majority both in their beliefs and in their social categorization. Work by Mugny, Kaiser, and Papastamou (1983) suggested that double-minority status facilitated attributions by majority members to explain the minority's deviance and that such attributions were

typically chalked up to self-interest (i.e., a woman arguing for women's rights) and thus were more easily dismissed as biased. In contrast to this finding on single versus double minorities (e.g., Clark & Maass, 1988; Mackie, Gastardo-Conaco, & Skelly, 1992; McGuire & McGuire, 1988), Moscovici (1985a, 1985b) proposed that double minorities who differ not only in their demographic characteristics but also in their opinions might exert greater latent influence than might so-called "in-group minorities," who are similar to the majority in their demographic characteristics but have divergent opinions. Out of a desire to agree with other in-group members, the in-group member who possesses a minority perspective will be less persistent in expressing his or her deviant views. Out-group members with divergent perspectives may be more willing to express those opinions and exert influence on the group. Not only will this differentiation between out-group and in-group members allow all group members to maintain category distinctiveness and cognitive consistency, but it will also allow the out-group member to validate his or her contribution to the group.

Ultimately, the support of the team leader is likely to be most critical if the minority-opinion holder is to be heard. A coalition with the leader helps confer status and opens the door to respect for the minority. Setting a group norm of openness and learning is also likely to enhance the ability of the minority to be heard. While the overall opinion of the group may not move entirely to the minority point of view, a fully participating minority should allow for more creative and enhanced decision making.

CREATING INCENTIVES FOR CHANGE

Organizations and their leaders must be part of the diversity solution by encouraging and rewarding change. Inertia is powerful, and both extrinsic and intrinsic incentives are likely to be needed to motivate real change. As such, organizations and their leaders must provide these incentives. For example, one company we studied asks all its senior managers to mentor junior managers and to prepare at least three individuals to be ready to replace them. In fact, part of each manager's performance evaluation is based on how well he or she has mentored junior people. This company also realized, a few years ago, that more diversity was desirable at the top and that this was not happening naturally. As such, the firm now requires that at least one of the three junior managers mentored by each manager is a woman or underrepresented minority. Not only has this increased the amount of diversity throughout the organization, but it has also reportedly increased the amount of interaction between senior-level managers and underrepresented minorities.

In another firm we studied, it was clear from yearly performance evaluations that African American, Hispanic, and Asian managers were delivering on the financials, but they were not doing well on the less tangible measures related to leadership, necessary to get promoted to the highest levels of the organization. To rectify the situation, it was suggested that minority

managers needed remedial training in leadership skills. One astute senior leader, however, suggested that perhaps the criteria on which managers were assessed was biased toward a white, Anglo management style. As a result, it was the leadership-performance and promotion criteria that were changed, which reportedly made it possible for more underrepresented minorities to be promoted to senior ranks. This perspective focused on learning and change rather than doing business as usual, but it also meant altering the organizational values and culture—a major organizational change.

Thomas and Ely (1996; Ely & Thomas, 2001) have argued that one desirable organizational-culture change is a paradigm shift from traditional methods of dealing with diversity toward a more progressive and learning-based view. These researchers argue that most U.S. organizations use one of two diversity paradigms to manage differences, neither of which results in learning. The first, "discrimination and fairness," is a paradigm in which companies focus on achieving demographic variation in order to comply with federal standards and U.S. Equal Employment Opportunity Commission requirements. When this paradigm is followed, the organization includes people from different backgrounds but also tends to contain multiple conflicts that are rarely dealt with by organizational leaders. The second, "access and legitimacy," creates opportunities for people from diverse backgrounds by celebrating differences, and provides links to the diverse marketplace, but rarely results in true change filtering into the core of the organization from the periphery. By contrast, Thomas and Ely (1996) argue that a "learning and effectiveness" focus creates an environment in which people's underlying identities and outlooks are valued; diversity is connected to work-related values and people's differences are actually allowed to influence and contribute to the organization's vision and strategy. Thus, learning and change are much more likely to occur—much as in our examples above, in which the mentoring and performance-evaluation systems were changed to create a newly diverse organization.

To our point of view, the focus on learning in this paradigm is key. When organizations are willing to be open to learning as an end goal, they allow for the possibility of change. Of course, in order for this paradigm shift to occur in organizations, several (perhaps difficult) preconditions are necessary, including a leadership that values a variety of opinions and insights and that recognizes the challenges the expression of diverse opinions can present for an organization. In addition, the organizational culture must value openness and stimulate personal development. These requirements can be a tall order, but they set the stage for the assets of diversity to be realized.

In conclusion, there is much we have yet to learn about what differences make a difference in organizational teams. There have been many calls to build a "business case" for diversity. The business case is typically built on the idea that diversity should become a top business priority due to its payback on investment, which will be immediate, tangible, and measurable

(Robinson & Dechant, 1997). Building a business case can bring benefits in presenting more compelling, quantitative evidence for the benefits of diversity. As a result, it can mobilize resources and create true shifts in strategy, power, and organizational priorities.

The promise of such a clear-cut financial business case may be more elusive than advocates for diversity had hoped. Instead, the traditional human-resource reasons for diversity (e.g., more effective utilization of talent and leadership potential, increased marketplace understanding, enhanced creativity and problem solving; Robinson & Dechant, 1997) are likely to remain stronger arguments for many organizations. Indeed, organizations have a long way to go to reap the benefits of the diverse teams within their midst. That does not mean that diversity cannot offer important tangible benefits—it simply means that those benefits do not come without a price. It is our view that diversity is worth that price, and that ultimately the assets will overcome the liabilities of diverse teams in the 21st-century organization.

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