From Scientific Management Through Fun and Games to High-Performing Teams

A Historical Perspective on Consulting to Team-Based Organizations

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The history of team theory, research, and practice in the 20th century is discussed. The influence of important schools of social and organizational psychology as well as the political and social milieu of the times on the research and theory of teams is identified: scientific management in the 1920s, the emergence of social psychology in the 1930s, World War II, group dynamics in the 1950s, social action of the 1960s, team building in the 1970s, economic turmoil in the 1980s, and the ascendance of team-based organizations in the 1990s. The absence of recent team-focused research is noted, and recommendations are offered to revive the research activity needed to support team development practice in the 21st century.

When a team outgrows individual performance and learns team confidence, excellence becomes a reality.—Joe Paterno, American Heritage, April 1998

Just as the 20th century has been termed the American Century, it can also be seen as the century when teams emerged as the most basic social unit within economic enterprises. It is fitting, therefore, that the first issue of the 21st century of this journal addresses the most recent incarnation of team structures—team-based organizations. This article provides a historical context for the five exceptional articles that follow. Susan Mohrman and Kay Quam (2000) discuss the design issues that organizations need to consider in making the transition to a team-based organization. Dana Kaminatein, Kenwyn Smith, and Rose Miller (2000) and Diane Rawlings (2000) discuss the modification of team consultation methodology required to consult to politically charged leadership teams. Arthur Freedman (2000) describes a sociotechnical systems approach that applies multigroup representational processes to accomplish enterprisewide technological change. Finally, Paul Winum and Terry Seamons (2000) describe a model for developing team-based organizations used by a leading psychology-based consulting firm.

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Teams Before the Mid-19th Century

Teams were not always so socially valued. Prior to the 20th century, teams, as currently conceived, were a rarity. In earlier eras, the most common forms of social organization were the families and tribes that blended into noble–royal courts, feudal city–states, and, less frequently, empires. Military organizations were divided into large, relatively homogenous units (e.g., infantry, cavalry, archers) with limited organizational or internal specialization. Intrigue and competition, not teamwork, frequently characterized the courts of kings, nobles, and the church. Unlike contemporary sports and athletics, only the nobility or professional warriors (e.g., knights, samurai warriors) had the time or incentive to engage in sport, which primarily required individual skills and little teamwork. Division of labor and cooperation occurred only at the family level. It should not be surprising that team leaders so frequently use the family metaphor in describing their work units. Researchers who have studied group dynamics in the past often note the parallels with family dynamics (Bion, 1961; Gibbard & Hartman, 1973).

The advantages of teams and teamwork became apparent as nation states evolved and the Industrial Revolution emerged. The constant warfare between nobles and cities in the Middle Ages needed to be curbed and replaced with cooperation for the formation of nations. Complexities of production required increased specialization and communication. Even so, the actual integration of work was limited in early industrial organizations. In the textile industry, for example, workers were assigned to individual machines, and increased production was achieved by adding additional machines with supporting workers. The abundance of cheap labor encouraged the massing of people to wage war and accomplish large construction projects. Efficiency and integration of effort were of secondary importance. With the exception of music (i.e., orchestras) and the theater, there are few examples of the high levels of specialization of labor, interpersonal communication, integration of effort, cooperation, and problem solving that characterize modern teams.

Late 19th–Early 20th Century: The Psychology of Collective Behavior

Earlier scholars and politicians, such as Machiavelli (1513/1981), were primarily concerned with the rights and behaviors of the aristocracy, the church, and the wealthy. Each of these groups was assumed to have privileges and authority that superceded the personal rights of ordinary people. Democratic governance and decision making were rare and reserved for men from nobility and wealth (e.g., the Magna Carta in England in the 13th century; communes and republics in Italian city–states in the 14th and 15th centuries). Even the radical new republic of the United States initially reserved the right to vote for landowning men. Leadership was concerned primarily with inducing the populace to accommodate to and support their preferences. The main inducement to conform was collective fear of the leaders' capacity to use coercive mechanisms, such as physical force.

It should not be surprising, therefore, that most scholars in the late 19th century viewed collective behavior, shared governance, and decision making with a good deal of suspicion. Le Bon (1895/1960) described the collective behavior of the common man during the French Revolution and the Third Republic as primitive and childlike. He identified three factors that encouraged regression in civilized individuals producing “fickle,” “credulous,” and “intolerant” behavior: anonymity, contagion, and suggestibility.

Durkheim (1897/1951), on the other hand, noted the positive benefit of collective behavior in his studies of suicide. Durkheim, in an early quasi-experimental design, predicted that suicide rates for various religious groups would be inversely
proportional to the number of group norms that defined specific beliefs and patterns for the individual. In confirming these predictions, he was foreshadowing the key findings from the Hawthorne studies (Mayo, 1933) and research focused on norms, reference groups, and group pressure in the 1930s and 1940s (Asch, 1951/1965; Newcomb, 1943; Sheriff, 1936).

Somewhat later, Freud (1921/1960) introduced one of the earliest theories of group dynamics. He hypothesized that identification with the leader was the basis of group formation. Freud argued that the regressive behavior of groups and crowds noted by Le Bon (1895/1960) could be explained by the nature of each individual's identification with the group leader. For Freud, identification is the most basic and primitive basis for human relationships. For this reason, our earliest relationships with parents, siblings, friends, caregivers, and teachers form the basis for our later behavior in groups. These experiences leave a residue of positive and negative emotional experiences with regard to authority and group membership and become the basis for the often regressive behavior in groups and crowds. These ideas re-emerged in the group dynamics of Bion (1961) and the psychology of the authoritarian personality (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950).

Among the writings of these early 20th-century group dynamics theorists, McDougall (1920) may be credited as the first team builder. Although agreeing with Le Bon regarding the tendency for individuals to regress in groups and crowds, he offered five principal conditions for raising collective mental life and behavior to a higher level: (a) a fundamental condition—continuity of existence in the group; (b) development of an emotional relationship to the group as a whole by defining the nature, composition, functions, and capacity of the group; (c) interaction (perhaps through rivalry) with other groups similar to the group but differing in some key aspects; (d) traditions, customs, and habits that define the relationships between members; and (e) a definite structure, expressed in the specialization and differentiation of the functions of the constituents of the group. In this prescription for a higher functioning group, McDougall uncannily anticipated many of the principles used in the team-building methods of the later 20th century.

**The 1930s to 1950: The Emergence of Social Psychology**

Until the 1930s, psychology had been preoccupied with the psychology of the individual (sensation and perception, cognition, neurophysiology, learning) as the field tried to establish its identity as a science rather than a branch of philosophy. In the third decade of this century, psychology began to study the impact of people on other people and the interactions between people. The Hawthorne studies (Mayo, 1933), which began as studies about the impact of environmental and compensation factors on individual behavior in the tradition of scientific management (Taylor, 1947), ended up discovering the impact of group norms and personal attachments on human performance. Sherif (1936) demonstrated the influence of group norms on perceptual judgment. Asch (1951/1965) further demonstrated that group opinion could generate judgments that were clearly contrary to fact. Newcomb (1943), in his classic study of students at Bennington College, demonstrated the impact of reference groups on behavior.

Other social psychologists began to study systematically other influences on social interaction. In an early experiment, Shaw (1932) compared the work of individuals and groups in complex problem-solving tasks. Bavelas (1948, 1950) explored the impact of fixed communication patterns on the group's interaction. Leavitt (1951) extended this research to study the influence of various communication patterns on emergent leadership. Psychologists also studied the
role of social status in group interaction (Davis, 1940; Homans, 1950; Linton, 1936).

1945-1961: The Golden Age of Group Dynamics

In 1945, Kurt Lewin founded the Center for Research in Group Dynamics. Prior to this date, standard methods of experimental design had been used to study groups. Laboratory studies with carefully controlled experimental conditions were conducted, mostly with college students. The few studies in applied settings (Mayo, 1933) also created experimental conditions. Researchers were interested in manipulating key variables and measuring the effects. They did not see themselves as change agents. Lewin (1935) referred to this research paradigm as Aristotelian, as opposed to the more realistic Galileian paradigm that he preferred.

During World War II (WWII), Lewin had collaborated with other social psychologists and his graduate students to conduct applied research to support the war effort (a summary of much of this work is contained in Lewin, 1947). A collaboration with Margaret Mead (Lewin, 1943) to change the food habits of Americans was especially fruitful—the development of the well-known force-field analysis method. He also pioneered with his students a form of applied research that became known as action research—programs that combined social change efforts with research. Besides consulting with the Office of Strategic Services, Lewin reportedly teamed with Alfred Marrow (Freeman, in press) to conduct shop-floor group meetings in a pajama factory (the play and then the movie Pajama Game reputedly were based on these experiences).

In 1946, a seminal event involving Lewin and a number of his graduate students occurred in New Britain, Connecticut. The unifying impact of the war effort was evaporating and racial tensions were emerging in cities throughout the country as unemployment rose and housing demand soared. Lewin and his students and associates (Ron Lippitt, Ken Benne, and Leland Bradford) were sponsored by the Connecticut State Inter-Racial Commission, the State Department of Education, the National Conference on Christians and Jews, and the American Jewish Congress to facilitate a conference on intergroup relations focusing on racial and religious discrimination in housing, education, and jobs. In addition to Lewin, Benne, and Bradford, a number of prominent social psychologists and future leaders in the field were involved as observers or secondary researchers: Gordon Allport, Dorwin Cartwright, Morton Deutsch, Leon Festinger, J. R. P. French, Murray Horwitz, Rensis Likert, Douglas McGregor, Alfred Marrow, Arnold Meier, Henry Murray, Charles Myers, and Melvin Seeman. In one of the earliest, if not the earliest, applications of action research to achieve social change, the facilitators focused on both content and process issues and explored the use of immediate feedback to improve the process and outcomes of the program.

Lewin and his staff wanted participants to leave with practical skills as well as information and theory. As the conference proceeded, some of the participants requested permission to attend the postsession review and planning sessions. In the spirit of experimentation and democratic involvement, Lewin opened these sessions to participants on a voluntary basis. The conversations between group leaders and research observers inevitably drew comments from the participants. The resulting interactions had an electric and energizing effect on both participants and training staff. A primary discovery was the dramatic impact of interpersonal feedback on the recipient’s self-awareness and behavior. Although participant involvement is routinely planned into training events now, it was truly revolutionary back then.

The impact of this event cannot be overstated. Serving as a catalytic event for the field of group dynamics, a whole generation of social psychologists bonded to
work collaboratively to promote the use of social psychology to improve the human condition and to develop a social behavioral science. From the event itself, the power of providing direct behavioral feedback to promote change was powerfully demonstrated. The value of supplementing “there-and-then” theoretical content with analysis of “here-and-now” data concerning participant–staff behavior was also established. Furthermore, the distinctions and implications of content versus process were clarified (Freedman, in press).

Energized by the success of this conference, Lewin encouraged Bradford, Benne, and Lippitt to find a site for the summer of 1947 to serve as an applied laboratory for further experiments in group dynamics and applied social research. Unfortunately, Lewin died suddenly of a heart attack and was never able to participate. His students and colleagues, however, did conduct their first sensitivity training session that summer in a small so-called cultural island: Gould Academy in Bethel, Maine. Thus was founded National Training Labs (NTL) as a nonprofit educational institute. This experiment, started by academics, grew and attracted practitioners and researchers alike from an increasingly broad range of disciplines.

From the academic side, a large number of future giants in social psychology were trained at, or had associations with, NTL and the emerging laboratory education methodology. The names of social psychologists who embraced and were influenced by the group dynamics movement initiated by Kurt Lewin reads like a who’s who in social psychology: Elliot Aronson, Kurt Back, Freed Bales, Alex Bavelas, Daryl Bem, Dorwin Cartwright, Morton Deutsch, Leon Festinger, John French, Jack Gibb, Murray Horwitz, Irving Janus, Harold Kelley, Nathan Kogan, Abraham Maslow, Judson Mills, Theodore Newcomb, Bertram Raven, Carl Rogers, Stanley Schacter, Fred Strodbeck, Ralph White, Robert Zajonc, and Alvin Zander, to name just a few. The reader is referred to Cartwright and Zander (1968) to review the large body of research and theory generated by psychologists inspired by Lewin’s quest for an integration of theory, research, and social action.

The golden age of group dynamics was also a fruitful era for collaboration between theorists, researchers, and practitioners. Many of the thousands of participants who spent parts of their summers in T-groups (i.e., training groups) in Bethel got turned on to group dynamics and the possibilities for accomplishing personal, group, and organizational change, both in social institutions and in the workplace. Early in the social experiments at Bethel, clinical psychologists such as Carl Rogers and Abraham Maslow as well as Joe Luft and Harry Ingham (of Johari Window fame) attended labs and later adapted the approach to create so-called personal growth programs. Bob Tannenbaum conducted T-groups for the Navy at China Lake, California. Richard Beckhard developed large group conference designs (e.g., confrontation meetings) for leadership training for the Foreign Operations Administration in Austria.

Leaders from educational, religious, community, and business organizations came to Bethel each summer for several intense weeks of training aimed at improving both their understanding and, more important, their effectiveness as individuals and change agents in society and organizations. This training used experiential learning that was based on participants acting and then processing their own behavior and the behavior of others in their T-group. Experimentation revealed that traditional classroom seating arrangements discouraged interaction, encouraged dependency on the thoughts of the trainer, and stifled creativity; hence, classroom furniture was removed, and partici-
pants sat on cushions on the floor. Using felt-tipped pens and cheap newsprint paper, participants created action-based theories and taped them to the blank walls in the empty Gould Academy classrooms. Although the trainers did provide content using brief lecturettes (rarely more than 10–15 min), they did not take traditional leadership roles and forced T-groups to be self-organizing. Bethel converts returned to their institutions and introduced flip-charts, innovative seating arrangements, and programs that balanced theory input with experiential learning modules. Again, what is commonplace in even the most traditional training departments today was truly revolutionary before the experiments at Bethel.

Many concepts and processes used effectively in laboratory education, such as participatory leadership and building in feedback loops, were picked up and modified by practitioners and consultants working in business and organizations. Doug McGregor introduced Theory X versus Theory Y (1960), and Roger Harrison conducted survey feedback with Procter & Gamble. Herb Shepard and Bob Blake, in their work with an Esso refinery, developed a managerial grid based on structured, leaderless groups in the late 1950s and called their approach “organization development.” Independently, McGregor and Beckhard described their efforts in 1959 to bring about a total cultural change at General Mills as “organization development” in 1959.

Interest in group dynamics and applied social change was not confined to the United States. In Great Britain, Wilfred Bion (1961) introduced a model of group dynamics at the Tavistock Clinic in London that was based on his experiences as a tank commander in WWII and the psychoanalytically inspired work of Melanie Klein. Bion’s work provided some useful explanations and hypotheses for some of the seemingly irrational and unpredictable group processes observed in everyday life as well as in specially formed leaderless groups, such as T-groups. His focus on the exercise and impact of leadership and authority in groups and other social structures also provided a needed counterbalance to the freewheeling and egalitarian excesses of the T-group and encounter group movements.

1961–1971: Social Action Comes of Age

The election of President John F. Kennedy brought great optimism to those seeking to bring about significant social changes in American society. Civil rights leaders found a leader who was a sympathetic, if not a wholehearted champion, for their cause. Bob Dylan’s popular anthem, “The Times They Are a’ Changing,” summed up the spirit and mood of the nation. In science, the country became captivated by the goal of putting a man on the moon and bringing him back by the end of the decade. Although Kennedy’s death in 1963 brought a premature end to the spirit of Camelot and underscored the difficulties involved with large-scale social change, the nation was still willing to take on enormous challenges. President Lyndon B. Johnson pressed forward with his Great Society programs that promoted both social justice and economic betterment for the least fortunate.

By the end of the decade, however, the mood had turned sour. The idealized and naive goals for victory in Vietnam were betrayed by the reality of body counts and bodybags and the destruction of villages to save them from communism. The assassinations of Martin Luther King, Jr. and Bobby Kennedy brought a tragic end to a decade that had begun with such optimism.

Throughout the 1960s, social scientists across disciplines turned their focus away from academic theory toward practical application. At first, these efforts were directed...
toward the progressive social changes promised by Kennedy; later, the efforts were directed to fight the regressive social forces of war, social unrest, and violence that swept the nation by the end of the decade. Teachers and students alike participated in sit-ins, teach-ins, nonviolent protests, and civil disobedience. In group training, “sensitivity groups” morphed into “encounter groups.” Even at progressive and liberal NTL, minority participants confronted the perceived oppression of the White male majority. The strategies developed in the 1950s and early 1960s for bringing about social change seemed impotent in dealing with the enormous problems facing the country and the world, especially those that were precipitated by nascent and overt racial, ethnic, religious, and class-based conflicts. Many of those who had embraced and fought for comprehensive social changes just a few years earlier became cynical about the possibility of large system changes and opted instead for more limited goals where progress could more easily be achieved. For instance, although some of the techniques pioneered at Bethel were later used at Esalen, achieving personal growth and potential replaced the seemingly grandiose goals of social and societal change.

In business and corporations, organizational leaders were willing to allow behavioral scientists to work with their subordinate teams but not with their organization's larger subsystems or governance process. As a result, early organizational development (OD) practitioners often focused change efforts on smaller units. Team building seemed more achievable and realistic than efforts to enrich jobs or democratize the workplace.

1955–1965: The Emergence of Organizational Psychology

Until the mid-1950s, the field of industrial psychology had been dominated by scientific management approaches (Mayo, 1933; Taylor, 1947) and the study and application of individual assessment of cognitive skills and personality. By the later 1950s, stimulated by the research and excitement created by the group dynamics movement, industrial psychology turned its interest to organization-level processes and dynamics. McGregor’s (1960) book, The Human Side of Enterprise, with the identification of Theory X and Theory Y, was instrumental in spurring this interest.

By the time Katz and Kahn (1966) published their seminal volume, industrial psychology was ready to include organizational dynamics by means of general systems theory (von Bertalanffy, 1956), adding the o for organizational to the i, thereby creating I/O psychology. Mainstream I/O psychology, however, continued (and continues) to embrace more traditional individual and dyadic approaches to research, leading to practice models that emphasize assessment and prediction of individual performance, coaching, job analysis and enrichment, leadership development, and so forth.

The application of general systems theory to the dynamics of social collectivities, however, did provide the necessary conceptual framework to move from group to team dynamics. The lack of structure with regard to task and roles typical of the groups studied by social psychologists in the 1950s had few counterparts in formal organizations. The attention that general systems theory paid to system and subsystem boundaries, to the primary task as identified in the throughput functions, and to the control functions represented by the leadership and authority relationships provided a very useful and practical theory for early organizational consultants who needed to manage the boundaries between multiple teams and multiple levels of authority relationships. Alderfer’s work (1987, 1998) provides a highly evolved integration of Lewinian group dynamics and general systems theory.

In England, E. L. Trist was teaming with F. E. Emery to develop a so-called socio-
technical approach to organizational development (Emery & Trist, 1965; Trist, 1959). Trist applied general systems theory to his research in British coal mines. He and his colleagues at the Tavistock Institute in London (e.g., F. E. Emery and A. K. Rice) were impressed with the impact that the characteristics of the work itself had on the way work was organized. In general systems terms, the primary task of the organization defined (or should define) how the technical and social components relate to each other. One could not effectively institute significant changes in the technical aspects of work without involving the people who had to work in this new environment in planning for the changes. As Freedman (2000) details, these insights have often been overlooked or ignored in the business process reengineering frenzy in U.S. industry in the late 1980s and the 1990s.

The sociotechnical intervention approach that evolved (Pasmore & Sherwood, 1978) proved to have great applicability to technology-rich organizations and organizations attempting to implement innovative technology. One of the innovations that emerged from sociotechnical theory and research was the self-organizing and regulating team. Because production teams have the most direct contact with the primary task or work of the organization, team members are in the best position to know how the team should be organized, how the work should be accomplished, who should work best on the team, and so forth. This was a radical shift from Taylor’s scientific management (1947), which posited that there was one best way to do a job, that this process would be defined and taught by time-and-motion study experts (in Freedman’s [2000] terms, “techsperts”), and that it would be regulated by management. Bucklow (1966) described the freedom that teams needed to be effective as “responsible autonomy.” Not only did this populist approach to management lead to greater creativity, it also proved to boost significantly personal motivation and work commitment.

1972–1982: The Golden Age of Team Building

The scaling back of social change goals in the late 1960s and early 1970s was accompanied by the maturing of team-based techniques and strategies. By 1972, the necessary theory and methodologies for practical, large-scale team-building programs were in place. Warren Bennis and Herb Shepherd’s (1956) brilliantly conceived but complicated model of group development was condensed and then simplified into the familiar and more usable forming–storming–norming–performing model (Tuckman, 1965).

In 1972, University Associates published the first of the Annual Handbooks for Group Facilitators series. Each volume contained exercises and lectureettes that could be used with little modification by team-building specialists in their practices. These practical and useful how-to manuals allowed facilitators with limited academic or research background to conduct reasonably effective team development programs. Each team-building module contained highly structured activities and suggested debriefing questions that served to limit both the risk of destructive team dynamics and the opportunity for profound personal insights and feedback.

As a result, many participants experienced team building as enjoyable, enlightening, and useful in improving intragroup relations but much less effective in accomplishing significant personal or team transformations. Many line managers as well as some employees, however, considered these programs a brief respite for their subordinates from the serious business of work. Line management considered these programs to be mostly irrelevant because they used so-called touchie-feelie exercises that were perceived as merely fun and games. Typical reaction to team-building interven-
IN THIS TEAM-BUILDING EXERCISE YOU WILL MAKE PAPER DOLLS WHILE BLINDFOLDED.

THIS MAY SEEM ABSURD BUT SOON, COGNITIVE DISSONANCE WILL SET IN AND YOU'LL CRY AND HUG AND THINK YOU LEARNED SOMETHING.

ARE YOU SURE WE'LL CRY AND HUG?

ACTUALLY, HUGGING IS IFfy.

Figure 1. DILBERT reprinted by permission of United Feature Syndicate, Inc.

The prevailing tender-minded assumptions that people will act collaboratively and productively when taught how and after barriers are removed were also being challenged. Under these assumptions, power struggles are seen as a result of management error rather than as a predictable organizational process. Harrison (1972) noted that many teams responded most positively to interventions that accepted the reality of competition and vested interests and provided a structured process for negotiating changes in roles and expectations.

As a result of these advances in theory and practice, team-building methodologies were increasingly accepted and spread within many organizations. A number of easy-to-use manuals (e.g., Francis & Young, 1979) were developed that allowed modestly trained professionals to conduct team-building programs.

On the downside, because organizational ambitions were limited, so too was the upside impact of most programs. Although exhortations to better teamwork were offered, organizations were not organized to take advantage of, or to encourage, teamwork. The typical organization during this period was hierarchically organized, with firm boundaries between functional silos and a compensation policy that rewarded individual rather than team performance. Excited team builders frequently turned despondent and cynical on seeing progressive and positive changes in team behavior evaporate.
within weeks (sometime days or hours) of the return of participants to their work units. The work culture norms and values simply did not support the newly acquired behavior (i.e., “We don’t do things that way around here!”). Furthermore, the typical reward systems provided incentives for individual rather than team-oriented behavior and contributions. Employees and managers did what was inspected and measured rather than what contributed most to team and organizational success (much less personal satisfaction). Many managers gave lip service to teamwork but were reluctant to walk the talk. “Teamwork is consciously espoused but unwittingly shunned by most people in business because they are deathly afraid of it. They think it will render them anonymous, invisible” (Blotnick, 1984, as cited in Eigen & Siegel, 1989, p. 467).

Finally, this period produced little in terms of solid research or theory that would convince leaders and managers to study and change their cultural norms and performance management systems to allow an advance in the practice of team development. Team development professionals were more focused on applying the wealth of theory and research that had been produced in the golden era of group dynamics in their classrooms than on pushing the frontiers of team research in the workplace.

1982–1990: America Rethinks Its Business Model

“The work of a business, of a government bureaucracy, of most forms of human activity, is something pursued not by individuals but by teams” (Grove, 1983, as cited in Eigen & Seigel, 1989, p. 468; Grove is CEO of Intel Corp.). By 1982, America was mired in a deep recession. President Jimmy Carter had said that the country was in a deep malaise. Inflation was raging, the international balance of payments was deeply in the red, the country was mired in a deep recession, and our former enemies in WWII were beating the pants off the United States economically. American corporations, which had been supremely confident in the American way of conducting business after victory in WWII, had lost confidence in their ability to compete internationally. Basic assumptions had to be challenged and things had to change.

The search for productivity and reduced overhead costs began in earnest. Along with the reengineering of the corporation came significant downsizing and elimination of the economic “contract” that workers and managers had come to expect—a contract under which employees, in exchange for their loyalty, could expect lifelong employment (as long as they did their jobs and the company was solvent). Along with reengineering came a flattening of the pyramid, or de-layering, and a significant thinning out of the middle management ranks. The span of control for most managers reached levels that ruled out the old command and control style of management. Without the guarantee of employment, management needed to develop new approaches to motivate and empower employees. If American business was to succeed in the postindustrial era—information age, it needed to be more innovative and to get the most out of its human capital.

Given these economic realities and requirements, American business began looking at teams in a different light. Building on the work of sociotechnical systems, self-managing production teams began to emerge. Cross-function planning and implementation teams became commonplace. Total quality management (TQM) was reintroduced to the United States after having been initially ignored in this country and then exported successfully to Japan by Deming (Aguayo, 1990; Deming, 1982). TQM required and legitimized the use of teams (by means of quality circles [Ross, 1982]) for working on real-life work-related issues. Functional organizational structures gave way to team-based structures. “Tear down
the silos” became a rallying cry. Team-based compensation and reward systems were installed, an approach already working effectively in Japan. Tom Peters championed the benefits of team-based compensation systems: “Rewards should go to teams as a whole” (1988, as cited in Eigen & Siegel, 1989, p. 471). Executives and managers who had been reluctant to allow true participation from employees only a decade earlier were now touting the virtues of self-managing teams.

Although team development specialists continued to conduct team-building programs for individual organizational units, they were increasingly being asked to consult with line managers and senior managers in their efforts to create team-based structures and cultures. In the process, the traditional personnel departments became the human resource function. The roles of human resource managers were enlarged to include organizational development. Newly appointed organizational development specialists were quickly enrolled in programs to teach them systems thinking and team building.

By the mid-1980s, leadership in team development theory and practice migrated from social and I/O psychology departments to business schools and human resource development programs. This movement was partly the natural result of the keen interest that business was showing in team-based organizations. More important, social and I/O psychology lost influence because of a significant ebb in the flow of useful team-focused research. Social psychology lost interest in groups dynamics, and I/O psychology never fully embraced general systems theory. Team innovation at NTL had long since ceased as the researchers and intellectuals among its membership were disparaged and marginalized in the single-minded embrace and pursuit of diversity and social justice. In a development that would have greatly saddened Lewin, most university-based researchers resigned their membership in NTL.

By the end of this decade, another significant trend in team-building practice was becoming firmly established. Earlier, team-building consultants typically used exercises or simulations to highlight important team dynamics or competencies or to generate intrateam behavior for later processing. Schein (1988) and Reddy (1994), among others, called for more consultation with teams in the process of doing their work. This shift required team development consultants to understand team dynamics in the context of typical work processes as well as the general theories of team process. To be effective, consultants needed to understand how the work of a team contributed to the primary task of the organization. These consultants also needed to understand the larger business issues for the organization: how the organization provided value to its customers, how it raised capital, who its major competitive threats were, and where and what its most significant entrepreneurial opportunities were. In short, consultants needed to understand business and the business of their client organization as well as team dynamics.

1990–2000: The Era of High-Performance Teams

By the time the economic recession in the early 1990s receded, the move toward teams had grown to a stampede. Reich (1987) and Katzenbach and Smith (1994) extolled the heroism and the wisdom of teams. Organizations in the high technology sector were early adopters of team-based organizational structures and self-organizing teams. Owing to the spectacular success of these corporations in the global marketplace, organizations of all varieties—from low tech smokestack industries to governmental agencies and educational institutions—enthusiastically embraced team-based structures in efforts to improve productivity and quality. This revived interest in the promise of high-performing teams and systems earlier advocated by Vaill (1989).
It is not surprising, therefore, that consulting firms began developing methodologies and tools to help organizations transform rapidly into team-based organizations. Rawlings (2000) and Winum and Seamons (2000) in this issue report on the development of team development practices in two prominent psychology-based consulting firms (Personnel Decisions International and RHR International). Also in this issue, Freedman (2000) reports on a complex consultation using a sociotechnical approach that broadly uses a cross-functional team strategy to prepare and involve the workforce in technological change.

The team literature of the 1990s, however, is dominated by consultants recounting their successes in developing team-based organizations or by anecdotal tales told by managers and executives as they learned, often through trial and error, to install teams and create a more open, collaborative culture. Katzenbach and Smith (1994) discussed their experiences at McKinsey and their analysis of logistical operations during the 1991 Gulf War in extolling the virtues of teams. Parker (1994) described how Honeywell, Ford, and other corporations used cross-functional teams to lower costs and improve quality while empowering employees like never before. Shonk (1992) provided a primer for creating a team-based organization based on his experiences as a team development consultant. Frangos and Bennet (1993) traced the introduction of high-performance "Zebra" teams at Kodak in that company's successful efforts to compete with the Japanese rival Fuji. Wellsins, Byham, and Dixon (1994) discussed the success of the consulting firm DDI in bringing significant improvements to its own distribution center and a number of its clients. All of these references are similar in several ways: (a) They lack systematic collection and analysis of relevant data in an effort to test or modify theoretical positions, and (b) they use theory and techniques that were developed decades earlier (e.g., Cartwright & Zander, 1968; Likert, 1961, 1967; Likert & Gibson, 1978; Maier, 1963; Tannenbaum, 1968).

Team-Based Organizations: The Future

Although substantial progress has been achieved in popularizing the idea of developing team-based organizations, future innovation requires the rekindling of research interest in teams in relation to complex organizational systems. As this review has documented, current team development practice relies heavily on research on groups and simple teams conducted decades earlier. Most of the influential references in the past decade are based on the anecdotal accounts of practitioners and loosely documented linkages between team practices and organizational success. Although these treatments are useful and necessary, the lack of empirical support for these theories in contemporary organizations is limiting their usefulness in the turbulent and rapidly evolving organizations of the early 21st century. It is hoped that the work of Mohrman and Quam (2000) and their colleagues at the Center for Effective Organizations at the University of Southern California represents a fresh wave of research interest in teams and team-based organizations.

In the interest of inspiring empirical research regarding teams and team-based organizations, we offer the following recommendations:

1. Don't oversimplify the theory. Simplification is important in the application of theory, but boiling down processes to a few simple points or glossing over complexity does little justice to the phenomenon at hand. Several common examples illustrate this point. In personal computing, the enduser needs a simple and uniform interface for everyday work. The simplicity of the interface, however, conceals the complexity of the software code and flexibility of documented options to carry out unusual or specialized
tasks. Although a workable document can be constructed using less than a dozen basic commands, sophisticated applications require many more commands and careful study of the documentation. As we listen to the weather forecast for the day, we are usually content to know the high temperature, the wind speed, and the probability of precipitation. We would probably be disappointed, however, if we learned that weather scientists were interested in little else than these three parameters. We expect these scientists to use super computers and even, perhaps, chaos theory to make the most accurate forecast as to temperature, wind velocity, and precipitation probability.

An example from team development illustrates the limitations of using oversimplified theory in practice. Virtually all contemporary team literature for team practitioners tout Tuckman’s (1965) simplified model of team development. A practitioner familiar only with this model will miss many of the important nuances of group life identified in other, more elaborated models (e.g., Bion, 1961; Bennis & Shepherd, 1956; Napier & Gershenfeld, 1973; Slater, 1966; Schutz, 1966; Mann, 1967). One practical result is that a team facilitator may not anticipate the swift phase regression that occurs when even one member is added to or leaves a group. Powerful regressive dynamics occur even in high-performing teams that defy explanation using a simple forming, storming, norming, performing schema.

2. Start studying teams as they exist and function in real-life contexts today. Most team theories are based on the research conducted decades earlier with fairly static membership, substantial face-to-face interaction, artificial contexts (like classrooms), and relatively homogenous cultural and ethic composition. Teams today are likely to meet infrequently, have highly fluid multifunctional membership, and be conducted with mixed face-to-face and tele- or video-conferencing formats over two or more continents. We simply have few models and less research to determine the impact on team behavior of video communication, much less team members communicating across two continents and representing several cultures. We have a strong belief that theory and research in virtual teamwork, not to mention effective practice, would be significantly improved if we knew more about the impact of these variables and their interaction effects.

3. Practitioners need to revive their historically active partnership with researchers. The first two recommendations cannot be carried out unless practitioners and researchers are proactive in seeking each other out. Practitioners must appreciate the need for research that is based on contemporary team structures. Researchers need to shift from conducting meta-analyses of research completed decades earlier to initiating new research in current organizational environments. Although Aristotelian correlational research is useful for descriptive purposes, researchers also need to apply sophisticated Galileian experimental and quasi-experimental methods to the study of teams in vivo. Developing methodologies for studying team behavior empirically in an organizational environment requires a multivariate approach that represents a worthy challenge for our brightest and most able researchers. Lewin’s dream of developing action research is even more relevant today.

4. The research and theory regarding teams needs to move beyond the linear, homeostatic view of organizational systems. Organization development in general and team development in particular is based primarily on extensions of Lewin’s (1951) field theory and general systems theory (von Bertalanffy, 1956). Even contemporary treatments of organizational change processes (e.g., Senge, 1990) assume organizations operate to achieve the same sort of dynamic equilibrium that was connoted by Lewin’s force-field analysis of the 1940s (Lewin, 1943). Although these models were quite useful in consulting to organizations earlier, less turbulent eras, they proved to be
less relevant in efforts to understand the organizational events and processes in the highly dynamic and unpredictable economic and political environment of the 1980s and 1990s.

It was from this caldron of economic and political instability that chaos and complexity theories emerged (Gleick, 1987; Maldrop 1992). Chaos and complexity theories are increasingly being incorporated into psychology and behavioral science (Masterpasqua & Perna, 1997; Stacy, 1996). There are a number of important applications of these theoretical approaches to understanding and working with contemporary teams. For instance, the creative behavior of self-organizing structures on the boundary between order and disorganization predicted by chaos theory can be used as a rationale for creating self-organizing teams. The research and theory of teams needs to develop a methodology for harnessing the creative potential of self-organizing teams.

5. Finally, researchers and practitioners need to have a better appreciation for the history of research and theory regarding teams. Both of us have noted how often current practice overlooks or ignores the important findings of previous research. For instance, the recent wave of process reengineering only belatedly discovered the importance of including key internal stakeholders in the planning of process changes. A knowledge of sociotechnical theory (Emery & Trist, 1965; Pasmore & Sherwood, 1978) would have significantly reduced predictable problems in the acceptance of change.

In another example, proponents of a contemporary approach, action learning (Marquardt, 1999; Revans, 1998), appear to be unaware of the important contributions of earlier experiential approaches to learning (e.g., Lewin, 1947; Mill & Porter, 1976; Reddy, 1994; Schein, 1988). Marquardt (personal communication, November 21, 1999) differentiates action learning from Lewinian approaches to learning as follows: (a) a focus on learning as well as problem solving, (b) the use of questions and inquiry in the problem-solving process (the initial stages emphasize divergent thinking before searching for convergent solutions), (c) the emphasis on using people with diverse perspectives on the problem-solving team, (d) the use of a designated learning coach whose role is to lead fruitful inquiry (i.e., challenge assumptions, ask useful questions) rather than merely facilitate discussion, and (e) assurance that the people doing the problem-solving also have ownership for taking action.

We would argue that these principles are wholly consistent with the experiential models and practices referenced throughout this article. The working definition provided by Marquardt does not differentiate action learning from Lewin’s notion of action research. For instance, Lewin contended that the best way to understand an organization is to try and change it, study the effects of the action taken, plan the next step, provide training if needed, and then to take action again. Action learning can also be seen as a restating of Argyris’s (Argyris, Putnam, & Smith, 1985) notion of double-loop learning.  
2Von Bertalanffy’s general systems theory is basically a linear model of systems that is appropriate for organizations in dynamic equilibrium. Adding chaos theory concepts to general systems theory would provide nonlinear models for understanding systems and organizational behavior in dynamic flux, disequilibrium, or on the edge of disorganization and chaos.

3Marquardt indicated that Revans believes that Argyris appropriated his ideas in proposing double-loop learning. These charges ring hollow when one considers the similarity of Revans’ ideas to Lewin’s concepts. Because Argyris was actively involved in laboratory education and action research in the 1950s and 1960s, and given the similarities between Revans’ action learning and Lewin’s action research, it is much more likely that Revson, perhaps without knowing the original source, borrowed some of his ideas from Lewin than that Argyris got his inspiration from Revans.
learning, which was an extension of Lewin's basic action research premise.

Marquardt based the description of Lewinian models on his observation of and discussions with contemporary team-building specialists who trace their roots to Lewin. His description of these practices demonstrated the oversimplification that can result from converting a principles-based methodology into mechanical, easily trained, formulaic process steps. A better understanding of the history and traditions of their discipline would help current team-building specialists behave in ways that would be consistent with the principles laid out by Marquardt (with which we have no quarrel).

Progress, far from consisting in change, depends on retentiveness... Those who cannot remember the past are condemned to fulfill it. (Santayana, 1906/1998, as cited in Eigen and Siegel, p. 191).

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