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ABSTRACT: The concept of organizational culture has received increasing attention in recent years both from academics and practitioners. This article presents the author's view of how culture should be defined and analyzed if it is to be of use in the field of organizational psychology. Other concepts are reviewed, a brief history is provided, and case materials are presented to illustrate how to analyze culture and how to think about culture change.

To write a review article about the concept of organizational culture poses a dilemma because there is presently little agreement on what the concept does and should mean, how it should be observed and measured, how it relates to more traditional industrial and organizational psychology theories, and how it should be used in our efforts to help organizations. The popular use of the concept has further muddied the waters by hanging the label of "culture" on everything from common behavioral patterns to espoused new corporate values that senior management wishes to inculcate (e.g., Deal & Kennedy, 1982; Peters & Waterman, 1982).

Serious students of organizational culture point out that each culture researcher develops explicit or implicit paradigms that bias not only the definitions of key concepts but the whole approach to the study of the phenomenon (Barley, Meyer, & Gash, 1988; Martin & Meyerson, 1988; Ott, 1989; Smircich & Calas, 1987; Van Maanen, 1988). One probable reason for this diversity of approaches is that culture, like role, lies at the intersection of several social sciences and reflects some of the biases of each—specifically, those of anthropology, sociology, social psychology, and organizational behavior.

A complete review of the various paradigms and their implications is far beyond the scope of this article. Instead I will provide a brief historical overview leading to the major approaches currently in use and then describe in greater detail one paradigm, firmly anchored in social psychology and anthropology, that is somewhat integrative in that it allows one to position other paradigms in a common conceptual space.

This line of thinking will push us conceptually into territory left insufficiently explored by such concepts as "climate," "norm," and "attitude." Many of the research methods of industrial/organizational psychology have weaknesses when applied to the concept of culture. If we are to take culture seriously, we must first adopt a more clinical and ethnographic approach to identify clearly the kinds of dimensions and variables that can usefully lend themselves to more precise empirical measurement and hypothesis testing. Though there have been many efforts to be empirically precise about cultural phenomena, there is still insufficient linkage of theory with observed data. We are still operating in the context of discovery and are seeking hypotheses rather than testing specific theoretical formulations.

A Historical Note

Organizational culture as a concept has a fairly recent origin. Although the concepts of "group norms" and "climate" have been used by psychologists for a long time (e.g., Lewin, Lippitt, & White, 1939), the concept of "culture" has been explicitly used only in the last few decades. Katz and Kahn (1978), in their second edition of *The Social Psychology of Organizations*, referred to roles, norms, and values but presented neither climate nor culture as explicit concepts.

Organizational "climate," by virtue of being a more salient cultural phenomenon, lent itself to direct observation and measurement and thus has had a longer research tradition (Hellriegel & Slocum, 1974; A. P. Jones & James, 1979; Litwin & Stringer, 1968; Schneider, 1975; Schneider & Reichers, 1983; Tagiuri & Litwin, 1968). But climate is only a surface manifestation of culture, and thus research on climate has not enabled us to delve into the deeper causal aspects of how organizations function. We need explanations for variations in climate and norms, and it is this need that ultimately drives us to "deeper" concepts such as culture.

In the late 1940s social psychologists interested in Lewinian "action research" and leadership training freely used the concept of "cultural island" to indicate that the training setting was in some fundamental way different from the trainees' "back home" setting. We knew from the leadership training studies of the 1940s and 1950s that foremen who changed significantly during training would revert to their former attitudes once they were back at work in a different setting (Bradford, Gibb, & Benne, 1964; Fleishman, 1953, 1973; Lewin, 1952; Schein & Bennis, 1965). But the concept of "group norms," heavily documented in the Hawthorne studies of the 1920s, seemed sufficient to explain this phenomenon (Homans, 1950; Roethlisberger & Dickson, 1939).

In the 1950s and 1960s, the field of organizational psychology began to differentiate itself from industrial psychology by focusing on units larger than individuals (Bass, 1965; Schein, 1965). With a growing emphasis on work groups and whole organizations came a greater need for concepts such as "system" that could describe what could be thought of as a *pattern* of norms and attitudes that cut across a whole social unit. The researchers and clinicians at the Tavistock Institute developed the concept of "socio-technical systems" (Jaques, 1951; Rice, 1963; Trist, Higgin, Murray, & Pollock, 1963), and Likert (1961, 1967) developed his "Systems 1 through 4" to describe integrated sets of organizational norms and attitudes. Katz and Kahn (1966) built their entire analysis of organizations around systems theory and systems dynamics, thus laying the most important theoretical foundation for later culture studies.

The field of organizational psychology grew with the growth of business and management schools. As concerns with understanding organizations and interorganizational relationships grew, concepts from sociology and anthropology began to influence the field. Cross-cultural psychology had, of course, existed for a long time (Werner, 1940), but the application of the concept of culture to organizations *within* a given society came only recently as more investigators interested in organizational phenomena found themselves needing the concept to explain (a) variations in patterns of organizational behavior, and (b) levels of stability in group and organizational behavior that had not previously been highlighted (e.g., Ouchi, 1981).

What has really thrust the concept into the forefront is the recent emphasis on trying to explain why U.S. companies do not perform as well as some of their counterpart companies in other societies, notably Japan. In observing the differences, it has been noted that national culture is not a sufficient explanation (Ouchi, 1981; Pascale & Athos, 1981). One needs concepts that permit one to differentiate between organizations within a society, especially in relation to different levels of effectiveness, and the concept of organizational culture has served this purpose well (e.g., O'Toole, 1979; Pettigrew, 1979; Wilkins & Ouchi, 1983).

As more investigators and theoreticians have begun to examine organizational culture, the normative thrust has been balanced by more descriptive and clinical research (Barley, 1983; Frost, Moore, Louis, Lundberg, & Martin, 1985; Louis, 1981, 1983; Martin, 1982; Martin, Feldman, Hatch, & Sitkin, 1983; Martin & Powers, 1983; Martin & Siehl, 1983; Schein, 1985a; Van Maanen & Barley, 1984). We need to find out what is actually going on in organizations before we rush in to tell managers what to do about their culture.

I will summarize this quick historical overview by identifying several different research streams that today influence how we perceive the concept of organizational culture.

Survey Research

From this perspective, culture has been viewed as a property of groups that can be measured by questionnaires leading to Likert-type profiles (Hofstede, 1980; Hofstede & Bond, 1988; Kilmann, 1984; Likert, 1967). The problem with this approach is that it assumes knowledge of the relevant dimensions to be studied. Even if these are statistically derived from large samples of items, it is not clear whether the initial item set is broad enough or relevant enough to capture what may for any given organization be its critical cultural themes. Furthermore, it is not clear whether something as abstract as culture can be measured with survey instruments at all.

Analytical Descriptive

In this type of research, culture is viewed as a concept for which empirical measures must be developed, even if that means breaking down the concept into smaller units so that it can be analyzed and measured (e.g., Harris & Sutton, 1986; Martin & Siehl, 1983; Schall, 1983; Trice & Beyer, 1984; Wilkins, 1983). Thus organizational stories, rituals and rites, symbolic manifestations, and other cultural elements come to be taken as valid surrogates for the cultural whole. The problem with this approach is that it fractionates a concept whose primary theoretical utility is in drawing attention to the holistic aspect of group and organizational phenomena.

Ethnographic

In this approach, concepts and methods developed in sociology and anthropology are applied to the study of organizations in order to illuminate descriptively, and thus provide a richer understanding of, certain organizational phenomena that had previously not been documented fully enough (Barley, 1983; Van Maanen, 1988; Van Maanen & Barley, 1984). This approach helps to build better theory but is time consuming and expensive. A great many more cases are needed before generalizations can be made across various types of organizations.

Historical

Though historians have rarely applied the concept of culture in their work, it is clearly viewed as a legitimate aspect of an organization to be analyzed along with other factors (Chandler, 1977; Dyer, 1986; Pettigrew, 1979; Westney, 1987). The weaknesses of the historical method are similar to those pointed out for the ethnographic approach, but these are often offset by the insights that historical and longitudinal analyses can provide.

Clinical Descriptive

With the growth of organizational consulting has come the opportunity to observe in areas from which researchers have traditionally been barred, such as the higher levels of management where policies originate and where reward and control systems are formulated. When consultants observe organizational phenomena as a byproduct of their services for clients, we can think of this as "clinical" research even though the client is defining the domain of observation (Schein, 1987a). Such work is increasingly being done by consultants with groups and organizations, and it allows consultants to observe some of the systemic effects of interventions over time. This approach has been

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labeled "organization development" (Beckhard, 1969; Beckhard & Harris, 1977, 1987; Bennis, 1966, 1969; French & Bell, 1984; Schein, 1969) and has begun to be widely utilized in many kinds of organizations.

The essential characteristic of this method is that the data are gathered while the consultant is actively helping the client system work on problems defined by the client on the client's initiative. Whereas the researcher has to gain access, the consultant/clinician is provided access because it is in the client's best interest to open up categories of information that might ordinarily be concealed from the researcher (Schein, 1985a, 1987a).

The empirical knowledge gained from such observations provides a much needed balance to the data obtained by other methods because cultural origins and dynamics can sometimes be observed only in the power centers where elements of the culture are created and changed by founders, leaders, and powerful managers (Hirschhorn, 1987; Jaques, 1951; Kets de Vries & Miller, 1984, 1986; Schein, 1983). The problem with this method is that it does not provide the descriptive breadth of an ethnography nor the methodological rigor of quantitative hypothesis testing. However, at this stage of the evolution of the field, a combination of ethnographic and clinical research seems to be the most appropriate basis for trying to understand the concept of culture.

Definition of Organizational Culture

The problem of defining organizational culture derives from the fact that the concept of organization is itself ambiguous. We cannot start with some "cultural phenomena" and then use their existence as evidence for the existence of a group. We must first specify that a given set of people has had enough stability and common history to have allowed a culture to form. This means that some organizations will have no overarching culture because they have no common history or have frequent turnover of members. Other organizations can be presumed to have "strong" cultures because of a long shared history or because they have shared important intense experiences (as in a combat unit). But the content and strength of a culture have to be empirically determined. They cannot be presumed from observing surface cultural phenomena.

Culture is what a group learns over a period of time as that group solves its problems of survival in an external environment and its problems of internal integration. Such learning is simultaneously a behavioral, cognitive, and an emotional process. Extrapolating further from a functionalist anthropological view, the deepest level of culture will be the cognitive in that the perceptions, language, and thought processes that a group comes to share will be the ultimate causal determinant of feelings, attitudes, espoused values, and overt behavior.

From systems theory, Lewinian field theory, and cognitive theory comes one other theoretical premise namely, that systems tend toward some kind of equilibrium, attempt to reduce dissonance, and thus bring basic categories or assumptions into alignment with each other (Durkin, 1981; Festinger, 1957; Hebb, 1954; Heider, 1958; Hirschhorn, 1987; Lewin, 1952). There is a conceptual problem, however, because systems contain subsystems, organizations contain groups and units within them, and it is not clear over what range the tendency toward equilibrium will exist in any given complex total system.

For our purposes it is enough to specify that any definable group with a shared history can have a culture and that within an organization there can therefore be many subcultures. If the organization as a whole has had shared experiences, there will also be a total organizational culture. Within any given unit, the tendency for integration and consistency will be assumed to be present, but it is perfectly possible for coexisting units of a larger system to have cultures that are independent and even in conflict with each other.

Culture can now be defined as (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems.

The strength and degree of internal consistency of a culture are, therefore, a function of the stability of the group, the length of time the group has existed, the intensity of the group's experiences of learning, the mechanisms by which the learning has taken place (i.e., positive reinforcement or avoidance conditioning), and the strength and clarity of the assumptions held by the founders and leaders of the group.

Once a group has learned to hold common assumptions, the resulting automatic patterns of perceiving, thinking, feeling, and behaving provide meaning, stability, and comfort; the anxiety that results from the inability to understand or predict events happening around the group is reduced by the shared learning. The strength and tenacity of culture derive, in part, from this anxietyreduction function. One can think of some aspects of culture as being for the group what defense mechanisms are for the individual (Hirschhorn, 1987; Menzies, 1960; Schein, 1985b).

The Levels of Culture

In analyzing the culture of a particular group or organization it is desirable to distinguish three fundamental levels at which culture manifests itself: (a) observable artifacts, (b) values, and (c) basic underlying assumptions.

When one enters an organization one observes and feels its *artifacts*. This category includes everything from the physical layout, the dress code, the manner in which people address each other, the smell and feel of the place, its emotional intensity, and other phenomena, to the more permanent archival manifestations such as company records, products, statements of philosophy, and annual reports.

The problem with artifacts is that they are palpable but hard to decipher accurately. We know how we react to them, but that is not necessarily a reliable indicator of how members of the organization react. We can see and feel that one company is much more formal and bureaucratic than another, but that does not tell us anything about why this is so or what meaning it has to the members.

For example, one of the flaws of studying organizational symbols, stories, myths, and other such artifacts is that we may make incorrect inferences from them if we do not know how they connect to underlying assumptions (Pondy, Boland, & Thomas, 1988; Pondy, Frost, Morgan, & Dandridge, 1983; Wilkins, 1983). Organizational stories are especially problematic in this regard because the "lesson" of the story is not clear if one does not understand the underlying assumptions behind it.

Through interviews, questionnaires, or survey instruments one can study a culture's espoused and documented values, norms, ideologies, charters, and philosophies. This is comparable to the ethnographer's asking special "informants" why certain observed phenomena happen the way they do. Open-ended interviews can be very useful in getting at this level of how people feel and think, but questionnaires and survey instruments are generally less useful because they prejudge the dimensions to be studied. There is no way of knowing whether the dimensions one is asking about are relevant or salient in that culture until one has examined the deeper levels of the culture.

Through more intensive observation, through more focused questions, and through involving motivated members of the group in intensive self-analysis, one can seek out and decipher the taken-for-granted, underlying, and usually unconscious *assumptions* that determine perceptions, thought processes, feelings, and behavior. Once one understands some of these assumptions, it becomes much easier to decipher the meanings implicit in the various behavioral and artifactual phenomena one observes. Furthermore, once one understands the underlying taken-for-granted assumptions, one can better understand how cultures can seem to be ambiguous or even self-contradictory (Martin & Meyerson, 1988).

As two case examples I present later will show, it is quite possible for a group to hold conflicting values that manifest themselves in inconsistent behavior while having complete consensus on underlying assumptions. It is equally possible for a group to reach consensus on the level of values and behavior and yet develop serious conflict later because there was no consensus on critical underlying assumptions.

This latter phenomenon is frequently observed in mergers or acquisitions where initial synergy is gradually replaced by conflict, leading ultimately to divestitures. When one analyzes these examples historically one often finds that there was insufficient agreement on certain basic assumptions, or, in our terms, that the cultures were basically in conflict with each other.

Deeply held assumptions often start out historically as values but, as they stand the test of time, gradually come to be taken for granted and then take on the character of assumptions. They are no longer questioned and they become less and less open to discussion. Such avoidance behavior occurs particularly if the learning was based on traumatic experiences in the organization's history, which leads to the group counterpart of what would be repression in the individual. If one understands culture in this way, it becomes obvious why it is so difficult to change culture.

Deciphering the "Content" of Culture

Culture is ubiquitous. It covers all areas of group life. A simplifying typology is always dangerous because one may not have the right variables in it, but if one distills from small group theory the dimensions that recur in group studies, one can identify a set of major external and internal tasks that all groups face and with which they must learn to cope (Ancona, 1988; Bales, 1950; Bales & Cohen, 1979; Benne & Sheats, 1948; Bennis & Shepard, 1956; Bion, 1959; Schein, 1988). The group's culture can then be seen as the learned response to each of these tasks (see Table 1).

Another approach to understanding the "content" of a culture is to draw on anthropological typologies of universal issues faced by all societies. Again there is a danger of overgeneralizing these dimensions (see Table 2), but the comparative studies of Kluckhohn and Strodtbeck (1961) are a reasonable start in this direction.

If one wants to decipher what is really going on in a particular organization, one has to start more inductively to find out which of these dimensions is the most pertinent on the basis of that organization's history. If one has access to the organization one will note its *artifacts* readily but will not really know what they mean. Of most value in this process will be noting *anomalies* and things that seem different, upsetting, or difficult to understand.

If one has access to members of the organization one can interview them about the issues in Table 1 and thereby get a good roadmap of what is going on. Such an interview will begin to reveal *espoused values*, and, as these surface, the investigator will begin to notice inconsistencies between what is claimed and what has been observed. These inconsistencies and the anomalies observed or felt now form the basis for the next layer of investigation.

Pushing past the layer of espoused values into underlying *assumptions* can be done by the ethnographer once trust has been established or by the clinician if the organizational client wishes to be helped. Working with motivated insiders is essential because only they can bring to the surface their own underlying assumptions and articulate how they basically perceive the world around them.

To summarize, if we combine insider knowledge with outsider questions, assumptions can be brought to the surface, but the process of inquiry has to be interactive, with the outsider continuing to probe until assumptions have really been teased out and have led to a feeling of greater understanding on the part of both the outsider and the insiders.

Table 1

External adaptation tasks	Internal integration tasks
Developing consensus on:	Developing consensus on:
 The core mission, functions, and primary tasks of the organization vis-à-vis its environments. The specific goals to be pursued by the organization. The basic means to be used in accomplishing the goals. The criteria to be used for measuring results. The remedial or repair strategies if goals are not achieved. 	 The common language and conceptual system to be used, including basic concepts of time and space. The group boundaries and criteria for inclusion. The criteria for the allocation of status, power, and authority. The criteria for intimacy, friendship, and love in different work and family settings. The criteria for the allocation of rewards and punishments. Concepts for managing the unmanageable—ideology and religion.

Note. Adapted from Organizational Culture and Leadership (pp. 52, 56) by E. H. Schein, 1985, San Francisco: Jossey-Bass. Copyright 1985 by Jossey-Bass. Adapted by permission.

Two Case Examples

It is not possible to provide complete cultural descriptions in a short article, but some extracts from cases can be summarized to illustrate particularly the distinctions between artifacts, values, and assumptions. The "Action Company" is a rapidly growing high-technology manufacturing concern still managed by its founder roughly 30 years after its founding. Because of its low turnover and intense history, one would expect to find an overall organizational culture as well as functional and geographic subcultures.

A visitor to the company would note the open office landscape architecture; a high degree of informality; frenetic activity all around; a high degree of confrontation, conflict, and fighting in meetings; an obvious lack of status symbols such as parking spaces or executive dining rooms; and a sense of high energy and emotional involvement, of people staying late and expressing excitement about the importance of their work.

If one asks about these various behaviors, one is told that the company is in a rapidly growing high-technology field where hard work, innovation, and rapid solutions to things are important and where it is essential for everyone to contribute at their maximum capacity. New employees are carefully screened, and when an employee fails, he or she is simply assigned to another task, not fired or punished in any personal way.

If one discusses this further and pushes to the level of assumptions, one elicits a pattern or paradigm such as that shown in Figure 1. Because of the kind of technology the company manufactures, and because of the strongly held beliefs and values of its founder, the company operates on several critical and coordinated assumptions: (a) Individuals are assumed to be the source of all innovation and productivity. (b) It is assumed that truth can only be determined by pitting fully involved individuals against each other to debate ideas until only one idea survives, and it is further assumed that ideas will not be implemented unless everyone involved in implementation has been convinced through the debate of the validity of the idea. (c) Paradoxically, it is also assumed that every individual must think for himself or herself and "do the right thing" even if that means disobeying one's boss or violating a policy. (d) What makes it possible for people to live in this high-conflict environment is the assumption that the company members are one big family who will take care of each other and protect each other even if some members make mistakes or have bad ideas.

Once one understands this paradigm, one can understand all of the different observed artifacts such as the ability of the organization to tolerate extremely high degrees of conflict without seeming to destroy or even demotivate its employees. The value of the cultural analysis is that it provides insight, understanding, and a roadmap for future action. For example, as this company grows, the decision process may prove to be too slow, the individual autonomy that members are expected to exercise may become destructive and have to be replaced by more disciplined behavior, and the notion of a family may break down because too many people no longer know each other personally. The cultural analysis thus permits one to focus on those areas in which the organization will experience stresses and strains as it continues to grow and in which cultural evolution and change will occur.

By way of contrast, in the "Multi Company," a 100year-old multidivisional, multinational chemical firm, one finds at the artifact level a high degree of formality; an architecture that puts great emphasis on privacy; a proliferation of status symbols and deference rituals such as addressing people by their titles; a high degree of politeness in group meetings; an emphasis on carefully thinking things out and then implementing them firmly through the hierarchy; a formal code of dress; and an emphasis on working hours, punctuality, and so on. One also finds a total absence of cross-divisional or cross-functional meetings and an almost total lack of lateral communication. Memos left in one department by an outside con-

Table 2

Some Underlying Dimensions of Organizational Culture

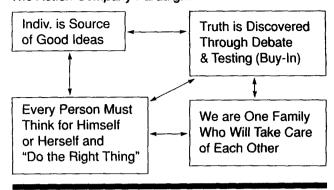
Dimension	Questions to be answered
1. The organization's relationship to its environment	Does the organization perceive itself to be dominant, submissive, harmonizing, searching out a niche?
2. The nature of human activity	Is the "correct" way for humans to behave to be dominant/pro-active, harmonizing, or passive/ fatalistic?
3. The nature of reality and truth	How do we define what is true and what is not true; and how is truth ultimately determined both in the physical and social world? By pragmatic test, reliance on wisdom, or social consensus?
4. The nature of time	What is our basic orientation in terms of past, present, and future, and what kinds of time units are most relevant for the conduct of daily affairs?
5. The nature of human nature	Are humans basically good, neutral, or evil, and is human nature perfectible or fixed?
6. The nature of human relationships	What is the "correct" way for people to relate to each other, to distribute power and affection? Is life competitive or cooperative? Is the best way to organize society on the basis of individualism or groupism? Is the best authority system autocratic/paternalistic or collegial/participative?
7. Homogeneity vs. diversity	Is the group best off if it is highly diverse or if it is highly homogeneous, and should individuals in a group be encouraged to innovate or conform?

Note. Adapted from Organizational Culture and Leadership (p. 86) by E. H. Schein, 1985, San Francisco: Jossey-Bass. Copyright 1985 by Jossey-Bass. Adapted by permission.

sultant with instructions to be given to others are almost never delivered.

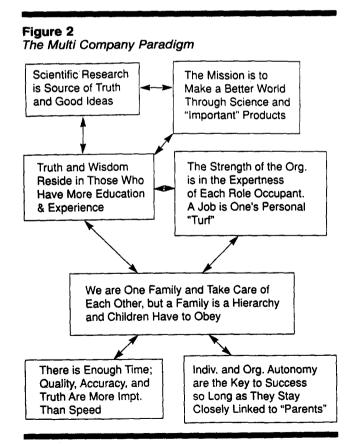
The paradigm that surfaces, if one works with insiders to try to decipher what is going on, can best be depicted by the assumptions shown in Figure 2. The company is science based and has always derived its success from its research and development activities. Whereas

Figure 1 The Action Company Paradigm



"truth" in the Action Company is derived through debate and conflict and employees down the line are expected to think for themselves, in the Multi Company truth is derived from senior, wiser heads and employees are expected to go along like good soldiers once a decision is reached.

The Multi Company also sees itself as a family, but its concept of a family is completely different. Whereas in the Action Company, the family is a kind of safety net and an assurance of membership, in the Multi Company



it is an authoritarian/paternalistic system of eliciting loyalty and compliance in exchange for economic security. The paradoxical absence of lateral communication is explained by the deeply held assumption that a job is a person's private turf and that the unsolicited providing of information to that person is an invasion of privacy and a potential threat to his or her self-esteem. Multi Company managers are very much on top of their jobs and pride themselves on that fact. If they ask for information they get it, but it is rarely volunteered by peers.

This cultural analysis highlights what is for the Multi Company a potential problem. Its future success may depend much more on its ability to become effective in marketing and manufacturing, yet it still treats research and development as a sacred cow and assumes that new products will be the key to its future success. Increasingly the company finds itself in a world that requires rapid decision making, yet its systems and procedures are slow and cumbersome. To be more innovative in marketing it needs to share ideas more, yet it undermines lateral communication.

Both companies reflect the larger cultures within which they exist in that the Action Company is an American firm whereas the Multi Company is European, but each also is different from its competitors within the same country, thus highlighting the importance of understanding *organizational* culture.

Cultural Dynamics: How Is Culture Created?

Culture is learned; hence learning models should help us to understand culture creation. Unfortunately, there are not many good models of how groups learn—how norms, beliefs, and assumptions are created initially. Once these exist, we can see clearly how leaders and powerful members embed them in group activity, but the process of learning something that becomes shared is still only partially understood.

Norm Formation Around Critical Incidents

One line of analysis comes from the study of training groups (Bennis & Shepard, 1956; Bion, 1959; Schein, 1985a). One can see in such groups how norms and beliefs arise around the way members respond to critical incidents. Something emotionally charged or anxiety producing may happen, such as an attack by a member on the leader. Because everyone witnesses it and because tension is high when the attack occurs, the immediate next set of behaviors tends to create a norm.

Suppose, for example, that the leader counterattacks, that the group members "concur" with silence or approval, and that the offending member indicates with an apology that he or she accepts his or her "mistake." In those few moments a bit of culture has begun to be created—the norm that "we do not attack the leader in this group; authority is sacred." The norm may eventually become a belief and then an assumption if the same pattern recurs. If the leader and the group consistently respond differently to attacks, a different norm will arise. By reconstructing the history of critical incidents in the group and how members dealt with them, one can get a good indication of the important cultural elements in that group.

Identification With Leaders

A second mechanism of culture creation is the modeling by leader figures that permits group members to identify with them and internalize their values and assumptions. When groups or organizations first form, there are usually dominant figures or "founders" whose own beliefs, values, and assumptions provide a visible and articulated model for how the group should be structured and how it should function (Schein, 1983). As these beliefs are put into practice, some work out and some do not. The group then learns from its own experience what parts of the "founder's" belief system work for the group as a whole. The joint learning then gradually creates shared assumptions.

Founders and subsequent leaders continue to attempt to embed their own assumptions, but increasingly they find that other parts of the organization have their own experiences to draw on and, thus, cannot be changed. Increasingly the learning process is shared, and the resulting cultural assumptions reflect the total group's experience, not only the leader's initial assumptions. But leaders continue to try to embed their own views of how things should be, and, if they are powerful enough, they will continue to have a dominant effect on the emerging culture.

Primary embedding mechanisms are (a) what leaders pay attention to, measure, and control; (b) how leaders react to critical incidents and organizational crises; (c) deliberate role modeling and coaching; (d) operational criteria for the allocation of rewards and status; and (e) operational criteria for recruitment, selection, promotion, retirement, and excommunication. Secondary articulation and reinforcement mechanisms are (a) the organization's design and structure; (b) organizational systems and procedures; (c) the design of physical space, facades, and buildings; (d) stories, legends, myths, and symbols; and (e) formal statements of organizational philosophy, creeds, and charters.

One can hypothesize that as cultures evolve and grow, two processes will occur simultaneously: a process of differentiation into various kinds of subcultures that will create diversity, and a process of integration, or a tendency for the various deeper elements of the culture to become congruent with each other because of the human need for consistency.

Cultural Dynamics: Preservation Through Socialization

Culture perpetuates and reproduces itself through the socialization of new members entering the group. The socialization process really begins with recruitment and selection in that the organization is likely to look for new members who already have the "right" set of assumptions, beliefs, and values. If the organization can find such presocialized members, it needs to do less formal socialization. More typically, however, new members do not "know the ropes" well enough to be able to take and enact their organizational roles, and thus they need to be trained and "acculturated" (Feldman, 1988; Ritti & Funkhouser, 1987; Schein, 1968, 1978; Van Maanen, 1976, 1977).

The socialization process has been analyzed from a variety of perspectives and can best be conceptualized in terms of a set of dimensions that highlight variations in how different organizations approach the process (Van Maanen, 1978; Van Maanen & Schein, 1979). Van Maanen identified seven dimensions along which socialization processes can vary:

1. Group versus individual: the degree to which the organization processes recruits in batches, as in boot camp, or individually, as in professional offices.

2. Formal versus informal: the degree to which the process is formalized, as in set training programs, or is handled informally through apprenticeships, individual coaching by the immediate superior, or the like.

3. Self-destructive and reconstructing versus self-enhancing: the degree to which the process destroys aspects of the self and replaces them, as in boot camp, or enhances aspects of the self, as in professional development programs.

4. Serial versus random: the degree to which role models are provided, as in apprenticeship or mentoring programs, or are deliberately withheld, as in sink-or-swim kinds of initiations in which the recruit is expected to figure out his or her own solutions.

5. Sequential versus disjunctive: the degree to which the process consists of guiding the recruit through a series of discrete steps and roles versus being open-ended and never letting the recruit predict what organizational role will come next.

6. Fixed versus variable: the degree to which stages of the training process have fixed timetables for each stage, as in military academies, boot camps, or rotational training programs, or are open-ended, as in typical promotional systems where one is not advanced to the next stage until one is "ready."

7. Tournament versus contest: the degree to which each stage is an "elimination tournament" where one is out of the organization if one fails or a "contest" in which one builds up a track record and batting average.

Socialization Consequences

Though the goal of socialization is to perpetuate the culture, it is clear that the process does not have uniform effects. Individuals respond differently to the same treatment, and, even more important, different combinations of socialization tactics can be hypothesized to produce somewhat different outcomes for the organization (Van Maanen & Schein, 1979).

For example, from the point of view of the organization, one can specify three kinds of outcomes: (a) a *custodial orientation*, or total conformity to all norms and complete learning of all assumptions; (b) *creative individualism*, which implies that the trainee learns all of the central and pivotal assumptions of the culture but rejects all peripheral ones, thus permitting the individual to be creative both with respect to the organization's tasks and in how the organization performs them (role innovation); and (c) *rebellion*, or the total rejection of all assumptions. If the rebellious individual is constrained by external circumstances from leaving the organization, he or she will subvert, sabotage, and ultimately foment revolution.

We can hypothesize that the combination of socialization techniques most likely to produce a custodial orientation is (1) formal, (2) self-reconstructing, (3) serial, (4) sequential, (5) variable, and (6) tournament-like. Hence if one wants new members to be more creative in the use of their talents, one should use socialization techniques that are informal, self-enhancing, random, disjunctive, fixed in terms of timetables, and contest-like.

The individual versus group dimension can go in either direction in that group socialization methods can produce loyal custodially oriented cohorts or can produce disloyal rebels if countercultural norms are formed during the socialization process. Similarly, in the individual apprenticeship the direction of socialization will depend on the orientation of the mentor or coach.

Efforts to measure these socialization dimensions have been made, and some preliminary support for the above hypotheses has been forthcoming (Feldman, 1976, 1988; G. R. Jones, 1986). Insofar as cultural evolution is a function of innovative and creative efforts on the part of new members, this line of investigation is especially important.

Cultural Dynamics: Natural Evolution

Every group and organization is an open system that exists in multiple environments. Changes in the environment will produce stresses and strains inside the group, forcing new learning and adaptation. At the same time, new members coming into the group will bring in new beliefs and assumptions that will influence currently held assumptions. To some degree, then, there is constant pressure on any given culture to evolve and grow. But just as individuals do not easily give up the elements of their identity or their defense mechanisms, so groups do not easily give up some of their basic underlying assumptions merely because external events or new members disconfirm them.

An illustration of "forced" evolution can be seen in the case of the aerospace company that prided itself on its high level of trust in its employees, which was reflected in flexible working hours, systems of self-monitoring and self-control, and the absence of time clocks. When a number of other companies in the industry were discovered to have overcharged their government clients, the government legislated a system of controls for *all* of its contractors, forcing this company to install time clocks and other control mechanisms that undermined the climate of trust that had been built up over 30 years. It remains to be seen whether the company's basic assumption that people can be trusted will gradually change or whether the company will find a way to discount the effects of an artifact that is in fundamental conflict with one of its basic assumptions.

Differentiation

As organizations grow and evolve they divide the labor and form functional, geographical, and other kinds of units, each of which exists in its own specific environment. Thus organizations begin to build their own subcultures. A natural evolutionary mechanism, therefore, is the differentiation that inevitably occurs with age and size. Once a group has many subcultures, its total culture increasingly becomes a negotiated outcome of the interaction of its subgroups. Organizations then evolve either by special efforts to impose their overall culture or by allowing dominant subcultures that may be better adapted to changing environmental circumstances to become more influential.

Cultural Dynamics: Guided Evolution and Managed Change

One of the major roles of the field of organization development has been to help organizations guide the direction of their evolution, that is, to enhance cultural elements that are viewed as critical to maintaining identity and to promote the "unlearning" of cultural elements that are viewed as increasingly dysfunctional (Argyris, Putnam, & Smith, 1985; Argyris & Schon, 1978; Beckhard & Harris, 1987; Hanna, 1988; Lippitt, 1982; Walton, 1987). This process in organizations is analogous to the process of therapy in individuals, although the actual tactics are more complicated when multiple clients are involved and when some of the clients are groups and subsystems.

Leaders of organizations sometimes are able to overcome their own cultural biases and to perceive that elements of an organization's culture are dysfunctional for survival and growth in a changing environment. They may feel either that they do not have the time to let evolution occur naturally or that evolution is heading the organization in the wrong direction. In such a situation one can observe leaders doing a number of different things, usually in combination, to produce the desired cultural changes:

1. Leaders may unfreeze the present system by highlighting the threats to the organization if no change occurs, and, at the same time, encourage the organization to believe that change is possible and desirable.

2. They may articulate a new direction and a new set of assumptions, thus providing a clear and new role model.

3. Key positions in the organization may be filled with new incumbents who hold the new assumptions because they are either hybrids, mutants, or brought in from the outside.

4. Leaders systematically may reward the adoption of new directions and punish adherence to the old direction.

5. Organization members may be seduced or coerced into adopting new behaviors that are more consistent with new assumptions.

6. Visible scandals may be created to discredit sacred cows, to explode myths that preserve dysfunctional traditions, and destroy symbolically the artifacts associated with them.

7. Leaders may create new emotionally charged rituals and develop new symbols and artifacts around the new assumptions to be embraced, using the embedding mechanisms described earlier.

Such cultural change efforts are generally more characteristic of "midlife" organizations that have become complacent and ill adapted to rapidly changing environmental conditions (Schein, 1985a). The fact that such organizations have strong subcultures aids the change process in that one can draw the new leaders from those subcultures that most represent the direction in which the organization needs to go.

In cases where organizations become extremely maladapted, one sees more severe change efforts. These may take the form of destroying the group that is the primary cultural carrier and reconstructing it around new people, thereby allowing a new learning process to occur and a new culture to form. When organizations go bankrupt or are turned over to "turnaround managers," one often sees such extreme measures. What is important to note about such cases is that they invariably involve the replacement of large numbers of people because the members who have grown up in the organization find it difficult to change their basic assumptions.

Mergers and Acquisitions

One of the most obvious forces toward culture change is the bringing together of two or more cultures. Unfortunately, in many mergers and acquisitions, the culture compatibility issue is not raised until after the deal has been consummated, which leads, in many cases, to cultural "indigestion" and the eventual divestiture of units that cannot become culturally integrated.

To avoid such problems, organizations must either engage in more premerger diagnosis to determine cultural compatibility or conduct training and integration workshops to help the meshing process. Such workshops have to take into account the deeper assumption layers of culture to avoid the trap of reaching consensus at the level of artifacts and values while remaining in conflict at the level of underlying assumptions.

The Role of the Organizational Psychologist

Culture will become an increasingly important concept for organizational psychology. Without such a concept we cannot really understand change or resistance to change. The more we get involved with helping organizations to design their fundamental strategies, particularly in the human resources area, the more important it will be to be able to help organizations decipher their own cultures.

All of the activities that revolve around recruitment, selection, training, socialization, the design of reward systems, the design and description of jobs, and broader issues of organization design require an understanding of how organizational culture influences present functioning. Many organizational change programs that failed probably did so because they ignored cultural forces in the organizations in which they were to be installed.

Inasmuch as culture is a dynamic process within organizations, it is probably studied best by action research methods, that is, methods that get "insiders" involved in the research and that work through attempts to "intervene" (Argyris et al., 1985; French & Bell, 1984; Lewin, 1952; Schein, 1987b). Until we have a better understanding of how culture works, it is probably best to work with qualitative research approaches that combine field work methods from ethnography with interview and observation methods from clinical and consulting work (Schein, 1987a).

I do not see a unique role for the traditional industrial/organizational psychologist, but I see great potential for the psychologist to work as a team member with colleagues who are more ethnographically oriented. The particular skill that will be needed on the part of the psychologist will be knowledge of organizations and of how to work with them, especially in a consulting relationship. Organizational culture is a complex phenomenon, and we should not rush to measure things until we understand better what we are measuring.

REFERENCES

- Ancona, D. G. (1988). Groups in organizations: Extending laboratory models. In C. Hendrick (Ed.), Annual review of personality and social psychology: Group and intergroup processes. Beverly Hills, CA: Sage. Argyris, C., Putnam, R., & Smith, D. M. (1985). Action science. San
- Francisco: Jossey-Bass.
 Argyris, C., & Schon, D. A. (1978). Organizational learning: A theory of action perspective. Reading, MA: Addison-Wesley.
- Bales, R. F. (1950). Interaction process analysis. Chicago: University of Chicago Press.
- Bales, R. F., & Cohen, S. P. (1979). SYMLOG: A system for the multiple level observation of groups. New York: Free Press.
- Barley, S. R. (1983). Semiotics and the study of occupational and organizational cultures. Administrative Science Quarterly, 28, 393-413.
- Barley, S. R., Meyer, C. W., & Gash, D. C. (1988). Culture of cultures: Academics, practitioners and the pragmatics of normative control. Administrative Science Quarterly, 33, 24-60.
- Bass, B. M. (1965). Organizational psychology. Boston: Allyn & Bacon.
- Beckhard, R. (1969). Organization development: Strategies and models. Reading, MA: Addison-Wesley.
- Beckhard, R., & Harris, R. T. (1977). Organizational transitions: Managing complex change. Reading, MA: Addison-Wesley.
- Beckhard, R., & Harris, R. T. (1987). Organizational transitions: Managing complex change (2nd. ed.). Reading, MA: Addison-Wesley.
- Benne, K., & Sheats, P. (1948). Functional roles of group members. Journal of Social Issues, 2, 42–47.
- Bennis, W. G. (1966). Changing organizations. New York: McGraw-Hill.
- Bennis, W. G. (1969). Organization development: Its nature, origins, and prospects. Reading, MA: Addison-Wesley.
- Bennis, W. G., & Shepard, H. A. (1956). A theory of group development. Human Relations, 9, 415-437.
- Bion, W. R. (1959). Experiences in groups. London: Tavistock.
- Bradford, L. P., Gibb, J. R., & Benne, K. D. (Eds.). (1964). T-Group theory and laboratory method. New York: Wiley.
- Chandler, A. P. (1977). *The visible hand*. Cambridge, MA: Harvard University Press.
- Deal, T. W., & Kennedy, A. A. (1982). Corporate cultures. Reading, MA: Addison-Wesley.

- Durkin, J. E. (Ed.). (1981). Living groups: Group psychotherapy and general systems theory. New York: Brunner/Mazel.
- Dyer, W. G., Jr. (1986). Cultural change in family firms. San Francisco: Jossey-Bass.
- Feldman, D. C. (1976). A contingency theory of socialization. Administrative Science Quarterly, 21, 433-452.
- Feldman, D. C. (1988). Managing careers in organizations. Glenview, IL: Scott, Foresman.
- Festinger, L. (1957). A theory of cognitive dissonance. New York: Harper & Row.
- Fleishman, E. A. (1953). Leadership climate, human relations training, and supervisory behavior. *Personnel Psychology*, 6, 205–222.
- Fleishman, E. A. (1973). Twenty years of consideration and structure. In E. A. Fleishman & J. G. Hunt (Eds.), *Current developments in the* study of leadership (pp. 1-39). Carbondale: Southern Illinois University Press.
- French, W. L., & Bell, C. H. (1984). Organization development (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Frost, P. J., Moore, L. F., Louis, M. R., Lundberg, C. C., & Martin, J. (Eds.). (1985). Organizational culture. Beverly Hills, CA: Sage.
- Hanna, D. P. (1988). Designing organizations for high performance. Reading, MA: Addison-Wesley.
- Harris, S. G., & Sutton, R. I. (1986). Functions of parting ceremonies in dying organizations. Academy of Management Journal, 29, 5-30.
- Hebb, D. (1954). The social significance of animal studies. In G. Lindzey (Ed.), *Handbook of social psychology* (Vol. 2, pp. 532-561). Reading, MA: Addison-Wesley.
- Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.
- Hellriegel, D., & Slocum, J. W., Jr. (1974). Organizational climate: Measures, research, and contingencies. Academy of Management Journal, 17, 255-280.
- Hirschhorn, L. (1987). The workplace within. Cambridge, MA: MIT Press.
- Hofstede, G. (1980). Culture's consequences. Beverly Hills, CA: Sage.
- Hofstede, G., & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. Organizational Dynamics, 16(4), 4-21.
- Homans, G. (1950). The human group. New York: Harcourt, Brace, Jovanovich.
- Jaques, E. (1951). The changing culture of a factory. London: Tavistock. Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions
- Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. Organizational Behavior and Human Performance, 23, 201– 250.
- Jones, G. R. (1986). Socialization tactics, self-efficacy, and new-comers' adjustments to organizations. Academy of Management Journal, 29, 262–279.
- Katz, D., & Kahn, R. L. (1966). The social psychology of organizations. New York: Wiley.
- Katz, D., & Kahn, R. L. (1978). The social psychology of organizations (2nd ed.). New York: Wiley.
- Kets de Vries, M. F. R., & Miller, D. (1984). The neurotic organization. San Francisco: Jossey-Bass.
- Kets de Vries, M. F. R., & Miller, D. (1986). Personality, culture, and organization. Academy of Management Review, 11, 266-279.
- Kilmann, R. H. (1984). Beyond the quick fix. San Francisco: Jossey-Bass.
- Kluckhohn, F. R., & Strodtbeck, F. L. (1961). Variations in value orientations. New York: Harper & Row.
- Lewin, K. (1952). Group decision and social change. In G. E. Swanson, T. N. Newcomb, & E. L. Hartley (Eds.), *Readings in social psychology* (rev. ed., pp. 459-473). New York: Holt, Rinehart, & Winston.
- Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created "social climates." *Journal of Social Psychology*, 10, 271–299.
- Likert, R. (1961). New patterns of management. New York: McGraw-Hill.
- Likert, R. (1967). The human organization. New York: McGraw-Hill.
- Lippitt, G. (1982). Organizational renewal (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

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- Litwin, G. H., & Stringer, R. A. (1968). Motivation and organizational climate. Boston: Harvard Business School, Division of Research.
- Louis, M. R. (1981). A cultural perspective on organizations. Human Systems Management, 2, 246–258.
- Louis, M. R. (1983). Organizations as culture bearing milieux. In L. R. Pondy, P. J. Frost, G. Morgan, & T. C. Dandridge (Eds.), Organizational symbolism (pp. 39-54). Greenwich, CT: JAI Press.
- Martin, J. (1982). Stories and scripts in organizational settings. In A. Hastorf & A. Isen (Eds.), Cognitive social psychology. New York: Elsevier.
- Martin, J., Feldman, M. S., Hatch, M. J., & Sitkin, S. (1983). The uniqueness paradox in organizational stories. *Administrative Science Quarterly*, 28, 438-454.
- Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling, and acknowledgement of ambiguity. In L. R. Pondy, R. J. Boland, & H. Thomas (Eds.), *Managing ambiguity and change*. New York: Wiley.
- Martin, J., & Powers, M. E. (1983). Truth or corporate propaganda: The value of a good war story. In L. R. Pondy, P. J. Frost, G. Morgan, & T. C. Dandridge (Eds.), Organizational symbolism (pp. 93-108). Greenwich, CT: JAI Press.
- Martin, J., & Siehl, C. (1983). Organizational culture and counter-culture: An uneasy symbiosis. Organizational Dynamics, 12, 52-64.
- Menzies, I. E. P. (1960). A case study in the functioning of social systems as a defense against anxiety. Human Relations, 13, 95-121.
- O'Toole, J. J. (1979). Corporate and managerial cultures. In C. L. Cooper (Ed.), *Behavioral problems in organizations*. Englewood Cliffs, NJ: Prentice Hall.
- Ott, J. S. (1989). The organizational culture perspective. Chicago: Dorsey Press.
- Ouchi, W. G. (1981). Theory Z. Reading, MA: Addison-Wesley.
- Pascale, R. T., & Athos, A. G. (1981). The art of Japanese management. New York: Simon & Schuster.
- Peters, T. J., & Waterman, R. H., Jr. (1982). In search of excellence. New York: Harper & Row.
- Pettigrew, A. M. (1979). On studying organizational cultures. Administrative Science Quarterly, 24, 570-581.
- Pondy, L. R., Boland, R. J., & Thomas, H. (1988). Managing ambiguity and change. New York: Wiley.
- Pondy, L. R., Frost, P. J., Morgan, G., & Dandridge, T. C. (Eds.). (1983). Organizational symbolism. Greenwich, CT: JAI Press.
- Rice, A. K. (1963). The enterprise and its environment. London: Tavistock.
- Ritti, R. R., & Funkhouser, G. R. (1987). The ropes to skip and the ropes to know (3rd. ed.). New York: Wiley.
- Roethlisberger, F. J., & Dickson, W. J. (1939). Management and the worker. Cambridge, MA: Harvard University Press.
- Schall, M. S. (1983). A communication-rules approach to organizational culture. Administrative Science Quarterly, 28, 557-581.
- Schein, E. H. (1965). Organizational psychology. Englewood Cliffs, NJ: Prentice-Hall.
- Schein, E. H. (1968). Organizational socialization and the profession of management. Industrial Management Review (MIT), 9, 1-15.
- Schein, E. H. (1969). Process consultation. Reading, MA: Addison-Wesley.
- Schein, E. H. (1978). Career dynamics. Reading, MA: Addison-Wesley. Schein, E. H. (1983). The role of the founder in creating organizational culture. Organizational Dynamics, 12, 13–28.

- Schein, E. H. (1985a). Organizational culture and leadership. San Francisco: Jossey-Bass.
- Schein, E. H. (1985b). Organizational culture: Skill, defense mechanism or addiction? In F. R. Brush & J. B. Overmier (Eds.), Affect, conditioning, and cognition (pp. 315-323). Hillsdale, NJ: Erlbaum.
- Schein, E. H. (1987a). The clinical perspective in fieldwork. Beverly Hills, CA: Sage.
- Schein, E. H. (1987b). Process consultation (Vol. 2). Reading, MA: Addison-Wesley.
- Schein, E. H. (1988). Process consultation (rev. ed.), Reading, MA: Addison-Wesley.
- Schein, E. H., & Bennis, W. G. (1965). Personal and organizational change through group methods. New York: Wiley.
- Schneider, B. (1975). Organizational climate: An essay. Personnel Psychology, 28, 447–479.
- Schneider, B., & Reichers, A. E. (1983). On the etiology of climates. Personnel Psychology, 36, 19–40.
- Smircich, L., & Calas, M. B. (1987). Organizational culture: A critical assessment. In F. M. Jablin, L. L. Putnam, K. H. Roberts, & L. W. Porter (Eds.), *Handbook of organizational communication* (pp. 228– 263). Beverly Hills, CA: Sage.
- Tagiuri, R., & Litwin, G. H. (Eds.). (1968). Organizational climate: Exploration of a concept. Boston: Harvard Business School, Division of Research.
- Trice, H., & Beyer, J. (1984). Studying organizational cultures through rites and ceremonials. Academy of Management Review, 9, 653–669.
- Trist, E. L., Higgin, G. W., Murray, H., & Pollock, A. B. (1963). Organizational choice. London: Tavistock.
- Van Maanen, J. (1976). Breaking in: Socialization to work. In R. Dubin (Ed.), Handbook of work, organization and society (pp. 67-130). Chicago: Rand McNally.
- Van Maanen, J. (1977). Experiencing organizations. In J. Van Maanen (Ed.), Organizational careers: Some new perspectives (pp. 15–45). New York: Wiley.
- Van Maanen, J. (1978). People processing: Strategies of organizational socialization. Organizational Dynamics, 7, 18-36.
- Van Maanen, J. (1988). Tales of the field. Chicago: University of Chicago Press.
- Van Maanen, J., & Barley, S. R. (1984). Occupational communities: Culture and control in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 6). Greenwich, CT: JAI Press.
- Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. In B. M. Staw & L. L. Cummings (Eds.), *Research* in organizational behavior (Vol. 1, pp. 204–264). Greenwich, CT: JAI Press.
- Walton, R. (1987). Innovating to compete. San Francisco: Jossey-Bass.
- Werner, H. (1940). Comparative psychology of mental development. New York: Follett.
- Westney, D. E. (1987). Imitation and innovation. Cambridge, MA: Harvard University Press.
- Wilkins, A. L. (1983). Organizational stories as symbols which control the organization. In L. R. Pondy, P. J. Frost, G. Morgan, & T. C. Dandridge (Eds.), Organizational symbolism (pp. 81-91). Greenwich, CT: JAI Press.
- Wilkins, A. L., & Ouchi, W. G. (1983). Efficient cultures: Exploring the relationship between culture and organizational performance. Administrative Science Quarterly, 28, 468-481.